Youth Experience (YX):
Embracing Participatory Design and Design Thinking in Children and Youth Librarianship

The Post Master's certificate in Youth Experience (YX) responds to the Continuing Education (CE) category of the IMLS Laura Bush 21st Century Librarian Program (IMLS LB21) and will occur from June 1, 2016, to May 31, 2019. This project brings together faculty members from the College of Information Studies (iSchool) and the College of Education at the University of Maryland (UMD) and partners who are committed to advancing youth learning in libraries to develop a 12-credit online post-master's certificate program. The partners are two organizations within the American Library Association (ALA) that are committed to enhancing approaches to youth learning in libraries—the Young Adult Library Services Association (YALSA) and the Office for Information Technology Policy (OITP). The YX certificate program will be aimed at building youth librarians' capacity to better adapt to the changing landscape of youth learning and technology. Practicing librarians will learn to promote 21st century skills among youth ages 0-18 through incorporating participatory design principles, design thinking approaches, and dynamic community partnerships in their offerings of programs and services. The proposed project fills a significant gap in professional development relating to libraries' efforts to build capacity among their workforce to better serve the needs of diverse youth and build their critical 21st century skills. The direct audiences for this CE grant are public librarians serving children and teens and, indirectly, children and young adult patrons who stand to benefit from librarians' transformed practices. Additionally, we will disseminate the curriculum and methods used to develop the components of the certificate program widely with other library and information science (LIS) graduate programs across the country.

This project seeks funding for the development of the courses for the certificate, the tuition and travel stipend for 15 students, and a series of project evaluation activities to shape the next iteration of the certificate program. The certificate program will consist of three critical components: (I) Coursework—Librarians will take three, 12-weeks online courses that serve as the conceptual basis for the certificate: *Facilitating Youth Learning in Informal and Formal Learning Environments, Promoting Rich Learning with Technology*, and *Design Thinking and Youth*. (II) Community engagement: Librarians will complete a 12-week Capstone course (the fourth course in the certificate—*Capstone in YX*) where they will apply their accumulated skills and knowledge. The Capstone course will be focused on engaging youth in new media-rich learning experiences in collaboration with community organizations. (III) Scholarship—Throughout the program, participating librarians will publish scholarly pieces in our partners' blogs, contributing to the overall scholarship and practice in librarianship.

Year 1 of this project will be dedicated for course development, recruitment, and admissions. The goal of Year 1 is to develop and document the process of establishing the three critical components of the YX certificate program. The targeted outcomes include establishing efficient recruitment and admission strategies to attract urban and rural librarians, the development of the four courses in the certification, and establishing the structure of how participating librarians can share their knowledge to improve the scholarship and practice of youth librarianship. Year 2 will be dedicated to completing all the three critical components of the certificate. Goals for year 2 for participating librarians include being able to develop library programming and services through the use of participatory design and design thinking techniques, develop and evaluate models of community engagement and partnerships with youth-focused community organizations, and promote innovation in research and practice about children and youth librarianship. Examples of targeted outcomes for Year 2 include the achievement of course objectives for all four courses at the target level as indicated by course rubrics and an increase in YX-related knowledge of an average of 35% between pre and post-certificate assessments. Year 3 will be primarily dedicated to project evaluation activities and dissemination of guidelines for similar programs. Examples of targeted outcomes for year 3 include revisions to all the three components of the certification program, and having at least 30 representatives from LIS schools attend our workshops or webinars to learn how they can establish a similar certification program at their schools. We anticipate that the dissemination of the curriculum and components of this certificate program will result in more LIS schools offering similar certificate programs, resulting in more librarians being able to pursue similar educational paths.

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Statement of Need

The shifting landscape of new technologies (e.g., the internet, social media, ubiquitous computing) has led to the emergence of a participatory culture. Previously, society emphasized a producer and consumer culture whereby experts produced new knowledge resources for consumption by the general public. In our current participatory culture, the general public draws upon new media to become producers, problem-solvers, and even experts themselves (Jenkins, 2009). With this culture shift a new movement called design thinking has emerged, which emphasizes applying the processes and philosophies of designers (i.e., empathizing with stakeholders, inventing innovative prototypes, and iterating to new solutions) to solve new challenges and realize new opportunities (Liedtka & Ogilvie, 2011). Key to this movement is the concept that design and design processes are not relegated to expert segments of society, but that design processes can be carried out by the general citizenry and applied to a broad array of disciplinary, interdisciplinary, and everyday problems (Brown, 2009; Liedtka & Ogilvie, 2011). This movement has elevated the importance of 21st century skills with new media, particularly for youth today, who are growing up with continuous access to new media and information. Specifically, design thinking necessitates an overarching disposition towards exploration of ideas, experimentation, a love of storytelling, thinking with one's hands, and a value for bridging the gap between thinking and knowing to solve problems and create a better world (Jenkins, 2009; Brown, 2009). While design thinking skills can be developed in formal learning environments such as schools, time limitations, malfunctioning equipment, and stringent firewalls restrict what youth can do with technology (Davis & Fullerton, in press). Informal learning environments such as public libraries continue to be the place whereby non-dominant youth can be encouraged or feel comfortable exploring and engaging in the above-mentioned activities (Gross, 2013; Subramaniam, M., Ahn, J., Fleischmann, K. & Druin, A., 2012; Valdivia & Subramaniam, 2014). While the need of such skills among youth are articulated in the information sciences and learning sciences literature (Blikstein & Krannich, 2013; Fields, Kafai & Searle, 2012; Subramaniam et al., 2012), we found little evidence that librarians are being trained to facilitate the development of such skills among youth. In summer 2015, inspired by a new Master's in Library Science (MLS) specialization focused on youth and technology-enhanced learning that will begin in fall 2016 at the UMD iSchool, the PIs of this project delved into a series of need assessment activities that resulted in **re-envisioning the continuing education of children and youth librarians** so that children and youth librarians can better understand how youth learn with

technology and integrate dynamic community partnerships, participatory design, and design thinking in their offerings of programs and services. We conducted the following assessments that served as an impetus to the creation of the YX certificate program.

