## Navigating Screens: Libraries as Community Hubs for Teaching Positive Screen Media Practices

Most children are spending increasing amounts of time each day using a wide range of screen media (e.g. smartphones, iPads, and laptops). However, parents and other caregivers are often unequipped to play the roles of media mentors and family digital literacy educators, and most youth services librarians are unsure how to talk to parents about teaching good screen use habits. The University of Wisconsin-Madison (lead institution), Drexel University, and the University of Oklahoma will conduct research and develop screen media education training modules for public librarians working with parents and other caregivers of children ages 5 to 11. **Navigating Screens** will create locally-adaptable training modules to be tested in six highly diverse libraries in three areas of the United States. The project will run from October 2017 to September 2020.

The goals of **Navigating Screens** are:

- To gain an understanding of the sources parents use to learn about children's screen media use.
- To learn how librarians and community organizations teach parents about children's screen media use.
- To learn about librarians' practices when collaborating with community organizations to do this work.
- To develop, deliver, and evaluate training modules for librarians and collaborating community organizations to use when working to educate parents about screen media mentorship and parenting guidance.

The **Navigating Screens** project team features three nationally-recognized youth and media researchers plus an Advisory Board comprising public and school librarians, as well as influential youth and technology experts with strong ties to schools, youth groups, and other community organizations.

Major project activities will include:

- Development of research instruments (Oct. – Nov. 2017)
- Application for research permissions from institutional review boards (Nov. 2017 – Jan. 2018)
- Semi-structured interviews and background surveys with parents and other caregivers, librarians, and community experts (Feb. – Aug. 2018)
- Data analysis conducted by the research team with input from Advisory Board (Sept. 2018 – May 2019)
- Document and website analysis (Sept. 2018 – May 2019)
- Presentation of research findings to libraries and community partner organizations (May-August 2019)
- Development and implementation of the training modules (September 2019-April 2020)
- Outcomes-based evaluation of the training modules (January-April 2020)
- Broad dissemination of project results (April 2020- September 2020)

**Navigating Screens** will result in a set of locally-adaptable educational products to be freely shared on the project website for use in libraries across the country. These products will include: 1) a model of caregivers' information decision making factors, challenges, and sources when finding, selecting, and evaluating screen media practices resources; 2) a set of resources about screen media and parenting to be curated by the project team members and integrated into the training modules; 3) an evaluation matrix caregivers and practitioners can use when selecting and evaluating information sources related to screen media practices; 4) replicable training modules for librarians and collaborating community organization members to use to strengthen their expertise when assisting parents in making decisions about screen media use.

With research and testing sites in six different U.S. public libraries in three different geographic areas, **Navigating Screens** will gather a rich set of data and make a strong national impact on the field, enabling libraries across the country to deliver programs for teaching parents and other adult caregivers to become effective media use mentors and educators. The training modules will address effective methods of evaluating and selecting resources, along with practical strategies for using resources relating to children's use of screen media. The modules will include versions designed for local adaptation and use in rural, suburban, and urban libraries, making them adaptable to local community needs. After the modules are developed, tested, and revised, they will be released to the public for free adoption and use. As a result, the benefits of this project will be sustained long beyond the funding period, as additional libraries implement the training modules, and as parents for years to come turn to their public libraries for media literacy education and guidance.

**Navigating Screens: Libraries as Community Hubs for Teaching Positive Screen Media Practices**

The University of Wisconsin-Madison (lead institution), Drexel University, and the University of Oklahoma propose to conduct research and develop training modules for librarians working with parents and other caregivers of children ages 5 to 11 on ways to develop positive screen media practices. The training modules will focus on teaching effective methods of evaluating and selecting appropriate resources, along with practical strategies for using resources relating to children's use of screen media. We are requesting $524,874 for this project, which will run from October 2017 to September 2020. It will start with a study of where parents go in their communities for parenting information, how libraries can best collaborate with these other community agencies, and the knowledge and skills public librarians need to teach positive screen media practices. Building on the research findings, **Navigating Screens** will develop and test adaptable screen media program modules in six test sites, including two rural, two suburban, and two urban libraries in three different U.S. geographical regions. The project will result in 1) a model of caregivers' information decision making factors, challenges, and sources when finding, selecting, and evaluating screen media practices resources; 2) a set of resources about screen media and parenting to be integrated into the training modules; 3) an evaluation matrix caregivers and practitioners can use when selecting and evaluating information sources related to screen media practices; and 4) replicable modules for training librarians and community collaborators how to assist parents in making wise decisions about screen media use. All products will be freely shared on the project website.

Four research questions are driving this project: 1) What sources of information do parents and caregivers draw on to understand and make decisions about guiding children's use of screen media? 2) In what ways do parents accept, reject, or negotiate guidance concerning parenting and screen media? 3) In what ways are local community organizations providing information about parenting practices concerning children and screen media? 4) What roles do public libraries play in helping parents and caregivers to understand, negotiate, and supplement this information?

**STATEMENT OF NEED**

Smartphones, computers, iPads, and other screen media are central fixtures in the lives of most of today's children, yet few parents or other caregivers know where to go in their communities for helpful, reliable information about guiding children's use of these devices. Public libraries seem like a logical place to go, but few librarians know how to talk to parents about children's screen media use. Screen media include any devices with screens used to watch videos/movies/tv, play games, chat, and read or write text (Rideout, 2015). However, all screen media use is not the same. We know from the research that key to whether a particular screen device is beneficial in a child's life is **how** it is used (Guernsey, 2016). This means that simple guidelines such as recommended hours per day of use are ineffective, and parental education is needed.

