



Museums for America

Sample Application MA-10-16-0063-16

Project Category: Learning Experiences

Funding Level: \$25,001-\$150,000

Chicago Zoological Society (Brookfield Zoo)

Amount awarded by IMLS: \$149,529

Amount of cost share: \$176,634

Attached are the following components excerpted from the original application.

- Abstract
- Narrative
- Schedule of Completion

Please note that the instructions for preparing narratives for FY2017 applications differ from those that guided the preparation of previous applications. Be sure to use the narrative instructions in the FY2017 Notice of Funding Opportunity for the grant program and project category to which you are applying.

Common Foundations in Informal Science Learning for Zoo Staff and Volunteers is a **Museums for America Learning Experiences** project proposal to the Institute of Museum and Library Services. Chicago Zoological Society (CZS) proposes to design a sustainable professional development program for zoo staff and volunteers. The professional development program will be designed to equip CZS professionals to carry out the institution's mission, "to inspire conservation leadership by connecting people with wildlife and nature."

Science learning takes place throughout individual's lifetimes, and the majority of this learning takes place outside of school. Museums, including zoos, are attended by millions of visitors of all ages, annually; thus have great potential for supporting learning. To maximize this potential, it is important to provide professional development to museum professionals in a variety of job roles—including educators, volunteer docents, exhibit designers, guest service staff, animal care staff, and development staff, among others. Such professional development should provide an organization-wide common foundation in the principles and practices of informal science learning. Informal science learning includes not only knowledge gain, but also changes in attitudes and skills that allow individuals to address societal challenges, such as environmental issues. Research has demonstrated that there is a relationship between sense of connection to animals and nature and engagement in pro-conservation behaviors. CZS developed a Learning Strategy intended to serve as a framework to put the institution's mission into practice. The Strategy focuses upon understanding connections between people and the environment, empathy for living things, and actions that lead to a sustainable relationship with nature. CZS has an opportunity to institutionalize a common foundation in informal science learning principles and practices across the organization. While the Learning Strategy has been put into practice in several CZS education department programs, there is a need to equally apply it to all programs and public interpretation approaches within and beyond the education department.

CZS has been successful in developing and implementing a variety of training programs that include practices relevant to the Learning Strategy. These practices include inquiry-based teaching and learning, facilitation of nature-play based science learning experiences for young children and families, public interpretation, and reflective practice. However, audiences for these training programs are frequently individuals outside of CZS, these trainings have not been integrated into organization-wide staff and volunteer professional development offerings, and they have been offered in isolation from one another. This project will allow identification of synergies across existing training programs, and alignment with diversity and inclusion goals, in order to develop a cohesive professional development program that will be accessed by individuals with various job roles in departments across the organization. These challenges in building an organization-wide common foundation in principles and practices in informal science learning are not unique to CZS. This project will result in a professional development curriculum and model also applicable to other museums.

Common Foundations is a three-year project, November 2016 through October 2019. Project activities include (1) iterative development of the professional development curriculum and delivery methods through (2) field tests and evaluation of the curriculum with three cohorts with varying compositions (education staff, volunteer docents, and a broader group of professionals that may also include outreach, animal care, guest services, creative / exhibit design, and development staff); (3) project dissemination and feedback gathering at an Association of Zoos and Aquariums pre-conference workshop; and (4) strategic planning for *Common Foundations* sustainability at CZS and integration at other informal learning organizations. Therefore, zoo and aquarium professionals, their institutions, and ultimately the institutions' audiences will benefit from this project.

It is anticipated that the project will result in (1) the establishment of a *Common Foundations* professional development curriculum that will support CZS zoo and volunteer competencies; (2) a learning community of zoo practitioners—CZS staff and volunteers—who collaborate on skill-building and reflection; and (3) institutionalization of the professional development program into the required training of CZS staff and volunteers across various departments within the organization. Outcomes for *Common Foundations* program participants will include growth in knowledge, interest, and confidence; and changes in practice. These outcomes will be measured by an evaluation plan that includes participant feedback via surveys, assessment of implementation through documentation of completion of skill-building tasks and manager interviews, and professional development facilitator debriefing sessions.