(1) Assessing the current preparedness of librarians to promote 21ˢᵗ century skills and learning among youth— Four categories of inter-related knowledge and skill sets emerged in recent reports describing the nature of skills and abilities that librarians must have to promote learning and innovation among youth: (A) Librarians need to be ready and willing to *transition from expert to facilitator,* engaging in active and continuous learning with teens and for teens (Braun, Hartman, Hughes-Hassell, & Kumasi, 2014, p. 24) to "re-imagin[e] services and spaces" (IMLS, 2015, p. 2). (B) Librarians need to *apply interdisciplinary approaches* to establish equal partnership and learning opportunities that facilitate discovery and use of digital media. Such approaches are informed by research, methods, and best practices in disciplines outside of LIS, particularly in learning sciences (ARUP, 2015; Bertot, Sarin, & Percell, 2015; Garmer, 2014; IMLS, 2015). (C) Librarians need to *develop dynamic community partnerships* that reach beyond the library, specifically "building partnerships and collaborations in their communities" (Braun, et al., 2014, p. 23). (D) Finally, librarians need to know how to *work with youth from non-dominant groups* who need the libraries the most (Braun, et al., 2014, p. 23; IMLS, 2015). Non-dominant youth are defined as members of diverse groups that have been traditionally excluded from institutionalized sources of privilege (Gutierrez & Rogoff, 2003; Ito et al., 2013), and who do not use technology in ways that develop their emerging literacies (Subramaniam, et al., 2015). While these reports make conceptual recommendations on the needed skills for current children and youth librarians, this proposed certificate program leverages recent research in learning sciences to advance the development of this set of inter-related knowledge and skills. Research in the learning sciences stresses the importance of integrating design thinking and participatory design approaches when working with youth of non-dominant backgrounds in technology-enhanced learning environments. At the UMD iSchool, we have coined a term to classify these knowledge and skills as the *Youth Experience* (inspired by the term *User Experience* in computing). The Post Master's certificate is the best CE model to acquire these skills because each category of skills mentioned-above will be fostered through the progression of instructor-facilitated hands-on courses that serve as building blocks for the mastery of all the four categories inter-related knowledge and skill sets. We argue that CE models such as individual professional development sessions, workshop series, and self-directed toolkits will not yield the amalgamation of the desired skill sets among librarians. We believe that packaging the development of this set of skills as a certificate will benefit the field greatly and can be offered by other LIS schools.

(2) Identifying gaps in youth-related courses/offerings in LIS and iSchools (see Appendix A for a sample analysis)—We conducted a comprehensive analysis of program/course/certificate offerings and syllabi in LIS/iSchools (including UMD) to determine if the needs and skills mentioned in (1) above were actually being met in the existing training of new and/or current librarians. We found that existing MLS programs, youth specializations, and youth certificate programs have one or more of the following types of foci: (a) a strict focus on children and youth adult literature, covering all types of literature for youth population; (b) a limited focus on literacy, which only includes media, information, and traditional literacy; (c) "catch-all" courses in aspects of social justice, pedagogy, and instructional design that are geared towards all populations (not specific to youth); (d) limited to no prescribed youth services courses, but students are encouraged to design their own "youth track" on aspects related to youth; and (e) offering of 1-credit "current topics" style courses designed to meet a current short-term need and then discontinued. With the exception of 1-credit, discontinued courses, we were unable to find any course offerings that respond to the deficit in knowledge and skills identified in (1) above. The proposed certificate directly fulfills this gap by creating unique, interdisciplinary experiences and coursework in YX that are dedicated to current needs of children and youth librarians that move beyond the bounds of traditional programs/offerings related to youth. We argue that this certificate provides continuous education in aspects that are vital for youth learning in libraries.

(3) Identifying immediate skills and abilities needed for youth-librarian jobs (see Appendix B for a sample analysis of job postings)—While the needs for specific skills and abilities for librarians working with youth have been conceptually articulated in recent reports, these needs are further highlighted in the job postings for librarians in the recent months. We found calls for the following types of experience and expertise from children and youth librarian job postings (between May 2015 till December 2015) that further emphasize the need for the YX certificate: *"extensive relationship building with local schools, youth advocates, community organizations, and families"; "develop creative STEAM, maker, technology-based and early literacy-based children's programming"; "advocate for teens and work to create current, cohesive teen library services system-wide";* and *"to develop, promote, facilitate, and evaluate innovative programs to meet the expressed and anticipated needs of the community's young adult population."* We found little evidence that the current LIS schools are preparing children and youth librarians with these skills and qualifications. It is timely to delve deeper into strategies and interventions that promote the acquisition of such skills among practicing librarians.

Based on the needs derived from the above-mentioned need assessments, the following objectives were articulated for the YX certificate program. The certificate in YX will enable current children and youth librarians to (a) **design and implement policies, programs, and technology** that benefit young people's learning, development, and life endeavors; (b) become change agents for youth development which supports **learning with new media**; (c) **adopt a design thinking approach** and undertake projects that emphasize creating with-youth-for-youth design methods; (d) identify best practices to be **inclusive of all youth's needs**, in particular youth from disadvantaged populations; (e) **apply core theories and models from information science and learning sciences** to address needs of youth; and (f) **partner with other cultural institutions and community organizations** to help with youth programming, education, and other projects related to youth development. The core of the certificate is its emphasis on learning sciences, including critical aspects of promoting learning using technology such as adult mentorship, partnership, participatory design (i.e., engaging youth stakeholders in the creation of new technologies and experiences) and design thinking in the context of learning in libraries. Refer to Appendix C that elaborates the core principles and benefits of design thinking and participatory design approaches. The four courses (12-credit) that make up this certificate will be grounded in a synthesis of the currently dispersed research, worked examples, and best practices in LIS and learning sciences associated with promoting these core YX components.

This project seeks funding for the development of the courses for the certificate, the tuition and travel stipend for 15 students accepted into the first certificate cohort, and a series of project evaluation activities to shape the next iteration of the certificate program. This project aligns with the **learning in libraries** IMLS priority for FY2016, and will produce children and youth librarians who will function as leaders, educators, and change agents who deeply understand the dynamic contexts of youth learning in libraries.

Impact

Children and youth librarians constitute the direct audience for this certificate program, as well as other LIS programs seeking to offer similar programs. The ultimate beneficiaries, however, are youth themselves, who stand to gain critical 21st century skills as a result of librarians' increased capacity and transformed practices in the areas of YX. The proposed project will have the following impact on children and youth librarians, youth librarianship education, and non-dominant youth:

(1) Build skills and abilities in the library workforce. The certificate program will build participating librarians' skills and abilities so they feel capable of leveraging digital media to promote 21st century skills among the youth they serve. In addition, the PIs will incorporate elements of the coursework for this certificate into their MLS courses so that pre-service librarians obtain these skills and abilities before they enter the workforce. Also, the certificate materials will be shared with other LIS/iSchools, resulting in more librarians being able to pursue similar educational paths.