This project focuses on children ages 5 to 11, an age when children are expected to be using technologies for learning as well as for entertainment and when they are developing more independence in online environments. Erikson's classic work in describing youth developmental stages suggested that elementary school children are more able to learn new skills and create new knowledge than when they were younger, and that they are becoming increasingly social in nature (Mooney, 2013). Erikson also suggested that children in this stage begin forming their own senses of identity and self-confidence. These developmental hallmarks coordinate well with common screen media activities such as searching for information online and playing interactive games with others, and they help to explain why screen media use is so popular with this age group.

The need for digital literacy in today's families: Growing numbers of elementary school-aged children have access to screen media and are spending more and more time each day using a range of devices. Roughly half of U.S. eight- to 12-year-olds own their own tablets and have a TV in their bedroom, spending an average of 4.5 hours per day with screen media (Rideout, 2015). Families are navigating confusing and contested territory when making decisions about screen time for children. Children's online activities can produce high levels of anxiety connected with risks such as bullying and stranger danger. At the same time, as children enter school parents feel the need to provide technologies for their educational benefits (Livingstone et al, 2015).

Indeed, digital literacy is critical for children's success in today's education environments (Lankshear & Knobel, 2008). It is tied to stronger critical thinking and general literacy skills, improved self-image, and reduced violent and aggressive behaviors (Kaiser Family Foundation, 2003). Further, children learn more from their use of screen media when adults and children use these tools together (Lee, 2016). At the moment, we have very little research on how parents find information to enhance family digital literacies. This project will provide important empirical research on caregiver information seeking behaviors that is missing in the field.

The need to train parents: The American Academy of Pediatrics (AAP) recommends that parents serve as media mentors for their children and help them make smart media choices (AAP, 2016). However, many parents are unequipped to play the roles of media mentors and family digital literacy promoters. They struggle with important questions such as: "How do I keep my child from engaging in dangerous activities online?" and "How much time with screen media is too much for my child?" We need more research to understand how to teach parents to become media mentors without placing undue burdens on their time, while respecting children's right to privacy and access (Levinson et al., 2015). In addition, there is a need for simple tools, such as an evaluation matrix, that parents can use to help make good parenting decisions.

A study funded by the Joan Ganz Cooney Center indicates that "joint media engagement" in households is a key way for parents to support children's use and understanding of digital media (Takeuchi and Stephens, 2011). Rarely, however, do caregivers have formal training in teaching children practices for positive screen media use. Instead, they must rely on information they receive from others in their communities, such as physicians, police officers, youth group leaders, and more. Web-based sources, such as government and private agency websites, as well as popular media, are also common sources of information for adults who wish to learn about guiding children in the use of screen media. Unfortunately, these sources frequently frame children's use of screen media as entirely negative, ignoring any possible benefits of use. Benefits can include technology skills acquisition, positive social interaction, problem solving and communication skills development, literacy development, and the joy of play (e.g. Agosto, 2012; Boyle et al., 2012). Further, online activities are discussed as part of a participatory culture in which embedded forms of learning involve community members working collaboratively, sharing information, and creating new texts (Jenkins et al., 2007).

The need to understand the screen media debates: Common sources for information about children and screen media tend to emphasize negative aspects of use, including physical and mental health issues such as obesity, addiction, and increase in aggression (Rosen et al., 2014). Online spaces for children are surrounded by concerns about high profile internet risks, such as cyberbullying, "stranger danger," and exposure to violent and pornographic content (Agosto, Forte, & Magee, 2012; Hasebrink et al., 2009), and as a result, parents and other caregivers are warned about negative effects of too much screen time without receiving balanced discussion of educational and social benefits. As families increasingly incorporate digital technologies into households, they are surrounded by these competing discourses, and parents are often worried about their children's technology use and how best to guide and regulate it (Hiniker, Schoenbeck, & Kientz, 2016).

The need for media mentors: Recent publications concerning "media mentorship" provide ample evidence that parents and caregivers are looking to libraries for support and guidance regarding family practices surrounding digital technologies (Haines, Campbell, & ALSC, 2016). These authors argue for the need for librarians to model positive uses and experiences with media, and to help caregivers shift conversations away from rules about screen time toward discussion about media decisions. Although many schools provide education about technologies, and parents are given advice about screen time from pediatricians and "net safety" information from police, often the content and delivery methods are couched in negative terms that discourage discussion and do not align with family practices (Agosto & Abbas, 2015; Willett, 2016). Further, families are diverse. For positive screen habits to be effective, guidance must be flexible and easy to tailor to the everyday routines, cultures, and dynamics of individual families (Levinson et al., 2015). As such, there is a need for information providers such as schools, libraries, doctors, and police to coordinate their support for parents so as to have a coherent and easy-to-navigate set of resources and advice.

The need for training for librarians: Libraries are perfectly positioned to play the role of screen media educators, working with families and community groups to help parents and other caregivers raise informed screen media

users and savvy future digital citizens. Currently, public librarians do play a role as parent educators in storytimes and other programs, but with conflicting views about screen media and ever-changing information and advice for caregivers, most youth services librarians struggle to know how to talk with parents about screen habits. While evaluation models such as Guernsey's (2012) 3C's suggest screen media and their use be evaluated on content, context, and the child, there is still a need to train librarians in ways to develop conversations with parents and model decision making about screen media.

## PROJECT DESIGN

The University of Wisconsin, Drexel University, and the University of Oklahoma will work with librarians in six U.S. public libraries to implement a groundbreaking research project that will study parents' and librarians' needs for effective screen media education in their communities and create locally-adaptable training modules to be tested in six libraries with diverse needs. The four **goals of the project** are:

Goal 1. Gain an in-depth understanding of the information sources (e.g. community institutions and experts, online resources, mainstream media) parents use to learn about methods for developing positive screen media practices with children ages 5-11.