1. Statement of Need

1a. What we propose to do

The Chicago Zoological Society (CZS), which operates Brookfield Zoo, proposes to design a sustainable professional development program for zoo staff and volunteers entitled, “Common Foundations in Informal Science Learning.” (Henceforth in this proposal the professional development program will be referred to as “*Common Foundations*.”) *Common Foundations* will marry theoretically-grounded principles and evidence-based practices in informal science education in order to equip CZS professionals to operationalize the institution’s mission. In alignment with both IMLS and CZS strategic goals, this professional development program will build organization-wide capacity to prepare stakeholders “*to be full participants in their local communities and our global society.*” CZS stakeholders include zoo visitors, on- and off-site program participants, and supporters such as advisors and donors. CZS is well-positioned to develop this professional development program. *Common Foundations* will draw upon (1) the CZS Learning Strategy, which is grounded in theoretical principles of how people learn, and (2) complementary and synergistic elements of a variety of existing training programs, in which CZS already demonstrates leadership. These training programs utilize practices including inquiry-based teaching and learning, facilitation of nature-play based science learning experiences for families with young children, public interpretation, and reflective practice. *Common Foundations* will also draw upon CZS’ growing diversity and inclusion initiatives, and we will contract a curriculum consultant with expertise in inclusion-based learning. Learning Strategy principles and training programs and practices with which CZS holds expertise are described in *section 1b*.

1b. What need, problem, or challenge our project will address and how it was identified

Museums, including zoos, have great potential to support science learning. Throughout their lifetimes, the vast amount of individuals’ science learning takes place outside of the formal school setting (Falk & Dierking, 2010). With over 850 million visits annually, attendance at museums in the U.S. alone exceeds that at theme parks and sporting events, combined (AAM, n.d.). In North America, accredited zoos and aquariums receive about 180 million visits annually (AZA, 2014); zoo and aquarium annual worldwide visitation exceeds 700 million (Gusset & Dick, 2011). It is important to consider that unlike in the school setting, museum practitioners contributing to their institutions’ learning potential are not limited to those with job titles such as educator or teacher. While museum “educators” indeed play a significant role in meeting audience needs, so do other practitioners. These other practitioners include those that may be more closely associated with a museum’s education department such as outreach staff, interpreters, and volunteer docents, as well as those with other job roles including exhibit developers, writers, artists, photographers, curators, animal care and welfare staff, research scientists, guest service providers, and development staff. Therefore, it is paramount that the wide variety of museum professionals who are responsible for meeting stakeholder needs have access to high quality professional development. However, attention towards theoretically-grounded, evidence-based professional development that affords museum staff and volunteers a common foundation in informal science learning principles and practices is lacking (Bevan & Xanthoudaki, 2008; Tran & King, 2007).

Principles. The roles of zoos and aquariums have changed over the years moving from menagerie to centers of environmental conservation and science education. Most modern zoos’ mission statements include education and conservation themes (Luebke & Grajal, 2011; Patrick et al., 2007). This change in mission requires a change in how zoo professionals relate to and communicate with visitors and other stakeholders—practitioners now need to understand how people learn. CZS created a Learning Strategy in 2006 intended to serve as a core reference to create experiences and programs (see **Supportingdoc1.pdf**). Learning Strategy principles are compatible with the National Research Council (2009) six strands of informal science learning: (1) excitement, interest, and motivation to learn, (2) generate, understand, and use scientific concepts and models, (3) predict, question, and observe the natural and physical world, (4) reflect on the nature of science, (5) participate in science activities and learning with others, and (6) identity-building as someone who can use and contribute to science. Moreover, the Learning Strategy is aligned with the CZS mission of inspiring conservation leadership (elaborated in *section 1d*). The strategy is theoretically grounded by work in conservation psychology (Saunders, 2003) and empirically grounded through research conducted by CZS (e.g., Clayton et al., 2014;