(2) Contribute to results or products that will benefit multiple institutions and diverse constituencies. Graduates of this certificate will partner with other institutions such as museums, community centers, non-profits, and research centers that focus on youth learning or technology to enhance their library offerings. Such

partnerships will benefit multiple institutions by building new relationships and/or solidify existing relationships with community organizations and diverse constituencies. It is expected that these community organizations will then understand the power of libraries, serve as our advocates, and frequently collaborate with libraries in their future undertakings.

(3) Transform practice. We will transform the practice of children and youth librarians by developing, implementing, and evaluating a program that builds librarians' capacity to turn libraries into media-rich, youth-driven spaces that promote youth's 21st century skills. To promote widespread adoption and sustainability of the core components of this certificate program, we will create avenues for participating librarians (through our partners) to share their experiences implementing ideas and practices from the certificate program. This project uniquely brings together examples, resources, and best practices associated with YX in other informal learning spaces into libraries, and creates a centralized continuing education that librarians can pursue.

(4) Be adopted by other institutions. To ensure that the certificate program curriculum and approaches can be utilized and tailored by other LIS schools, not only will we share the methods and resources needed to develop the certificate program, the complete syllabi will be hosted on the project website. The resulting certificate programs will be disseminated nationally through LIS faculty-facing online platforms, webinars, conferences, and print publications. Project personnel, partners, and advisory board members will use their professional connections and affiliations to encourage widespread adoption.

Project Design

The certificate program will consist of three critical components: (I) Coursework—Students will take three, 12-weeks online courses that serve as the conceptual basis for the certificate: *Facilitating Youth Learning in Informal and Formal Learning Environments, Promoting Rich Learning with Technology*, and *Design Thinking and Youth*. (II) Community engagement: Students will complete a 12-week Capstone course (the fourth course in the certificate—*Capstone in YX*) where they will apply their accumulated skills and knowledge. The Capstone course will be focused on engaging children and youth in new media-rich learning experiences at their local libraries in collaboration with community organizations. (III) Scholarship—Throughout the program, students will publish vignettes and/or scholarly pieces in our partners' blogs and journals, contributing to the overall scholarship in librarianship. Year 1 of this project will be dedicated for course development, recruitment, and administrative work involved in admissions. Year 2 will be dedicated to completing all the three critical components of the certificate, and Year 3 will be primarily dedicated to project evaluation activities and dissemination of outcomes and guidelines for similar programs. In Year 3 and onwards, the UMD iSchool will continue to offer the certificate program, and will incorporate the outcomes of project evaluation activities to solidify the next iterations of the certificate program. The project has the following goals, measurable outcomes, and project activities:

Year 1

Goal #1: Develop and document the process of establishing the three critical components (coursework, community engagement, and scholarship) of the YX certificate program.

In the first year of the grant, there will be three primary project activities that will be completed to achieve the first goal. We will be conducting recruitment, admission, and developing the three critical components of the certificate. To recruit students, the PIs and the Professional Education Coordinator (PEC) will engage in numerous recruitment strategies to reach children and teen librarians around the country, which includes in-person recruiting at professional library conferences (e.g., YALSA Symposium; ALA's Midwinter Meeting) and recruitment events via online venues (e.g., social media, virtual information sessions, professional library websites, listservs, and blogs). We will also be recruiting via other channels recommended by our partners and AB members (see partner letters).

Applicants to the YX certificate must meet the minimum requirements of the Graduate School at UMD. Applicants must have an MLS degree in library and information science, and must be currently a practicing children or youth librarian. In addition to completing the graduate school application, the applicant must submit (1) transcripts; (2) resume; (3) a letter of recommendation from a supervisor or someone who can speak to the

applicant's capacity for successfully completing the certificate program and how the certificate will contribute to the applicant's career and their library system/branch; and (4) a statement of purpose that indicates applicant's interests, goals, and how he/she will use the skills learned to assist their library system/branch to work with non-dominant youth. Refer to Appendix D for admission requirements. We will attempt to have an initial cohort that is geographically dispersed, consisting of librarians that serve urban and rural communities and that have a primary patron body of non-dominant youth. The project team and the PEC will form a committee to review the applications, and will conduct the following: (1) Review each application according to admission requirements, applicant qualifications, and project goals; (2) Rank each application based on the submitted materials; and (3) Analyze the application data based on pertinent data points (such as work experience, support from supervisor, type of youth served, etc.); and (4) Provide recommendations for recruitment strategies and admission process for the upcoming year to ensure that we continue to attract the best applicants beyond the scholarship year.

We currently have the outline of three courses (See Appendix E, F, and G) developed based on preliminary research into the needs discussed earlier. The short summary for the three courses is as follows:

- *Facilitating Youth Learning in Informal and Formal Environments*—Include foundational concepts in YX programs and services, principles in working with youth and children, introduction to theory/approaches to inquiry, resources, and services related to the information needs and interests of youth and children.
- *Promoting Rich Learning with Technology*—Include key theories about how people learn, types of learning that can happen with technology, and integration of technologies to facilitate rich learning experiences.
- *Design Thinking & Youth*—Include youth-driven learning environments, participatory design, and design thinking that inform library practices with youth for youth using design principles.

To further develop the three courses for the certificate, we will conduct a systematic review and synthesis of the current research, examples, and best practices in learning sciences and information science associated with promoting 21st century skills in youth-driven environments using participatory design principles, design thinking approaches, and community partnerships. To ensure that we meet the needs of children and youth librarians, we will be conducting participatory design sessions (essentially modeling the approach what we would like to include in the YX certificate curriculum) with children and youth librarians to obtain their feedback on these three courses, the Capstone course, and the scholarship activities that we have developed. Participatory design methods involve working directly with the practitioners for whom the resources are being developed throughout all phases of the development process (Druin, 1999; Yip, Clegg, et al., 2013). Clegg and Subramaniam will lead four participatory design sessions with a total of approximately 40 librarians during the YALSA Symposium in November 2016 and ALA's Midwinter Meeting in January 2017, with the project partners as co-facilitators. The project team will then use these recommendations to revise and solidify the all three critical components of the certificate program.