Goal 2. Learn librarians' and community organizations staffs' practices when working with parents to teach children screen media practices.

Goal 3. Learn librarians' practices when collaborating with community organizations.

Goal 4. Develop, deliver, and evaluate flexible, replicable training modules for librarians and collaborating community members focused on teaching parents effective methods of evaluating and selecting appropriate resources, with practical strategies for using resources with children to develop positive screen media practices.

**Research questions:** Phase 1 of the study will be guided by four research questions. Each research question will help the project team fulfill Goals 1-3 in Phase 1 and will set the stage for completing Goal 4 in Phase 2.

1. What sources of information do parents and caregivers draw on to understand and make decisions about guiding children's use of screen media?

2. In what ways do parents accept, reject, or negotiate guidance concerning parenting and screen media?

3. In what ways are local community organizations providing information about parenting practices concerning children and screen media?

4. What roles do public libraries play in helping parents and caregivers to understand, negotiate, and supplement this information?

**Project Products:** The activities will result in five products. Products 1-3 will be used for developing products 4 and 5 (training modules and project website) and will demonstrate completion of Goals 1-3.

1. A model of parents' information decision making factors, challenges, and sources when finding, selecting, and evaluating screen media practice resources.

2. A set of resources about screen media and parenting that will be integrated into the training modules and posted to the project website.

3. An evaluation matrix parents, librarians, and other adults can use when selecting and evaluating information sources related to screen media practices.

4. Replicable training modules that can be used to train librarians and collaborative community members to strengthen their expertise when assisting parents of children in making decisions about screen media use.

5. A project website to provide updates on project activities and to disseminate the findings.

**Project Activities:** The project involves six case studies in three areas of the U.S.: urban and rural Wisconsin, small-town Oklahoma, and urban Pennsylvania. The six different research sites allow us to draw a rich set of geographically diverse data to develop the training modules. This number and range of community sites is also necessary to provide enough data to make generalizations about some findings, while also being able to speak to

the specificity of particular contexts. (Refer to Supporting Document 1: Appendix 1 for more information on each state/sites' unique characteristics.) The following libraries have agreed to take part in the project: Madison Public Library (Madison, WI), Eager Free Library (Evansville, WI), Metropolitan Library System (Oklahoma City, OK), Tulsa City County Library System (Tulsa, OK) and two libraries in the Free Library of Philadelphia (PA) system. These libraries have strong connections with local community organizations such as schools and Boys and Girls Clubs and are eager to implement the new training modules.

**Phase 1 Activities:**

1. Development of interview and survey protocols by project team, with input from Advisory Board members. Interview questions will be developed after initial consultations with librarians and with input from the Advisory Board members (October – November 2017).

2. Apply for IRB approval at all three institutions (November 2017 – January 2018). (**Note**: No data will be collected from children, enabling expedited IRB review and approval.)

3. Data collection (February – August 2018). This includes semi-structured interviews and background surveys with parents, children's services and outreach librarians, and members of community organizations providing information about screen media and parenting (e.g. police and teachers). Interviews will take place in each partner library are expected to take 30-45 minutes each to complete. The PI from each state will collaborate with the librarian Advisory Board member and other librarians from each library to recruit parents and other children's services and outreach librarians for the interviews. The anticipated sample size is: 30 parents (5 from each site), 12-15 librarians (1-2+ from each site), and up to 6 other professionals. The interviews will be audio taped, and the audio from the interviews will be transcribed by a bonded transcription company.

4. Data analysis conducted by the PIs and research assistants, with review and input by the Advisory Board (September 2018 – May 2019). Data analysis will employ a grounded theory approach, in which themes in the data are not predefined but are developed during analysis (Glaser & Strauss, 1967). After initial themes have been identified and a coding scheme created, each PI will code their site's data using the coding scheme and NVivo qualitative analysis software. To ensure intercoder reliability, the Research Assistants will also code all of the data from their respective sites. To facilitate integration of data between sites, each PI will code a sample of data from each of the other sites. Preliminary and final findings from the interviews and background surveys (analyzed via descriptive statistics) will be reviewed with the Advisory Board during the November 2018 and May 2019 meetings. See the Schedule of Completion for further explanation and a timeline of activities.

5. Analysis of documents and websites cited by parents as sources of screen media use information (September 2018 – May 2019). Analysis will employ an inductive approach using multimodal analysis (Burn & Parker, 2003) to understand the advice caregivers, children, and screen media receive through a variety of modes (text, image, web design). The analysis will be triangulated with the interview results to identify ways parents accept, reject, or negotiate guidance concerning parenting and screen media.

**Phase 2 Activities:**

1. Present findings to libraries and potential community partner organizations (May-August 2019). The PIs will share findings about caregivers' information behaviors related to locating, selecting, evaluating, and using information resources. To ensure communication with as many librarians as possible, we will request time at scheduled Youth Service meetings in libraries to share our findings and hold one additional evening meeting to share findings with other interested librarians and community partners.

2. Collaboratively develop and implement training modules that respond to the findings (September 2019-April 2020). We have scheduled a face-to-face Advisory Board meeting to work on training module development. The Board will help us identify resources to meet the needs of caregivers and develop training session activities. We will implement these modules in our participating libraries with librarians and community partners. (See Supporting Document 1: Appendix 2 for further discussion of training modules.)