Chicago Zoological Society IMLS MFA 2016 – Common Foundations in Informal Science Learning for Zoo Staff and Volunteers Luebke & Matiasek, 2013) and others (e.g., Kals et al., 1999) that demonstrates the relationship between sense of connection to animals and nature and engagement in pro-conservation behaviors. Components of the CZS Learning Strategy include (1) understanding connections between you, your life, and your environment; (2) empathy for living things; and (3) taking action that leads to a sustainable relationship with nature. It is intended that the strategy be executed via first hand experiences—empowering the learner as an active participant, ensuring relevance to people of all cultures and backgrounds, providing fun and engaging experiences, offering aesthetic connections, ensuring scientific excellence, and encouraging and empowering conservation actions.

Practices. CZS is a leader in existing training programs that use evidence-based practices relevant to the Learning Strategy. *Common Foundations* project team members are the CZS leadership personnel for these programs. (See project team qualifications in *section 3b.*) These training programs and associated practices include the following:

- *The Advanced Inquiry Program (AIP) and Teacher Professional Development Classes* employ inquiry-based teaching and learning practices. CZS partners with Miami University for AIP, which is an inquiry-driven program leading to a Master of Arts in Teaching (MAT) in the Biological Sciences or Master of Arts (MA) in Biology (czs.org/aip). CZS also offers numerous Teacher Professional Development classes approved by the Illinois State Board of Education (czs.org/Brookfield-ZOO/Learning/Teacher-Resources/Teacher-Classes), and mentors Chicago Public Schools teachers through the CZS Institute of Science Teaching Excellence (ISTE). CZS trains 100 AIP students and 375 teachers, and mentors 100 ISTE participants, annually. CZS received AZA Education Awards in 2012, 2011, 2009, and 2005.
- *NatureStart Professional Development* builds practitioner capacity to facilitate nature play-based science learning experiences for young children and families (czs.org/naturestart; Matiasek, 2013; Matiasek & Brink, 2013). The CZS-developed NatureStart program has trained over 300 formal and informal and early childhood educators from zoos, aquariums, nature centers, and Head Start programs throughout the U.S. and internationally. IMLS funded the initial development of NatureStart, as well as a current “NatureStart Network” project. (See **NatureStart competencies in Supportingdoc3.pdf**). NatureStart was honored as a 2013 White House Champion of Change (whitehouse.gov/champions).
- *National Association for Interpretation (NAI) Certified Interpretive Guide (CIG) Training* provides development in public interpretation practices that forge emotional and intellectual connections between audience interests and exhibit and program content (interpnet.com). CZS staff who are Certified Interpretive Trainers have provided CIG training to a variety of professionals over the past six years.
- *Reflecting on Practice (RoP)* was developed by Lawrence Hall of Science and “engages practitioners in habits of reflections through observing their own teaching” (reflectiveeducators.org; Tran et al., 2013). CZS personnel have co-facilitated RoP workshops over the past five years.

In addition, CZS offers a diversity and inclusion staff training program about embracing and valuing differences and commonalities (See **diversity competencies in Supportingdoc3.pdf**). CZS received the 2013 AZA Top Honor *Angela Peterson Excellence in Diversity Award*. CZS is also leader among zoo volunteer programs, and received an *AZA Significant Achievement in Volunteer Engagement Award* in 2015. Diversity and volunteer engagement practices will be integral to the *Common Foundations* curriculum and sustainability.