For the Community Engagement component, we will be developing the *Capstone in YX* course based on the outcomes of the participatory design exercises above and also include avenues for students to leverage existing community partnerships or build new partnerships that will allow them to put all the skills that they have learned in the first three courses into practice. The project PIs are affiliated with two research entities at UMD—the *Information Policy and Access Center* (iPAC) and the *Human Computer Interaction Lab* (HCIL)—which have existing relationships with various community organizations/technology companies across the nation (See Appendix H for a list of organizations). Additionally, we also expect to draw and adapt content from the *ConnectedLib* (funded by IMLS LB21; AB member Davis is lead PI, and Subramaniam is co-PI) project's funding and partnership module, which will include ideas for raising needed funds and developing community partnerships to support librarians' efforts to transform libraries into learning spaces.

As a condition of acceptance to the program, students will need to commit to an in-person, day-and-a-half-long orientation in May 2017. The orientation will introduce students to the certificate, each other, the project team and PEC, the faculty, and UMD. Students will attend the UMD's HCIL Annual Symposium, which will include a workshop that will provide an overview of all the youth-related projects conducted by faculty members and doctoral students in the HCIL and iPAC, network with potential partners, and brainstorm ideas for Capstone projects that they can pursue (See a letter of support from the HCIL Director). Prior to attending the

orientation, the project team will also conduct phone pre-interviews with students that will provide information on their expectations and needs. This will allow us to better tailor the orientation to the librarians.
Year 2
Goal #2: Participating librarians will develop library programming and services through the use of participatory design and design thinking techniques that reach out to diverse youth populations.
> The students in the certificate program will take all the four courses in sequence as a cohort. All courses will be offered online. Canvas, the learning management system (LMS) used at UMD, will host all course content. We currently have technology support from staff at the college, a Desktop Support Specialist, who will assist the students and project team. Each course will be a combination of asynchronous and synchronous elements, via tools that are available in Canvas (such as discussion boards, posting video blogs, VoiceThread presentations, journaling, etc.) and via Adobe Connect (which allows real-time presentations, guest lectures, webinars, etc.). Each course assignment will have a rubric, which will have evaluative criteria that are mapped to each course objective (see the outline of courses which each course objectives in Appendix E, F, and G), and its intended target achievement. These criteria will measure librarians' knowledge of the evolving nature of youth, the 21st century skills, and core ideas associated with developing library programming and services through the use of participatory design and design thinking. Participating librarians will be asked to complete a course evaluation form that is adapted from the regular course evaluations at UMD. After completion of each course, the project team will analyze course artifacts and evaluations to determine whether the course objectives were met, and needed revisions for the course. The participating librarians will also post bi-weekly video/journal blogs (hosted internally in Canvas) whereby they share with each other what they have learned and how they have applied (or will apply) what they have learned at their libraries. Librarians will complete a short online pre-certificate assessment on YX core knowledge before the first course, and take a post-certificate assessment after completing the final course. Librarians are also asked to develop an online portfolio (for public viewing) that will allow them to display self-selected course assignments (updated after completing each course with librarians' permission), and will be hosted at the project website. These portfolios serve as concrete artifacts of skills and knowledge that they have gained in the certificate.

Goal #3: Participating librarians will develop and evaluate models of community engagement and partnerships with youth-focused community organizations.
> The final course is *Capstone for YX* (the Community Engagement component—one of the three critical components of the certificate), a cumulative course for this certificate, which focuses on community engagement geared toward children and youth at their local libraries and community organizations. In this course, participating librarians will plan and develop a technology-infused library program from scratch that involves partnership with one or more community partners and one or more methods of youth-driven participation. Librarians will document the partnership models used and their efficiency, implement at least one instance of the programming, and evaluate its effectiveness. The librarians will choose a method of evaluation (formative or summative) to document the benefits and outcomes of their programming in terms of learning, and solicit feedback on the process and resulting programming from their youth patrons. Similar to the other three courses, rubrics will be provided and used to assess the achievement of course objectives. Librarians will continue entries on the online portfolio and their bi-weekly journal/video blogs. The PIs and partners will conduct site visits (will be planned by geographical proximity to avoid exorbitant travel costs) to observe at least half of the participating librarians implementing the entire (or a portion) of their programming.

Goal #4: Participating librarians will promote innovation in research and practice about children and youth librarianship within the evolving social, technical, legal, and policy contexts.
> The Scholarship component is one of the three critical components of the certificate. Each participating librarian will do one or more of the following: (1) Publish blog postings in the YALSA blog (the official blog of our YALSA partner), District Dispatch (the official blog of our OITP partner), or a blog of their choice; (2) Have solo or co-authored journal articles in journals with significant children and youth librarian readership (i.e.

Young Adult Library Service or *ALSC Matters!)*; and (3) present posters/panels at the ALA conferences, YALSA Symposium, regional library conferences, or present their innovations to the learning sciences community to better educate them about youth-driven opportunities and challenges in libraries (see support letter provided by the President of International Society of Learning Sciences (ISLS), a leading professional society for academics, professionals and students seeking to advance the sciences and practices of learning). Librarians will present on various core knowledge, skills, and experiences and innovations in research and practice that were acquired through the participation of the coursework and community engagement activities including innovative methods of engaging youth, strong partnership models, youth-driven policy and legal solutions, state-of-the-art programming, impact on learning, and others. Other modes of preferred scholarship sharing may also emerge from the suggestions from the participatory design sessions in Year 1.

Year 3

Goal #5: Disseminate the revised YX certificate components widely to other LIS schools.

A core focus of year three will be making revisions based on analysis of year 1 and year 2 data to iteratively design all activities embarked in the first two years. Changes will be immediately reflected in the continuous recruitment and admission activities in year 2 for the next cohort of non-scholarship YX certificate students (2018-2019). A comparison between pre-program interviews and pre-certificate assessment (conducted in end of year 1) and post-program interview and post-certificate assessment (conducted at the beginning of year 3) will yield changes to all the core components of the program. Revisions of all the four courses and scholarship activities for 2018-2019 offering will be incorporated as analysis are completed in year 3, and will definitely be incorporated in full in the third cohort of non-scholarship YX certificate students in 2019-2020. Course syllabi, links to blog postings and publications by student and project team, and students' online portfolios will be hosted on the project website and can be freely accessed. Another core focus of year three is the dissemination of the curriculum and YX critical components to a broader set of LIS schools across the country. The content available on the project website will be disseminated nationally through LIS faculty-facing online platforms, webinars, pre-conference workshops (specifically at ALISE and iSchool conference) and print publications. Project team, partners, and advisory board members will use their professional connections and affiliations to encourage widespread awareness and application of YX philosophy, processes, and curriculum. The project team will also do one-to-one consulting (phone or in-person) with other LIS programs that are interested in adapting the YX certificate components after attending the workshops or webinars. Additionally, we will also be providing opportunity to 5 to 7 (dependent on the distribution of funds) graduates of our certificate program to travel to their state/regional library meetings/conferences to give talks/presentations to create the awareness of the need for librarians to know YX philosophy, processes, and curriculum.