3.  Conduct outcomes-based evaluation (OBE) of the training modules to determine if project outcomes are met (January-April 2020). We will ask librarians and community partners to complete a pre- and post-training survey before and after each training session. We will revise modules to respond to the OBEs.

4.  Dissemination (April 2020- September 2020). In addition to sharing findings on our project website and via social media channels (e.g. Facebook, Twitter, YALSA Blog), we will write articles for professional and academic journals and deliver presentations at regional, state, and professional conferences. Table 1 outlines each activity, product, contributors, and dates. Phase 1 is indicated in orange and Phase 2 is in green.

**Table 1. Project Activities, Products, Contributors, and Completion dates**

| Activity | Product | Who Is Involved | Date Range |
|---|---|---|---|
| Develop interview & survey protocols | Interview questions | Entire project team | Oct-Nov 2017 |
| Apply for IRB approval | IRB approval from each project site | PI and Co-PIs | Nov 2017-Jan 2018 |
| Data collection | Audio taped interviews, transcriptions of interviews | PI and Co-PIs, RA's | Feb-August 2018 |
| Data analysis | Project products 1 and 3 | PI and Co-PIs, RA's; Input from Board | Sept 2018-May 2019 |
| Analysis of sources used by parents | Project product 2 | PI and Co-PIs, RA's; Input from Board | Sept 2018-May 2019 |
| Present findings | Presentations to libraries and other organizations | PI and Co-PIs, RA's, Board (via social media) | May-August 2019 |
| Develop training modules | Training modules | PI and Co-PIs, RA's, Board | Sept 2019-Dec 2019 |
| Deliver training modules | Training modules | PI and Co-PIs, librarian at each site | Jan-April 2020 |
| Conduct OBE; revise training modules | OBE results and revisions | PI and Co-PIs and Board | Jan-April 2020 |
| Dissemination | Project website, social media posts, publications | PI and Co-PIs | April-September 2020 |

**Face-to-face and virtual meetings schedule:** During both phases of the project it is necessary for the research team to meet many times to facilitate the activities of the project. In addition to bi-weekly conference calls with the Co-PIs and project research assistants to discuss work progress, *the Co-PIs* will meet for day-long meetings face-to-face five times and one time virtually using video conferencing software during the project to 1) develop the interview protocols and data analysis process in Phase 1 (November 2017 and March 2018 meetings); 2) complete data analysis and integrate the results of the data analysis from the three sites (Sept. 2018 and Feb. 2019 meetings); 3) review data analysis and begin developing presentations and training modules (August 2019 meeting), and 4) conduct assessment for workshops/services (January 2020 meeting). *The Advisory Board members* will meet five times virtually using video conferencing software and one time face to face to: 1) assist PIs in the development of the interview protocol (Nov. 2018 meeting), 2) review project progress and assist in development of resources for caregivers (May 2018 meeting), 3) review project progress and preliminary findings of data analysis (Nov. 2018 meeting), 4) review data analysis, develop assessment measures for training modules and develop presentations and training modules (May 2019 meeting), and 5) review of project goals and outcomes (Nov. 2019 meeting). Please refer to the Schedule of Completion for further detail.

**Research approach/conceptual framing:** The project incorporates an action research approach to tap into librarians' expert knowledge about their communities and users. Action research focuses on enacting change in professional practice (Kemmis et al, 2014). Action research theory suggests that problems are best addressed from inside organizations through collaborative data-informed actions, and that problem solving is a cyclical process of planning, taking action, and reflecting on results. We have broadly identified the "problem" as a need for more support for parents in relation to information about digital media. Employing an action research model, we will start by developing an understanding of the problem through dialogue with librarians and then develop a plan of action. Next we will implement the plan in six different libraries. Lastly, we will reflect on what we learned and use it to improve our models and guidelines. Librarians and other community experts will serve as 1) contributors of knowledge via interviews and surveys; 2) project advisors who steer the project in collaboration with the researchers, making critical decisions about project design and reach; 3) disseminators of project findings; and 4) co-organizers of workshops to apply project findings to their own libraries.

**Focus on underserved populations:** The project libraries were selected because of their geographic and demographic diversity (see Supporting Document 1: Appendix 1). They are located in highly diverse communities, with strong representations of Latino, African American, low-income, and rural populations. Efforts will be made to ensure that research participants will include a diverse range of ethnic/racial/linguistic groups, with purposive inclusion of Latino and African American participants. In addition, one of the Advisory Board members is a media specialist at a dual-language immersion school and will contribute to our understanding of working with Latino caregivers in connection with screen media. One of the participating librarians is bilingual (Spanish-English), and we will create training materials for librarians to use with parents/caregivers in both Spanish and English. The training modules will be adaptable for use with diverse populations and will contain sections devoted to working with users from underrepresented groups.

**Risks to the project:** 1) Recruiting librarians who can contribute their expertise and time to the project may be a risk if they are unaccustomed to taking part in research projects. To mitigate this, the project Advisory Board includes children's services and outreach librarians who will be instrumental in the development of the project design, the research instruments, and the research activities and who will assist in recruiting librarians to take part in the study. 2) Recruiting parents for interviews is a second potential risk. However, the Advisory Board members all have years of experience working with parents and strong ties to their communities. As such, they are a reliable source for recruiting parent, library and community study participants. 3) The amount of research data the project staff will gather, making data analysis and management quite demanding, is a third risk. Nonetheless, the PIs are all highly experienced researchers with past successes in large funded project management and completion. Graduate research assistants will also play active roles in data gathering, analysis, and management. Furthermore, the PIs will work with the Advisory Board to assure that there is a strong connection between the research and its usefulness for informing library practice.