A common foundation for enacting principles and practices. Like other organizations, CZS has an opportunity to institutionalize a common foundation in informal science learning principles and practices across the organization. While the Learning Strategy has been put into practice in development and delivery of several CZS programs within the education department (Matiasek & Luebke, 2014), there is a need to equally apply it within all CZS education department program areas. These education department program areas include school and teacher programs, interpretive and public programs, and early childhood and family learning programs, as well as the services delivered by the 700 member docent and volunteer corps. Additionally, there is a need to apply the Learning Strategy to the efforts of CZS departments that have been even more disconnected from its adoption due to a lack of common foundation across the organization. These other departments include outreach, creative design, animal care and welfare, guest services, and development. It is necessary for a common foundation in informal science learning to include not only principles, but also practices as appropriate

Chicago Zoological Society IMLS MFA 2016 – Common Foundations in Informal Science Learning for Zoo Staff and Volunteers for various job roles. CZS has been successful in delivering the aforementioned training programs (AIP, NatureStart, CIG, and RoP) to audiences external to Brookfield Zoo (see **Supportingdoc2.pdf : CZS program evaluation summaries**). While some CZS staff and volunteers have had involvement in these programs as participants, students, or learners, these training programs have not been widely attended by CZS personnel, in large part because the trainings are not institutionalized as part of overall CZS internal professional development. Additionally, these training programs have operated in isolation from one another; thus there have been missed opportunities to identify synergies across programs. *Common Foundations* will capitalize on how practices within these training programs can work together. These challenges in building an organization-wide common foundation in principles and practices in informal science learning are not unique to CZS. This project will provide a professional development curriculum and model also applicable to other zoos, as well as aquariums and other museums.

1c. Who and what will benefit from our project

Zoo and aquarium professionals, their institutions, and ultimately their stakeholders will benefit from this project. During the project period, *Common Foundations* will directly benefit the approximately 100 CZS staff members and volunteers participating in a managers' preview and three field test cohorts. We also anticipate that these participants' co-workers will indirectly benefit as these individuals begin to put their learning into practice in their departments, potentially positively impacting hundreds of additional staff members. During the last year of the project, a sustainability plan will support the integration of *Common Foundations* into CZS-wide professional development, thus potentially benefitting approximately 2,000 CZS staff and volunteers. Ultimately, this project will benefit the over 2 million annual Brookfield Zoo visitors and other stakeholders who interact with the professionals who have gained a common foundation in informal science learning, and the resources they create. The *Common Foundations* curriculum and model will additionally be presented to approximately 25 participants in an AZA pre-conference workshop (See **section 3a, Activity 4**). The AZA workshop is one component of the project sustainability plan, which will include a strategic plan for scaling *Common Foundations* to other organizations. Therefore, this project has potential to benefit millions of individuals who interact with a multitude of institutions beyond the lifetime of the grant-funded project.

1d. How the project will advance Chicago Zoological Society's strategic plan (see **Strategicplan.pdf**)

The mission of CZS is "*To inspire conservation leadership by connecting people with wildlife and nature.*" This project advances the four strategic plan pillars that support institutional priorities:

- *Innovations and Excellence in Conservation Leadership and Animal Welfare: Common Foundations* supports all CZS departments in incorporating the conservation leadership mission into the everyday work life of each staff member and volunteer.
- *Extraordinary Guest Experience: Common Foundations* supports CZS professionals' creation of experiences allowing stakeholders to connect with wildlife and nature, and learn something new in ways that are learner-centered, first hand, and consistent with individual interests.
- *Institution of Choice: Common Foundations* supports an engaged workforce with developed talent.
- *Sustainable Future: Common Foundations* supports consistency of the CZS brand with our mission and values across all levels of the organization and communication touch points.

1e. How the project will address goals of the IMLS Museums for America Learning Experiences program

The *Common Foundations* learner-centered professional development program strengthens the ability of our institution to serve its public, and aligns with the following IMLS characteristics of successful projects:

- *Institutional Impact: Common Foundations* addresses the CZS strategic plan goal of creating innovations and excellence in conservation leadership by providing staff with opportunities for growth in knowledge, interest, confidence, and practice relating to informal science learning principles. This growth will lead to stakeholder engagement in conservation leadership.
- *In-depth Knowledge: Common Foundations* is based on theoretically-grounded and evidence-based informal science learning principles and practices, employing pedagogical techniques with which the project team holds expertise.
- *Project-based Design: The Common Foundations* work plan activities (described in **section 3a**) are

Chicago Zoological Society IMLS MFA 2016 – Common Foundations in Informal Science Learning for Zoo Staff and Volunteers designed to support intended outputs and outcomes addressing the need for zoo professionals to have a common foundation in informal science learning principles and practices.