Year	Measurable Outcomes	Data Sources	Data Intervals	Target
Year 1 2016-2017	Develop and document the process of establishing coursework, community engagement, and scholarship for the YX certificate program.	Systematic review of relevant research in youth learning in learning sciences and information science	June – Nov 2016	• Relevant research and themes from design sessions analyzed • YX critical components developed • Efficient recruitment strategies for urban and rural librarians
		Participatory design session with approx. 40 librarians	Nov 2016 & Jan 2017	
		Analysis of recruitment, application and yield	Feb – Mar 2017	
		Pre-program interview with students	April – May 2017	
Year 2 2017-2018	Participating librarians will develop an understanding of the evolving nature of	Pre-certificate assessment	June 2017	• Course objective met? • Determine course revisions • YX skills developed by
		Assignments' rubrics in Course 1 - *Facilitating Youth Learning in Informal and Formal Environments*	June 2017 –Aug 2017	

	youth librarianship in libraries and be able to build and implement library programming and services through the use of participatory design and design thinking techniques that reach out to all youth populations.	Assignments' rubrics in Course 2 - *Promoting Rich Learning with Technology*	Sept 2017– Nov 2017	librarians • Increase in content knowledge from pre- to post-test of an average of 35%
		Assignments' rubrics in Course 3 - *Design Thinking & Youth*	Dec 2017– Feb 2018	
		Bi-weekly journal/video blog	June 2017 – Feb 2018	
		Course artifacts and online portfolio		
		Completion of formal evaluations	End of each course	
		Post-certificate assessment	May 2018	
	Participating librarians will develop and evaluate models of community engagement and partnerships with youth-focused community organizations.	Assignments' rubrics in Course 4 – *Capstone in YX*	March 2018 – May 2018	• Course objectives met? • Determine course revisions • YX skills developed by librarians • Partnerships developed by librarians • A list of partners and types of partnership shared via online portfolio
		Bi-weekly journal/video blog		
		Course artifacts and online portfolio		
		Evaluation with youth patrons		
		Site visits by project PIs and partners to selected library sites		
	Participating librarians will promote innovation in research and practice about children and youth librarianship within the evolving social, technical, legal, and policy contexts.	Publications in partner's journals/blogs or other venues	June 2017 – May 2018	• Each student must have posted a blog entry in one of our partner's blog or a blog of their choice • At least 5 journal articles published solo or collaboratively • At least 5 posters and 5 panels at conferences
		Presentations and panel in conferences		
Year 3 2018-2019	Disseminate the revised YX certificate components widely to other LIS schools.	Post-program interview with students	June 2018	• YX components revised • At least 100 librarians attend talks • At least 30 representatives from LIS schools attend • At least 200 downloads per material • At least 30 representatives from LIS schools enroll in webinars
		Talks/presentations by graduates	June 2018- May 2018	
		Workshops/ presentations or consulting by project team	Nov 2018- May 2019	
		Website statistics	June 2018 - May 2019	
		Webinar enrollment	Nov 2018- May 2019	

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

Project Resources: Personnel, Time, Budget

We have assembled a project team with exemplary skills, experience, and accomplishments related to the focus of the proposed work. The commitments that key personnel have made to the project will ensure that the YX certificate is of the highest quality and will be adopted widely by LIS schools. **Project Directors:** Drs.

Subramaniam, Clegg, and Jaeger will serve as the project principals. Subramaniam's research reimagines the use of public libraries as informal STEM-infused learning environments that inspire disadvantaged young people to develop 21st century skills. Clegg's research focuses on the design of life-relevant learning programs and technologies for STEM learning. Clegg uses participatory design with youth, parents, and educators to develop such programs and technologies. Jaeger's research focuses on improving access to information and technology for underserved populations. Subramaniam and Clegg will function as the overall project managers, coordinating all activities with project partners and advisory board members. Jaeger will support the logistics of the YX certificate based on his previous experiences handling scholarship programs. The time commitments and responsibilities of project principals are described in more detail in the attached **Budget Justification**.

Students: There will be one graduate student that will support the project PIs with all of their responsibilities.

Partners: Our partners bring a wealth of experience and connections relating to opportunities and challenges in implementing youth-driven learning environments in libraries. YALSA is committed to the continuing education of librarians, and they offer a range of opportunities such as webinars and short courses. Their participation was instrumental in all activities that resulted in the publishing of *The Future of Library Services for and with Teens* report. In the recent years, ALA OITP has taken a leadership role in examining the role of libraries and its technology offerings in the everyday lives of youth in evolving social, technical, legal, and policy contexts. They have been working with various partners including Google to examine these issues, and recently appointed a fellow who will embark larger initiatives in youth and technology. In Year 1, project partners will assist PIs in the recruitment activities; help with the logistics and facilitate the participatory design sessions; pilot test the pre-interview and assessment instruments; and provide feedback on multiple versions of the coursework. In Year 2, project partners will assist students in finding partners for their *Capstone in YX* project, and conduct site visits to students' library sites that are nearby to them to observe the students implementing the entire (or a portion) of their programming. In Year 3, the project partners will assist the project PIs in dissemination activities. See letter of commitments from each partner for further details.