**Project Management and Resources:** The project team includes three library and information science university faculty (Willett, Abbas, Agosto) and an Advisory Board comprised of public and school librarians, including experts in library "media mentorship" practices (Haines and Koester), a representative from the Department of Public Instruction with expertise in libraries and technologies (Keifer), and librarians in our site libraries (Storck-Post, Williamson, Sparks). Dr. Willett will manage the overall project to ensure all goals are met, adherence to the timeline, and completion of all activities. Drs. Abbas and Agosto will be responsible for ensuring that their local site activities are completed according to the timeline.

**Project Staff:** *Rebekah Willett, Ph.D., Assistant Professor, School of Library & Information Studies, University of Wisconsin, Madison. Principal Investigator:* Dr. Willett is a highly experienced researcher working with children, families, schools, and libraries. *Denise E. Agosto, Ph.D., Professor, College of Computing & Informatics, Drexel University. Co-Principal Investigator*: Dr. Agosto has nearly 20 years of experience researching young people's use of technology and the roles of public libraries in serving youths' information needs. *June Abbas, Ph.D., Professor, School of Library & Information Studies, University Oklahoma. Co-Principal Investigator.* Dr. Abbas' long research career has focused on children and youth technology use, and the impact of technologies on service provision in public libraries.

**Advisory Board:** A seven-member Advisory Board will guide the activities and outcomes of the project by 1) providing input on pertinent questions for interviews and data analysis; 2) assisting in recruiting parents and librarians for the interviews; 3) reviewing research findings to provide insight and connection with librarians' experiences; 4) sharing findings with their libraries and community organizations via social media; 5) working on the development of training modules; and 6) assisting in the revisions of the training modules. One Board meeting will be face-to-face to plan the structure, content, and activities for the librarian training modules. Expected total time commitment for the three years is 75 hours (25 hours per year at $20 per hour honorarium).

Each Advisory Board member is well connected locally and nationally to facilitate the development of the project and the fulfillment of its core goals and outcomes. Claudia Haines is known nationally as a trainer and media mentor and has been a key author on media mentorship and parental education. Amy Koester is on the Board of ALSC (Association of Library Service to Children) and is active as a trainer in evaluation and media mentorship. Kurt Keifer is the Assistant State Superintendent for libraries in the Wisconsin Department of Public Instruction and provides years of experience and insight on technology integration in schools and libraries. School library media specialist Jim Igielski come from a dual language one-to-one laptop school. He will provide insight on working with parents and community partners, including the public library. Finally, the Board includes three public librarians (one from each PIs state) who specialize in children's programming design and delivery, one in a management position (Kristin Williamson), one who works with Out-of-School Programs (Heather Sparks), and one bilingual specialist (Holly Storck-Post).

**Evaluation Plan:** The IMLS agency-level goal of "Learning" is applicable to this project. We have selected two of the three performance measures under this goal: 1) train and develop museum and library professionals and 2) support communities of practice that we feel reflects measurable changes or outcomes that we intend our project to achieve. To assess the attainment of these performance measures, we have developed an outcomes-based evaluation (OBE) plan. Outcomes-based evaluation is used to measure the benefits to the audience or participants of a project. Outcomes is defined by IMLS as "changes in skills, knowledge, attitudes, behavior, and condition or life status." (https://www.imls.gov/grants/outcome-based-evaluation/basics) Table 2 provides an overview of the project OBE plan.

**Table 2. Outcomes-Based Evaluation Plan**

| Goal/Research Question | Outcome | Indicators | Data Source(s) | Applied to | Data Interval | Target |
|---|---|---|---|---|---|---|
| Gain understanding of the information sources parents use | Understand parent choices and decision making factors when selecting resources | 28 out of 30 parents will provide information about sources they use | Parent interviews; Resources mentioned in interviews | All Parents | Parent interviews during phase one | 95-100% of parents |

| | | | | | | |
|---|---|---|---|---|---|---|
| Gain understanding about parents' decision making, challenges, and resource evaluation | Understand parents' decision making factors when selecting and using resources | 28 out of 30 parents will provide information about decision making factors | Parent interviews; Transcripts of interviews with parents and caregivers | All Parents | Parent interviews during phase one | 95-100% of parents |
| Learn librarians' and community organizations staff practices | Understand librarians' practices when working with parents | 15 out of 15 librarians will provide information about current practices | Librarian interviews; Transcripts of interviews with librarians | All librarians | Librarian interviews during phase one | 100% of librarians |
| Learn librarians' practices when collaborating with community organizations | Understand librarians' practices when collaborating with community organizations | 15 out of 15 librarians will provide information about their current practices when working with community organizations | Librarian interviews; Interview transcripts; Community organization interviews; Transcripts of interviews with community organizations | All librarians | Librarian interviews during phase one | 100% of librarians |
| Develop, deliver, and evaluate training modules | Librarians' confidence level of working with parents increases | 95 out of 100 librarians will report increase in confidence when working with parents | Pre and post questionnaire given during training modules | All librarians | Pre and post testing during training modules in phase two | 95-100% of librarians |
| Develop, deliver, and evaluate training modules to librarians and collaborating community members | Librarians' confidence level of working with community organizations increases | 95 out of 100 librarians will report increase in confidence as higher when working with community organizations | Pre and post questionnaire given during training modules | All librarians | Pre and post testing during training modules in phase two | 95-100% of librarians |
| Develop, deliver, and evaluate training modules to librarians and collaborating community members | Community organization staffs' confidence level of working with libraries/parents increases | 4 out of 6 community organization staff will report increase in confidence when working with parents | Pre and post questionnaire given during training modules | All community organization staff | Pre and post testing during training modules in phase two | 95-100% of community organization staff |