- *Demonstrable Results:* The *Common Foundations* evaluation plan will generate measurable results through quantitative and qualitative data collection and analysis as described in *section 3a*.

2. Impact

2a. IMLS Performance Measure Statements, Collecting, and Reporting

The IMLS Learning Experience performance goals applicable to this project fall into the area of training and developing museum and library professionals. The CZS Audience Research Department will measure changes in participants' understanding, interest, and confidence in order to improve their ability to engage diverse stakeholders in ways that build conservation leadership. Increases in participant understanding, interest, and confidence will be reported annually, along with documentation of number of participants, number of responses, and number of evaluation items that are answered and left blank. (See *section 3a*.)

2b. Project's intended results

The goal of *Common Foundations* is to create a professional development program that can ensure the highest level of stakeholder conservation engagement through the use of innovative, evidence based practices. As a result of the project activities, specific results will be achieved in four primary areas:

- *Professional development curriculum.* The project will develop, test, and refine a standardized professional development curriculum and delivery model based on a set of core informal science learning competencies.
- *Participant growth.* The project will establish a set of competencies that participants will work toward in order to improve their practice and result in gains in knowledge, interest, and confidence.
- *Learning community.* A learning community will be nurtured as participants work together in professional development sessions, complete skill-building tasks, and collaboratively reflect on practices. This learning community will be sustained as the professional development program is institutionalized.
- *Program institutionalization.* The project team will integrate the new curriculum into the CZS human resources training structure (termed CZS University, managed through a Learning Management System) as a required course. This will provide a consistent and sustainable process to introduce new staff to the core CZS education foundation, and provide ongoing support to existing staff.

2c. Changes in Knowledge, Skills, Behaviors, and Attitudes

Common Foundations strives to develop a skilled and passionate community of zoo practitioners. The main areas of participant growth we anticipate include the following:

Growth in knowledge.

- 80% of participants will gain knowledge of how people learn in informal science settings.
- 80% of participants will improve their understanding of strategies to engage diverse stakeholders.
- 80% of participants will refine their perception of how they can personally contribute to the CZS mission of inspiring conservation leadership, regardless of their role in the organization.

Growth in interest

- 80% of participants will express interest in applying new knowledge toward stakeholder engagement.
- 80% of participants will express interest in using appropriate resources (such as biofacts, live animals, signage, technology) to improve communication with diverse stakeholders.
- 80% of participants will express interest in working more collaboratively across the organization to implement improvements that improve stakeholder experience.

Growth in confidence

- 80% of participants will gain confidence to apply the CZS learning strategy to their job responsibilities.
- 80% of participants will gain confidence in using self-reflection to improve their job performance.
- 80% of participants will gain confidence in their ability to use CZS resources as a means to build nature connections and empathy among stakeholders.

Growth in practice

- 80% of managers will report seeing staff demonstrating stakeholder- or learner-centered, inquiry-based

- 80% of managers will report seeing staff engaging stakeholders in ways that build connections with nature.
- 80% of managers will report seeing staff taking ownership of opportunities to improve their practices.

We anticipate variation in degrees of participant changes in knowledge, interest, confidence, and practice across participants and cohorts. Percentages indicated above represent estimated averages. Project inputs, activities, outputs, and outcomes are summarized in the Logic Model (**Supportingdoc4.pdf**).

2d. Tangible products

A final *Common Foundations* curriculum will be produced as described in **section 3a**, providing a sustainable professional development program in informal science education for zoo professionals.

2e. Project Sustainability

A sustainability strategic plan will institutionalize *Common Foundations* into ongoing professional development at CZS, and strategize future scaling-up of the program to other informal learning institutions, as described in **section 3a, Activity 5**.