Advisory Board (AB): We have assembled an excellent advisory board whose members hold a wide range of experience and expertise directly related to this project. AB members that will assist project PIs include representatives from project partners - Beth Yoke, Executive Director of YALSA and contributor to the YALSA report; Marijke Visser, Associate Director of OITP; Dr. Elizabeth McClure, Research Fellow at the Joan Ganz Cooney Center (an expert in technology practices of young children and their families); Dr. Katie Davis, Assistant Professor at the iSchool at University of Washington (an expert in connected learning principles, digital media and learning, and human development and education of non-dominant youth); Dr. Ben Shapiro, Assistant Professor at the Department of Computer Science, University of Colorado-Boulder (an expert in designing technology-infused learning environments); and Sari Feldman, current ALA President and the Executive Director of the award-winning Cuyahoga Public Library system (an advocate for transforming libraries). We will conduct virtual meetings with advisory board members three times per year to obtain their continuous feedback, and will engage their specific expertise in the project activities as indicated above.

Facilities, Equipment, and Supplies: For development and dissemination of the components of the certificate, we will leverage existing infrastructures available at the iSchool, such as server, LMS, and webinar platforms. For offering the certificate, we will use the existing mechanisms in place at the iSchool.

Time: The project timeline is further detailed in the attached **Schedule of Completion**.

Budget: Funds are requested for: (1) tuition for 15 students; (2) travel stipend for orientation for 15 students; (3) travel stipend for graduates of the certificate to give talks/presentations; (4) salary and fringe benefits support for the PIs during the summer; (5) support for a graduate assistant including tuition, stipend, benefits and fees; (6) travel support for PIs; (7) honoraria for project partners and advisory board members; and (7) data analysis supplies. The total amount request for the project is $396,052. The cost share provided by the project team is $211,313 (a match of 100.7% for non-student support) in the form of PIs time and UMD iSchool's support staff time. See *Budget* related forms and justification for further details.

Diversity Plan

A key strength of the proposed project is its commitment to promoting skills that are tailored to librarians working in diverse constituencies, particularly youth living in urban and rural communities where access and opportunities for youth-driven participation is often limited (Ito et al., 2013). Our commitment to diversity is evident in many aspects of the project design. We will recruit librarians working in urban and rural communities across the country to apply and enroll in the certificate program and to take part in participatory design sessions in year 1. For the *Capstone in YX* course, our preliminary list of community partners that students can tap into also are partners that have experience working with youth living in low-income, immigrant, and rural communities. Additionally, our project team, partners, and AB members are interdisciplinary, bringing an abundance of research and practical experiences working with non-dominant youth via their research in the learning sciences and information science.

Communication Plan

Our communication plan is ongoing throughout the project lifecycle and will ensure that our YX certificate structure and critical components will reach a large and broad audience of librarians and LIS faculty. Primary communication about certificate will be through the project website, which will include detailed information about the project, program structure, course syllabi, links to blog postings and publications by student and project team, and students' online portfolios. We will leverage the extensive professional networks of the PIs, partners, and AB members to publicize the project website. We will share our progress with LIS faculty via presentations, pre-conference workshops and webinars at the ALISE, iSchool, and ALA conferences (the lead PI is active within the leadership of ALISE and ALA). We will publish our work in peer-reviewed publications such as the *Journal of Research on Libraries and Young Adults, Library Quarterly,* and *Library and Information Science Research*. The librarians in the certificate will also be sharing vignettes and/or scholarly pieces in blogs and journals, and their online portfolio, contributing concrete examples of the importance needs of YX knowledge and skills to other children and youth librarians. This will result in the awareness of the importance of the skills, and will motivate other LIS and iSchools to offer similar certificate. We will use social media channels such as Twitter and Facebook (and our partners' social media channels) to circulate these pieces of information broadly so that they reach beyond our usual communities of interest.
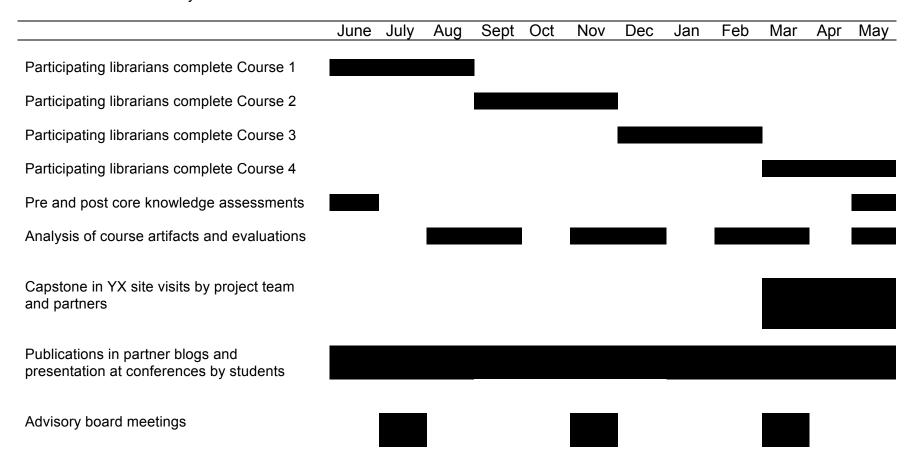
Sustainability Plan

UMD iSchool will take responsibility for maintaining the project website and associated materials and updating the coursework to include recent developments in learning sciences and the use of technology among youth. The syllabi and course materials will be licensed under a Creative Commons Attribution license (CC BY). This license will encourage wide and flexible adoption of our syllabi and course materials by allowing others LIS faculty to remix, tweak, and build upon them provided they credit project team. UMD iSchool is committed to sustaining professional education for librarians with an excellent staff support structure in place that includes a Professional Education Director, a Professional Education Coordinator, an Advisor, and a Desktop Support Specialist, and technology support. For example, a previously funded IMLS certificate program, *Curation and Management of Digital Assets* certificate is currently recruiting its second cohort (non-scholarship), which demonstrates the iSchool's ability to continue certificate programs without grant funding. In fact, during the second year of this proposed grant, recruitment and admission for the second cohort will be ongoing, and during the third year of the grant, the second non-scholarship cohort will be pursuing the certificate. Additionally, the online portfolios and scholarship activities produced by the students will continue to attract a large and steady audience for this certificate as more libraries across the country seek ways to incorporate youth-driven programming. The graduates of the certificates who will be giving talks/presentations nationally will also create the awareness of the need for librarians to know YX philosophy, processes, and curriculum. The revenue generated from the certificate will contribute to the sustainability of all the three critical components of the certificate. Additionally, the PIs will incorporate the coursework materials into their MLS YX specialization courses to ensure that pre-service librarians are introduced and trained in this subject matter.