**Communication Plan:** The project findings will be shared with librarians and other professionals in several ways. The project team will develop presentations at venues such as Wisconsin Library Association, Oklahoma Library Association, Pennsylvania Library Association, PLA, and ALA, as well as ALISE. The project team will write semi-annual project status reports to be posted to the project website, and issue status updates via Twitter and ALA's Young Adult Library Services (YALSA) member blog, to which Co-PI Dr. Agosto is a frequent contributor. The PIs will also publish at least one academic journal article and two practitioner-oriented articles based on the project results. We will provide semi-annual project status reports to our Board members at our Board meetings. Board members will share project updates with library staff at library meetings, in-house library training sessions, and through the preferred social media of their organizations. Researchers will share versions of materials they produce for dissemination activities on the project website. These will include papers, PowerPoint presentations, and workshop hand-outs. There will also be social media campaigns at key points in the project (e.g. when we implement training modules), focusing on Twitter and the YALSA blog.

## NATIONAL IMPACT

**Navigating Screens** will provide public libraries with adaptable training modules for librarians to work more effectively with parents and local community agencies on the development of positive screen media practices. As a result of this project, rural, suburban, and urban libraries will be better prepared to serve the information needs of families in their communities. Our outcomes focus on making libraries better equipped to provide parents with information relating to screen media use, on educating librarians to become community screen media experts and mentors, and on enabling libraries to build meaningful and lasting collaborations with community agencies with a shared stake in parental screen media education.

With research and testing sites in six U.S. public libraries in three different geographic areas, **Navigating Screens** will gather together a very rich set of data that will make a strong national impact on the field, enabling libraries across the country to deliver programs for teaching parents and other adult caregivers to become effective media use mentors and educators, thereby addressing the ever-growing need for libraries to provide literacy education beyond traditional print media. The training modules will include versions designed for local adaptation and use in rural, suburban, and urban libraries, making them adaptable to local community needs.

**Navigating Screens** addresses needs outlined in the proposal by developing models of evidence-based training for librarians. This will facilitate libraries in becoming community hubs for helping caregivers navigate screen advice. The research component of the project will gather evidence about caregiver information seeking behaviors that is absent and needed in the field. These findings will serve as the basis for the development of training modules for librarians and subsequently for parents. The training will provide librarians with the skills, knowledge, and resources to become more effective media mentors. Products such as an evaluation matrix will provide librarians with quick and effective tools for future work with parents. Developing the evaluation matrix also fills a gap for IMLS and the library community as few IMLS-funded projects have produced evaluation tools (e.g. the UC Irvine project, which produced assessment tools for educators working with youth in STEM programs). **Navigating Screens** will put librarians in better positions for improving the digital literacy skills of both parents and their children. Through training and media mentorship, librarians and parents will gain a better understanding of the complicated debates around parenting and screen media, enabling them to navigate advice more skillfully in the future and create a stronger society of digital citizens.

All products will be available on the project website to maximize national impact. Products include:

1. A model of caregivers' information decision making factors, challenges, and sources when finding, selecting, and evaluating screen media practices resources. The model will consist of a visual representation and explanation of caregivers' decision-making processes. It will be used in the training modules and will be useful as a stand-alone educational product for librarians and community partners.

2. A set of resources about screen media and parenting that will be integrated into the training modules and posted to the project website. We will be selective in our choice of resources in order to provide materials that will not immediately go out-of-date. Resources will provide principles for positive media habits rather than specifics in relation to screen media, such as recommendation of short-lived information resources.

3.  An evaluation matrix caregivers and practitioners can use when selecting and evaluating information sources related to screen media practices. The matrix will identify key areas for evaluation with a menu of options to consider in relation to family practice. It will provide adaptable principles and questions to apply when evaluating advice, rather than a prescription of how to use media. The aim is to provide structure for parents/caregivers to think critically about advice so they feel confident about decisions in relation to screen media practices.  This will be a stand-alone product with an explanation of how to use it.

4.  Replicable training modules to train librarians and collaborative community members to strengthen their expertise when assisting parents who are making decisions about children's screen media use. The modules will include adaptations for different library settings (e.g. rural and urban) and different partnerships (e.g. with schools or community centers). This model will encourage libraries to become centers of communities of practice by collaborating with community partners who serve families and are interested in screen practices.

Building on previous work: This project will align with work from the Joan Ganz Cooney Center, which developed a set of principles for designing "joint media engagement" experiences with caregivers and children. It will also be attuned to concerns raised in the 2015 *Diverse Families and Media Report* about one-size-fits-all programs which ignore socio-cultural aspects of family dynamics. Moreover, this work will build on previous IMLS-supported work such as the 2013 *Growing Young Minds* report which calls for libraries to build community partnerships, become "digital hubs," and provide guidance for caregivers to make the best use of screen media and close persistent digital divides. Dr. Willett has been publishing research in the area of children and media for over 15 years, including applied research in the area of internet literacy. Further, she served as PI on a previous National Leadership Grant with Madison Public Library (MPL) about learning in makerspaces (Bubbler@MPL). **Navigating Screens** builds on this partnership between MPL and UW-Madison. The rural library is an internship site for her students, and Dr. Willett has an established relationship with its librarians.

**Navigating Screens** will also build on the co-PIs' extensive work in the area of youth and screen media research. Specifically, it will develop research Dr. Willett conducted in domestic settings, which revealed parents' concerns and strategies connected with screen time and family practices. Further, it will build on Dr. Willett's findings in relation to children's digital literacies and her evaluations of screen media targeted at young children and their caregivers. In addition, Dr. Willett will draw on work she conducted for a European Union-funded project involving the development of an internet education program (Educaunet).