3. Project Design

3a. Activities that will be carried out; Evaluation and Performance Measurements

Project activities

Activity 1: Contract Curriculum Consultant. A Curriculum Consultant will be selected through a Request for Proposals. A consultant will be sought with appropriate expertise to (1) produce initial, revised, and final curriculum versions in electronic formats that may be integrated into a Learning Management System (LMS) and transferred to other platforms during future scaling-up activities, (2) research current informal science learning literature, (3) develop activities for the participants that support and demonstrate the current theories on how people learn, and (4) incorporate diversity and inclusion into the curriculum. The Curriculum Consultant will join the CZS staff (see **section 3b**) on the *Common Foundations* program development team.

Activity 2: Common Foundations program development. The *Common Foundations* program development team will identify competencies in informal science learning principles and practices necessary for zoo staff and volunteers with a variety of job roles to inspire stakeholders' conservation leadership. These competencies will guide curriculum content development, drawing upon synergistic elements of practices in existing training programs (described in **section 1b**). The curriculum will include core and skill-building activities, and will be iteratively designed through field testing and evaluation (See **Activity 3** and **Evaluation section**). The final curriculum will be a written product in electronic format with associated assets such as visual materials.

Activity 3: Common Foundations field test delivery with three cohorts. An initial version of the *Common Foundations* professional development program will be introduced to CZS managers during a preview session, then field tested concurrently with two cohorts, each with 25 participants. Cohort A will consist of education department members and Cohort B will consist of docents and early childhood docents from the CZS volunteer corps. Following curriculum revision based upon evaluation (See **Evaluation section**), a revised version of *Common Foundations* will be field tested with 25 participants in Cohort C, consisting of education department staff members, volunteers, and staff members from other departments such as animal care, creative design, guest services, outreach, and development. To allow for a 'learn, practice, review' model, each field test cohort will participate in two ½-day face-to-face sessions scheduled 4-6 weeks apart. During the time in between the face-to-face sessions, participants will complete an additional two-hours of associated peer and/or facilitated skill-building tasks designed to apply professional development content to each staff member's existing role and responsibilities. Session registration and skill-building task assignments will be managed through Skillport (skillsoft.com), an online Learning Management System (LMS), already used for CZS staff professional development and training through "CZS University" (CZS-U) (See **Supportingdoc5.pdf: CZS-U Skillport guide**). Participants will post results, evidence of, and/or reflections on their completed tasks on the LMS. Examples of skill-building tasks include (1) forming study groups that read and comment on relevant articles; (2) forming teams for observing and/or video-recording, critiquing, and reflecting upon participants' interactions with stakeholders; and (3) listening in on visitor conversations to better understand interest, assess prior knowledge, and provide a basis for engaging in learning conversations.

Activity 4: AZA pre-conference workshop. The project team will deliver a *Common Foundations* workshop at the AZA Annual Meeting in project year 3. The workshop will provide training in the *Common Foundations* professional development curriculum and model for a broad audience of zoo and aquarium professionals from institutions of varying size. Workshop participants' feedback will inform sustainability strategic planning.

Activity 5: Sustainability strategic planning. Based on field testing, a final version of the curriculum and delivery model will be developed. A strategic plan will be crafted for *Common Foundations* institutionalization at CZS. The strategic plan will reflect determinations as to which, if any, face-to-face content will be transferred to e-learning through the CZS-U Skillport LMS. A long-term *Common Foundations* CZS training plan will be established. This plan will include formation of a methodology for identifying and selecting additional new *Common Foundations* program facilitators, following a successful model that has been used in other CZS professional development courses. The strategic plan will also include determinations of which CZS staff and volunteer positions will be required to have *Common Foundations* added to their CZS-U Learning Plan, as well as appropriate frequency of refresher courses. The differing staff position compositions of each of the field test cohorts and associated evaluation plans will support this decision-making. Furthermore, a strategy will be developed for scaling-up *Common Foundations* to be offered throughout zoos and aquariums nationwide, and potentially other informal science learning institutions, as well.

Evaluation and measuring performance

The CZS Audience Research Department will manage the evaluation design and implementation for this program using a mixed methods strategy to gather information from the professional development staff, professional development participants, and the immediate managers of participants. All protocols and instruments will be submitted for IRB review.