Youth Experience (YX): Embracing Participatory Design and Design Thinking in Children and Youth Librarianship

Year 1: June 2016- May 2017

	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

Course development
- Facilitating Youth Learning in Informal and Formal Environments
- Promoting Rich Learning with Technology
- Design Thinking & Youth
- Capstone in YX

Review and synthesis of current research

Participatory design sessions with librarians conducted with YALSA and OITP partners

Recruitment with the assistance from partners and AB members

Admissions administrative work

In-person orientation, HCIL Symposium, pre-interviews

Advisory board meetings

Year 2: June 2017- May 2018

	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Participating librarians complete Course 1	■■■■											
Participating librarians complete Course 2			■■■■									
Participating librarians complete Course 3						■■■■						
Participating librarians complete Course 4										■■■■		
Pre and post core knowledge assessments	■											■
Analysis of course artifacts and evaluations			■■		■■				■■		■	
Capstone in YX site visits by project team and partners										■■■■		
Publications in partner blogs and presentation at conferences by students	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■											
Advisory board meetings		■				■				■		

Year 3: June 2018- May 2019

	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Post-program interview with students	■											
Talks/presentations by graduates	■	■	■	■	■	■	■	■	■	■	■	■
Advisory board meetings		■				■				■		
Project evaluation (including analysis of course artifacts, evaluations, and web stats)	■	■	■	■	■	■	■	■	■	■	■	■
Revisions to YX course and components	■	■	■	■	■							
Workshop/presentations at ALISE and iConference or one-to-one consulting by project team						■	■	■	■	■	■	■
Webinars						■				■		■

DIGITAL STEWARDSHIP SUPPLEMENTARY INFORMATION FORM

Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded research, data, software, and other digital products. The assets you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products is not always straightforward. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and best practices that could become quickly outdated. Instead, we ask that you answer a series of questions that address specific aspects of creating and managing digital assets. 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 any type of digital product as part of your project, complete this form. We define digital products very broadly. If you are developing anything through the use of information technology (e.g., digital collections, web resources, metadata, software, or data), you should complete this form.

Please indicate which of the following digital products you will create or collect during your project (Check all that apply):

	Every proposal creating a digital product should complete …	Part I
	If your project will create or collect …	**Then you should complete …**
☐	Digital content	Part II
☐	Software (systems, tools, apps, etc.)	Part III
☐	Dataset	Part IV

PART I.

A. Intellectual Property Rights and Permissions

We expect applicants to make federally funded work products widely available and usable through strategies such as publishing in open-access journals, depositing works in institutional or discipline-based repositories, and using non-restrictive licenses such as a Creative Commons license.

A.1 What will be the intellectual property status of the content, software, or datasets you intend to create? Who will hold the copyright? Will you assign a Creative Commons license (http://us.creativecommons.org) to the content? If so, which license will it be? If it is software, what open source license will you use (e.g., BSD, GNU, MIT)? Explain and justify your licensing selections.

A.2 What ownership rights will your organization assert over the new digital content, software, or datasets and what conditions will you impose on access and use? Explain any terms of access and conditions of use, why they are justifiable, and how you will notify potential users about relevant terms or conditions.

A.3 Will you create any content or products which may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities? If so, please describe the issues and how you plan to address them.

Part II: Projects Creating or Collecting Digital Content

A. Creating New Digital Content

A.1 Describe the digital content you will create and/or collect, the quantities of each type, and format you will use.

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

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to create, along with the relevant information on the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

B. Digital Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan (i.e., how you will monitor and evaluate your workflow and products).

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period of performance (e.g., storage systems, shared repositories, technical documentation, migration planning, 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 CFR 200.461).

C. Metadata

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

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

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of digital content created during your project (e.g., an API (Application Programming Interface), contributions to the Digital Public Library of America (DPLA) or other digital platform, or other support to allow batch queries and retrieval of metadata).

D. Access and Use

D.1 Describe how you will make the digital content 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).

D.2 Provide the name and URL(s) (Uniform Resource Locator) for any examples of previous digital collections or content your organization has created.

Part III. Projects Creating Software (systems, tools, apps, etc.)

A. General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) this software will serve.

A.2 List other existing software that wholly or partially perform the same functions, and explain how the tool or system you will create is different.

B. Technical Information

B.1 List the programming languages, platforms, software, or other applications you will use to create your software (systems, tools, apps, etc.) and explain why you chose them.

B.2 Describe how the intended software will extend or interoperate with other existing software.

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

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

B.5 Provide the name and URL(s) for examples of any previous software tools or systems your organization has created.

C. Access and Use

C.1 We expect applicants seeking federal funds for software to develop and release these products under an open-source license to maximize access and promote reuse. What ownership rights will your organization assert over the software created, and what conditions will you impose on the access and use of this product? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain any prohibitive terms or conditions of use or access, explain why these terms or conditions are justifiable, and explain how you will notify potential users of the software or system.

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

C.3 Identify where you will be publicly depositing source code for the software developed:

      Name of publicly accessible source code repository:
      URL:

Part IV. Projects Creating a Dataset

1. Summarize the intended purpose of this data, the type of data to be collected or generated, the method for collection or generation, the approximate dates or frequency when the data will be generated or collected, and the intended use of the data collected.

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?

3. Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

4. If you will collect additional documentation such as consent agreements along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

5. What will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or processing the dataset(s).

6. What documentation (e.g., data documentation, codebooks, etc.) will you capture or create along with the dataset(s)? Where will the documentation be stored, and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

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

8. Identify where you will be publicly depositing dataset(s):

   Name of repository:
   URL:

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

Original Preliminary Proposal

Youth Experience (YX):
Embracing Participatory Design and Design Thinking in Children and Youth Librarianship

Project Description and Work Plan

Inspired by a new Master's in Library Science (MLS) specialization focused on youth and learning that will begin in fall 2016, the College of Information Studies at the University of Maryland (UMD's iSchool) will launch a new post-master's certificate program called Youth Experience (YX). The impetus for this certificate comes from (1) a thorough examination of two recent reports (*The Future of Library Services for and with Teens* and *Re-Envisioning the MLS Education*), which detail the skills and abilities librarians must have to promote learning and innovation among youth; (2) an analysis of the strengths and gaps in youth-related courses/offerings in other LIS/iSchools/learning sciences/educational technology graduate programs (see sample); (3) an analysis of job descriptions that distinctively indicated the skills and abilities needed for librarians working with youth in libraries ▮▮▮▮▮▮; and (4) an extensive examination of literature, which observes the intricacies of youth, technology, and/or learning in the recent decade. Our combined analysis of (1) through (4) above indicate the need to **re-envision the continuing education of children and youth librarians** so that they can better adapt to the changing landscape of youth learning and technology and incorporate dynamic community partnerships, participatory design, and design thinking in their offerings of programs and services.