Dr. Agosto's work on this project will build on her many related current and past research projects. Most significantly, it will build on her work for four current or past IMLS-funded projects, spanning the period 2002-2019. Together these grant projects addressed youths' use of screen media, the roles of libraries as public education institutions, and public library collaborations with other community organizations. It will also advance the project findings from her OCLC-funded "A New Role for Libraries: Promoting Teens' Safety and Security in the Digital Age" (2014-2015), which studied the roles that schools, libraries, and other organizations play in teaching youth about Internet privacy and safety.

This project will also expand Dr. Abbas' previous work on past IMLS and OCLC funded projects. Her earlier IMLS work explored the role that public libraries play in youths' lives and the impact of the Internet on their use of public libraries (2002-2005). She has also collaborated with Dr. Agosto as consultant on one of her IMLS funded projects on youths' perceptions of libraries and as Co-PI on their OCLC funded project (referenced above). **Navigating Screens** will build on the OCLC study findings about youths' privacy and safety perceptions by helping us learn more about problems parents face when developing family practices related to positive media use and how libraries can support these efforts.

The research and development design of the project makes it self-sustaining. After the modules are developed, tested, and revised, they will be released to the public for free use. Thus, the benefits of this project will be sustained long beyond the funding period, as additional libraries implement the modules and as parents for years to come turn to their libraries for media literacy education and guidance. Children who benefit from the parental education programs developed here will go on to become wiser digital citizens throughout their adult lives. The library and community agency collaborative relationships that result from the collaborative training programs will also benefit the libraries and their communities for many years beyond the funding period.

**SCHEDULE OF COMPLETION – NAVIGATING SCREENS**

| Year 1 | Oct. 2017 | Nov. 2017 | Dec. 2017 | Jan. 2018 | Feb. 2018 | March 2018 | April 2018 | May 2018 | June 2018 | July 2018 | Aug. 2018 | Sept. 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Develop interview protocols and gain study permissions from IRB | ▬ | ▬ | ▬ | ▬ | | | | | | | | |
| Data collection | | | | | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | |
| Data analysis | | | | | | | | | | | | ▬ |
| Meetings: Research (Nov, March, Sept); Advisory Board (Nov, May) | | ▬ | | | | ▬ | | ▬ | | | | ▬ |
| Creation and maintenance of website | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |

| Year 2 | Oct. 2018 | Nov. 2018 | Dec. 2018 | Jan. 2019 | Feb. 2019 | March 2019 | April 2019 | May 2019 | June 2019 | July 2019 | Aug 2019 | Sept 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data analysis (continued) | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | | | |
| Share findings | | | | | | | | ▬ | ▬ | ▬ | ▬ | |
| Develop training modules | | | | | | | | | | | | ▬ |
| Maintenance of website (continued) | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | | |
| Meetings: Research (Feb, May, Aug); Advisory Board (Nov, May) | | ▬ | | | ▬ | | | ▬ | | | ▬ | |

| Year 3 | Oct 2019 | Nov 2019 | Dec 2019 | Jan 2020 | Feb 2020 | March 2020 | April 2020 | May 2020 | June 2020 | July 2020 | Aug 2020 | Sept 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Develop training modules (cont.) | ▬ | ▬ | ▬ | | | | | | | | | |
| Deliver training modules | | | | ▬ | ▬ | ▬ | ▬ | | | | | |
| Conduct OBE, revise training modules | | | | ▬ | ▬ | ▬ | ▬ | | | | | |
| Dissemination (ALA, local conferences, professional and academic journal articles) | | | | | | | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| Maintenance of website (continued) | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| Meetings: Research (Jan); Advisory Board (Nov) | | ▬ | | ▬ | | | | | | | | |

## DIGITAL PRODUCT FORM

**Introduction**
The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (i.e., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products can be challenging. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

**Instructions**
You must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

## PART I: Intellectual Property Rights and Permissions

**A.1** What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

We will create two categories of digital content. Type 1) Anonymized research data, including interview data, participant background questionnaire responses, and training module evaluation feedback. We will assign an Attribution 4.0 International Creative Commons license to enable unrestricted use of these data. Type 2) The project website, including information about the project (goals, progress updates, and public education materials resulting from the research). We will assign an Attribution 4.0 International Creative Commons license to ensure unrestricted use of all project website content.

**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.

We will put no restrictions on reuse. The overriding goal of the project is public education. Therefore, we encourage reuse of our digital products.

**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.

As required by our IRBs, we will anonymize the data before releasing it for reuse. We will not include any personally-identifying information (personal names, institutional name, geographic locations, etc.) in the products that we create. The products will not create any privacy or cultural sensitivity issues.

## Part II: Projects Creating or Collecting Digital Content, Resources, or Assets

### A. Creating or Collecting New Digital Content, Resources, or Assets

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

We will create four main types of digital products:

1. Anonymized research data, including interview data, participant background questionnaire responses, and training module evaluation feedback.

    A. There will be 48-51 total interviews of 45-60 minutes each. Interviews will be digitally audio recorded and then transcribed into text files. The files will be transferred NVivo will be run on the Excel files for data analysis.

    B. There will be 48-51, 2-3 page paper questionnaires that will be transcribed and stored in a text file for analysis using NVivo.

    C. There will be 16, 3-page training module evaluation surveys, which will be administered in Word to librarians and Advisory Board members. The data will be transferred into a text file for analysis with NVivo.