Front end evaluation: To inform curriculum development, the evaluation team will work with the principal investigator to interview managers of potential participants about professional development needs they perceive among their staff members. As the potential participants may include educators, volunteers, development staff, guest services staff, and animal care staff, among others, these interviews will help to focus the professional development themes on the knowledge and skills that will be most relevant to various staff roles in engaging diverse audiences in an informal science education setting. Insights gained from the managers will be summarized and shared with the project curriculum team as they develop curriculum content.

Manager preview feedback: One week after the professional development materials are introduced to CZS managers, the evaluation team will convene the managers for a focus group to collect feedback on their experience. Managers will be asked to share their observations on the relevancy of the content, how the trainers implemented the curriculum, and whether the curriculum allowed the facilitators to effectively complete all the elements in allotted time. Lessons from these managers will be summarized and shared with the project curriculum development team as they finalize materials for implementation with the first cohorts.

Participant surveys: The evaluation team will collect data from each professional development cohort (A, B, and C) at four time periods: immediately before the first session for each cohort, immediately after each of the two in-person sessions, and one month after the final session. Evaluation questions will focus on measuring change in participants' knowledge, interest, and confidence.

Implementation assessment: In addition to self-reported information from the participants, implementation of skills will be assessed through interviews with CZS managers who supervise the participants. These interviews will be conducted one month after the final session for each cohort and will document whether participants' practices reflect new skills or themes that were presented as part of the professional development. As multiple participants will report to each manager, managers will not be asked to report on individuals but instead on the practices of all participants they supervise.

The evaluation team will also review the products participants produce as a result of their skill-building tasks. This review will document completion of the tasks and provide evidence to determine whether the tasks support participants' in gaining capacity to implement desired skills.

Facilitator feedback: Evaluators will meet with the facilitators after each professional development session (two per cohort) to gather feedback on participant engagement and the learning process. Facilitators will reflect

Chicago Zoological Society IMLS MFA 2016 – Common Foundations in Informal Science Learning for Zoo Staff and Volunteers on aspects of the professional development that they feel successfully engage the participants and that need to be improved.

AZA workshop feedback: AZA workshop participants will be asked to respond to an evaluation form to provide feedback on their experience. Participants will share their observations on the relevancy of the competencies to their staff, the feasibility of implementing the program within their settings, and whether any modifications would be needed for application with their staff and volunteers. Lessons from this workshop will be summarized and shared with the project team for consideration during sustainability strategic planning.

Review and revision: As needed, information from each of the described evaluation components will be used to refine the professional development activities and instructional design.

3b. Project Planning, Implementation, & Management Team (See **Budgetjustification.pdf**; **Resumes.pdf**)
Principal Investigator is Dr. Lisa-Anne D. Kelly, Education Research Scientist at CZS. Dr. Kelly will provide project direction and informal science education expertise, and is experienced in managing multidisciplinary federally funded projects. Dr. Alejandro Grajal, CZS Sr. V.P. for Conservation & Education, oversees field conservation, education, and interpretation programs, and will liaison with the CZS executive management team in implementation and sustainability of this project. Curriculum development and professional development facilitation will be led by Marilyn Brink, CZS Manager of Professional Development and Early Childhood, and lead NatureStart trainer; and Agnes Kovacs, CZS Manager of School & Teacher Programs and lead AIP Instructor, in conjunction with Andre Copeland, CZS Manager of Interpretive Programs, NAI Certified Interpretive Trainer, and Deputy Director of the NAI Zoos, Wildlife Parks and Aquaria Section. Regi Mezydlo, CZS Director of Volunteer Engagement, and AZA Volunteer Management Committee Advisor; and Marty Ehrhardt, CZS Director of Staff Training & Development also will participate in program development and sustainability activities. Cory Wilcox and Julie Wozniak will serve in session preparation and teaching assistant roles. Evaluation will be led by Dr. Jerry Luebke, CZS Sr. Manager of Audience Research, who will be joined by Jennifer Matiasek, CZS Research Program Coordinator.