To fulfill these needs, UMD's iSchool will launch a 12-credit online certificate in YX. The term youth is defined as children from the age of 0-18 in this certificate program. The certificate in YX will enable current children and youth librarians to (a) design and implement policies, programs, and technology that benefit young people's learning, development, and life endeavors; (b) become change agents for youth development which supports learning with new media; (c) adopt a design thinking approach and undertake projects that emphasize creating with-youth-for-youth design methods; (d) identify best practices to be inclusive of all youth's needs, in particular youth from disadvantaged populations; (e) apply core theories and models from information science and learning sciences to address needs of youth; and (f) partner with other cultural institutions and community organizations to help with youth programming, education, and other projects related to youth development. The core of the certificate is its emphasis on learning sciences, including critical aspects of learning such as adult mentorship, participatory design (i.e., engaging youth stakeholders in the creation of new technologies and experiences) and design thinking (i.e., a systematic approach to problem solving that involves empathizing with stakeholders, inventing innovative prototypes, and iterating to new solutions) in the context of learning in libraries.

This three-year, IMLS Laura Bush 21st Century Librarian Program Project Grant (Project Category: Continuing Education) proposal seeks funding for the development of the courses for the certificate, tuition, and travel stipend for a cohort of 15 students interested in pursuing this certificate, and a series of project evaluation activities to shape the next iteration of the certification program at UMD's iSchool. The certificate program will consist of three critical components: (I) Coursework—students will take three, 12-weeks courses in the following sequence: *Facilitating Youth Learning in Informal and Formal Learning Environments, Promoting Rich Learning with Technology*, and *Design Thinking and Youth*. (II) Community engagement: The completion of a 12-week Capstone course (the fourth course in the certification—*Capstone in YX*) focused on community engagement geared toward children and youth at their local libraries and community organizations. In addition, students will attend the UMD's *Human Computer Interaction Lab Annual Symposium* (http://www.cs.umd.edu/hcil/soh/) to brainstorm Capstone projects with symposium attendees and PIs of the proposal. (III) Scholarship—Throughout the program, students will publish vignettes and/or scholarly pieces in our partners' blogs and journals, contributing to the overall scholarship in librarianship and other sister communities such as learning sciences and interaction design.

The project lead will be Dr. Mega Subramaniam, with Drs. Tamara Clegg and Paul Jaeger as co-PIs. The proposal partners the lead institution from University of Maryland (youth librarianship and learning sciences experts), with the Young Adult Library Services Association (YALSA) and the Association for Library Service to Children (ALSC). We have pre-commitment from YALSA, and are currently waiting for pre-

University of Maryland

commitment from ALSC (pending ALSC board approval). Both are divisions of ALA, and will assist in recruitment and project activities. An advisory board consisting of representatives from project partners (Beth Yoke from YALSA and Aimee Strittmatter from ALSC) and leading youth and learning science educators (Lori Takeuchi from the Joan Ganz Cooney Center, Katie Davis from University of Washington, and Ben Shapiro from University of Colorado-Boulder) will assist project PIs. Year 1 will be dedicated for course development, recruitment, and administrative work involved in admissions. Year 2 will be dedicated to completing all the three critical components of the certificate, and Year 3 will be primarily dedicated to project evaluation activities. In Year 3 and onwards, the UMD iSchool will continue to offer the certificate program, and will incorporate the outcomes of project evaluation activities to solidify the next iterations of the certificate program.

Project Performance Goals and Outcomes

The goal of the certificate program is for current children and youth librarians to: (1) Develop an understanding of the evolving nature of youth librarianship in libraries, across a range of communities; (2) Build and sustain library programming and services through the use of participatory design and design thinking techniques that reach out to all populations, including traditionally underserved communities as well as rural and urban neighborhoods; (3) Promote innovation in research and practice about children and youth librarianship within the evolving social, technical, legal, and policy contexts; and (4) Develop and evaluate models of community engagement and partnerships with youth-focused community organizations. Assessments to determine if these outcomes are met will be in the form of surveys, interviews, observations, artifact analysis, self-report measures and documentation of project deliverables completed by children and youth librarians enrolled in the certificate program.

Potential Impact

This project has the potential to transform the nature of continuing education for children and youth librarianship. This includes (but not limited to): (A) *Build skills and abilities in the library workforce.* The graduates of the certification will have the necessary skills and abilities to be leaders, educators, and change agents to design participatory learning and design thinking experiences to bridge informal and formal learning; (B) *Build new relationships and/or solidify existing relationships with community organizations and diverse constituencies.* Graduates of this certification will partner with other institutions such as museums, community centers, non-profits, and research centers that focus on youth, learning or technology, to enhance their library offerings; and (C) *Be adopted by other institutions.* The methods used to develop the three critical components of the certificate program will be shared widely with other LIS graduate programs to transform the nature of post-masters certification for children and youth librarianship across the nation.

Relevance to Funding Priorities/IMLS Strategic Plan

This project directly addresses all four overarching themes that emerged in the IMLS Focus: Learning in Libraries meeting in May 2015. Theme 1: Connect LIS education and professional development to 21st Century librarianship—This certification program is *informed by other sectors and disciplines, and support librarians' mastery of new skills that will encourage learning in libraries.* Theme 2: Pursue research that connects with library practice—All co-PIs have experience *incorporating research into practice and vice versa* (IMLS, 2015, p. 9), and this will be infused throughout the certification components. Theme 3: Design participatory learning programs that demonstrate innovation and scalability—The certification program will emphasize *new library programming models that provide participatory learning experiences*. Theme 4: Develop cross-disciplinary collaborations that advance libraries nationwide—The graduates of this specialization will develop *mutually beneficial partnerships with allied organizations beyond the library sector*, through *Capstone in YX*, which *will elevate the role of libraries* and library education nationwide (IMLS, 2015, p. 13). This project also directly addresses the first goal in the IMLS Strategic Plan—placing the learner (youth) in the center.

Estimated Budget: $440,572

References: See a complete list of articles referenced for the development of the core idea for the certificate.