2. Project team meeting notes from bi-weekly project conference calls and from the semi-annual face-to-face or virtual day-long meetings will be created in Word and stored on a shared google drive.

3. Project press releases about project activities and achievements. There will be six, semi-annual press releases written in text files and released via Twitter and via ALA's Young Adult Library Services blog.

4. Training modules (public education materials that libraries can use for working with community agencies to offer public education programs). The modules and training guidelines will be posted to the project website.

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

The project website will be created using WordPress. The project team will use their own password-protected laptops to store Word and NVivo files, and a Google drive for sharing Word files of meeting minutes and other organizational documents and of press releases and project progress reports. We will use Qualtrics for analyzing the background surveys. Qualtrics runs on a secured site hosted by the University of Wisconsin. Evaluation surveys will be distributed in paper form and then transferred to Qualtrics for analysis.

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

We will use Wordpress for the website and send communications to Twitter and the YALSA blog using txt files. We will use Microsoft Word to produce meeting notes, training modules, surveys, and public education materials. We will use Microsoft Powerpoint to produce presentations. Excel will be used for the demographic survey data and code books and will generate .xls files. NVivo produces files that are read by the NVivo software. The audio taped interviews will be mp3 or mp4 files which will be transcribed as text files.

**B. Workflow and Asset Maintenance/Preservation**

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

The project coordinators for each of the three collaborating institutions will have permissions for uploading content to the WordPress site. We will coordinate content development via our regular project team meetings.

**B.2** Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

Each site coordinator (PIs) and their Research Assistants will be responsible for assuring all data files are secure

and backed up weekly for their site. Each set of data will be stored on a password protected computer and only accessible to the PIs and their Research Assistants. Data will be maintained for the specified period of each academic institution and original files will be deleted after the mandated period for storage.

The products of the project (e.g. training materials, evaluation matrics) will be uploaded to the project website and also stored on each PIs computer.

## C. Metadata

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

A shared Excel spreadsheet will be used to document each project file. A file naming convention will be used for each file generated by the project. The researchers and GA will complete the metadata for each file on the shared Excel spreadsheet.

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

The shared Excel sheet will be kept with the other documents generated by the project for the specified time mandated by each institution.

**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).

The metadata generated by this research project is only of use to the PIs and their research assistants and will not be made publically available.

## D. Access and Use

**D.1** Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content).

All major project products will be freely available to the public on the project website.

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

- 10 Questions to Ask about Your Library Services for Teens: http://youthonline.ischool.drexel.edu/listicle.html
- Best Practices for Teaching Teens to Become Safer, Smarter Social Media Users: http://www.pages.drexel.edu/~dea22/shorter%20best%20teaching%20practices.pdf
- Helping Teens Become Safer, Smarter Social Media Users: https://onlineprivacysafetyteens.wordpress.com/
- Myths and Truths about Teens and Social Media: http://www.pages.drexel.edu/~dea22/shorterinfographic.pdf
- Ten Simple Tips for Safer Social Media Use: http://www.pages.drexel.edu/~dea22/10SimpleTips.pdf

## Part III. Projects Developing Software

### A. General Information

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

**A.2** List other existing software that wholly or partially performs the same functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

### B. Technical Information

**B.1** List the programming languages, platforms, software, or other applications you will use to create your software and explain why you chose them.

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

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

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

**B.5** Provide the name(s) and URL(s) for examples of any previous software 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 open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain and justify any prohibitive terms or conditions of use or access and detail how you will notify potential users about relevant terms and conditions.

**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 deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

**Part IV: Projects Creating Datasets**

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

1. Interview data, digitally audio recorded with stand-alone digital recorders. To be collected January – August 2019. Used to address the first three research questions.

2. Questionnaire data, collected via paper Word questionnaires that will be transcribed and stored in an Excel file. To be collected January – August 2019.

3. Training module evaluation survey data, which will be administered before and after each training session. Each survey will be in Word. To be collected September 2019 - April 2020.

**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, IRB approval is required. We will submit the protocol to the University of Wisconsin IRB first in October of 2018. After it has been approved, we will ask for reciprocal approval from Drexel University and the University of Oklahoma. Based on similar past projects with our three institutions, we feel confident that the time allotted in the project schedule is more than ample for receiving necessary permissions. (Note: No data will be collected from minors or other protected classes that would require more time than allotted for the IRB approval process.)

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

We collect PII for the purposes of paying participants. The data themselves will not be tied to individuals, and we will read all the data before releasing it to ensure that there is no PII released to the public.

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

Due to the low level of risk to study participants, our IRB's will not require consent agreements.

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

The interviews will be digitally audio recorded and transcribed into text files. The demographic survey data will be entered into an Excel spreadsheet. The pre and post surveys from the training sessions will be entered into Excel spreadsheets at each site. We will analyze the transcripts using NVivo and the data from the surveys using Excel. Both software run on standard laptop computers.

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

We will create codebooks within NVivo and Excel and share them among the research team using shared program files. Each site's PI will store the data files on a password protected computer. Each participant's data

will be anonymized using a numeric code. No association is necessary between the participant and the numeric code so this data will not be recorded in a separate document.

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

The original data (interview transcripts and questionnaire data) will be archived on a password-protected laptop in accordance with IRB requirements. The public education products will remain available on the project website indefinitely.

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

The original data (interview transcripts and questionnaire data) will be archived on a password-protected laptop in accordance with IRB requirements

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

We will review the project data management plan on a semi-annual basis at the semi-annual project team meetings. Implementation will be monitored monthly during the first project team conference call of each month during the funding period.