3c. Timeline and Sequence of Project Activities (See **Scheduleofcompletion.pdf**)

This 36 month project will occur Nov. 2016 through Oct. 2019. Selection of the Curriculum Consultant, front-end evaluation with CZS managers, and writing the initial version of the *Common Foundations* curriculum will occur during the first 8 months of the project (11/16-6/17). The next 7 months (7/17-1/18) will include a Manager's Preview session, field testing of the curriculum with Cohorts A and B, and associated evaluation. Based on this evaluation, curriculum revision will occur during the following 3 months (2/18-4/18). This revised curriculum will be tested with Cohort C over the next 6 months (5/18-10/18) and evaluated; results to date will be presented at the 9/18 AZA Annual Conference. The final year of the project (11/18-10/19) will include revision and completion of the final version of the *Common Foundations* curriculum, an AZA conference presentation and pre-conference workshop, sustainability strategic planning, and final reporting.

3d. Financial, Personnel, and other Resources needed (See **section 3b** and **Budgetjustification.pdf**)

This proposal requests salaries and benefits as follows: 5% Dr. Kelly, 10% A. Copeland, 10% R. Mezydlo, 10% C. Wilcox, 10% J. Wozniak, 2% Dr. Luebke, 5% J. Matiasek, and 96 hrs. Research Assistants. We also request program expenses for a total grant request of \$149,529 over three years. The salary and benefits for M. Brink, A. Grajal, and A. Kovacs, as well as a portion of the IDCR (73.61%) will be cost share.

3e. Tracking progress toward achieving intended results

Information from each of the described evaluation components will be used to refine the curriculum and professional development approach. Evaluators will meet quarterly with project staff to provide feedback from participants and report progress towards goals and outcomes. If issues are identified between reporting periods, evaluators and project team members will discuss how to address the issues, and project revisions will be made.

3f. Sharing project results

Interim evaluation reports with summarized results will be disseminated to IMLS and project staff. The final evaluation report will be disseminated through InformalScience.org. Findings will be presented through AZA Conferences and Conservation Education Committee Newsletters, and annual National Association for Interpretation (NAI) and Visitor Studies Association (VSA) meetings.

Project Year 1	2016			2017								
	11	12	1	2	3	4	5	6	7	8	9	10
Curriculum Consultant Request for Proposals	x	x										
Select and contract Curriculum Consultant			x									
Write Curriculum (version 1)			x	x	x	x	x	x				
Recruit/select non-manager participants for Field Test One (Cohorts A & B)									x	x	x	
Manager Preview session										x		
Field Test Training One (Cohorts A & B)												x
Evaluation: IRB Application		x	x									
Evaluation: Front-end interviews (managers)				x								
Evaluation: pre (a)/post (b)/follow-up(c)												a
Evaluation: quarterly updates				x				x				x

Project Year 2	2017			2018								
	11	12	1	2	3	4	5	6	7	8	9	10
Field Test Training 1 (Cohorts A & B)	x	x	x									
Revise Curriculum (develop version 2)				x	x	x						
Recruit/select non-manager participants for Field Test Two (Cohort C)				x	x	x						
Field Test Training Two (Cohort C)							x	x	x	x	x	
AZA Conference presentation												x
Evaluation: IRB renewal		x	x									
Evaluation: pre (a)/post (b)/follow-up(c)	b		b	c			a		b		b	c
Evaluation: quarterly updates				x				x				x

Project Year 3	2018					2019						
	11	12	1	2	3	4	5	6	7	8	9	10
Revise Curriculum (develop final version)	x	x	x									
Complete final Curriculum materials				x	x	x	x	x	x	x	x	x
AZA Pre-Conference Workshop and presentation											x	
Sustainability strategic planning				x	x	x	x	x	x	x	x	x
Evaluation: IRB renewal		x	x									
Evaluation: quarterly updates				x				x				
Evaluation: final reporting										x	x	x