



Museums Empowered

Sample Application ME-255504-OMS-24
Project Category: Evaluation

Mid-America Science Museum

Amount awarded by IMLS:	\$46,264
Amount of cost share:	\$68,860

The Mid-America Science Museum will build capacity of staff to use evaluation as an ongoing cycle of inquiry when creating or improving museum programs and exhibits. Project activities include hiring an expert consultant to train staff on evaluations. As part of this training, departmental teams will work with the consultant to conduct evaluation studies on programs and exhibits to gain practice in developing goals, designing data collection instruments, and analyzing information. As a result of the project, staff will have developed the skills needed to implement and sustain a consistent evaluation practice that will instill a culture of evaluation within the institution for the long-term benefit of the museum and future visitors.

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of Completion

When preparing an application for the next deadline, be sure to follow the instructions in the most recent Notice of Funding Opportunity for the grant program to which you are applying.

Project Justification

Which program goal/project category and associate objectives of Museums Empowered will you project address?

This project aligns with Goal 3, *Evaluation: Strengthen the ability of museum staff to use evaluation as a tool to shape museum programs and improve outcomes*. It aligns with Objective 3.1: *Increase staff knowledge of program evaluation methods and the usefulness of evaluation reports, tools, data, and metrics* and Objective 3.2: *Provide museum staff with the tools and strategies to adapt evaluation methods to address a specific audience or institutional need*.

How will your project advance your museum's strategic plan? Mid-America Science Museum's Strategic Plan was due to be updated in 2020, but the Board of Trustees chose to postpone it when COVID19 presented in the United States. The Board eventually decided to proceed in 2021, working with staff and the community for nine months to develop and adopt a three-year Strategic Plan for 2022 through 2024. The new plan is based on lessons learned over the first two years of the pandemic married with data from two AAM surveys, member surveys, and multiple community listening sessions. Common themes that we heard from the community that are pertinent to this proposal include (1) connecting to schools and other educational organizations through a formalized outreach program, (2) expanding our early childhood programs and exhibit space to fill a void of early childhood education in the area, and (3) diversifying our audience by providing exhibits and programs to residents in underserved neighborhoods, especially those who have financial, transportation, or other barriers to coming to the museum. These themes are now strategies and all include the requirement to evaluate all projects to measure effectiveness, learning, and engagement. These strategies place a high priority on reviving projects that were either temporarily discontinued or have suffered from lack of attendance and/or support since the pandemic began. However, we currently have little evidence to indicate whether we should continue with these projects as originally created, revise them, or eliminate them altogether and develop new ones. Still, through our research we know the community wants and needs some version of them. As we work to improve community engagement we will need real data to know if our efforts are on the right path or if we need to make partial or wholesale changes to them.

What need, problem, or challenge will your project address and how was it identified? Museum staff acknowledge the importance of evaluating programs and exhibits offered to the community, and in the past, data has been collected through satisfaction surveys of members, teachers, parents, and visitors. This information is primarily reviewed in debrief sessions and used when planning the next project, but the benefits of this data are limited. Because of lack of training and experience on staff, the Museum does not take advantage of the full cycle of the evaluation process to set goals, design programs, design evaluation instruments, collect data, and evaluate and interpret the data to gauge program effectiveness. As a result, it cannot be adequately justified whether the projects in their current form are truly effective or if other methods should be developed to serve the community's needs. As the Institute of Education Sciences states in the *Program Evaluation Toolkit*, "A well-thought-out evaluation can identify barriers to program effectiveness as well as catalysts for program successes" (Institute of Education Sciences, 2021). If the Museum is to meet the requirements of the Strategic Plan and provide what has been determined as necessary services, staff need to learn how to adequately design and evaluate projects.

While working to rebuild and improve educational programming after COVID19, now is the perfect time to improve institutional capacity in evaluating projects. Previously, there have been some programs at the Museum that have not received the participation or financial support that was anticipated so staff has simply decided to discontinue them without knowing exactly why they were unsuccessful. For example, the Museum used to host a *Girls in STEM* program one Saturday a month for girls ages 8 through 16. Each program featured a specific STEM subject and provided a hands-on activity related to that topic. A professional female scientist would be invited to speak to the group about her career pathway and her experiences in a STEM field. The first few sessions were well attended, but over time, participation dropped off until the program was eliminated due to the apparent lack of interest. The small

amount of data that was collected through exit surveys did not contain enough information to determine reasons for the low turnout. Evidence from community feedback indicates that there is a desire to encourage more girls to consider careers in a STEM field, but it seems the *Girls in STEM* program as it existed was not hitting the mark. By building an institution-wide evaluation procedure as a part of program and exhibit development and delivery, the Museum will be better equipped to offer projects that more closely reflect the needs of the constituents. Museum staff will be empowered to improve community engagement with targeted programs and exhibits and will be able to make course corrections as necessary.

Who is the target group for your project and how have they been involved in the planning? The target group is all seventeen full-time staff of the Education Department, the Guest Services Department, the Facilities and Exhibits Department, and the Development Department of the Museum. The plan involves training all seventeen members of these departments at once with the goal of building institutional capacity, fostering intra-departmental and inter-departmental collaboration, developing a museum-wide shared language, and cultivating an understanding of the purpose, procedures, and benefits of evaluation. After completing this grant project, it is intended that staff in each department will know the best practices of project evaluation and will gain in-depth experience through using these practices in their specific duties at the Museum. The Museum staff will be able to develop and deliver more impactful programs and exhibits, develop a body of data to present to funders and other supporters, and present strategic information to management and the Board of Trustees. In planning this training, conversations have been ongoing over the last six months in staff meetings and one-on-one with the CEO regarding the value of program and exhibit evaluation, why we need to do it, and how it can help advance the Museum’s mission.

Who are the ultimate beneficiaries for this project? The ultimate and long-term beneficiaries of this project will be the audience, whether they come to the museum or experience programs and exhibits off-site. This will include youngest learners in the early childhood programming and their caregivers, school groups and their teachers and chaperones, Team Tesla teen volunteers, curious adults, and families of children of all ages and their parents, grandparents, and caregivers. It is anticipated that, because of this project, the programs and exhibits offered by the museum will become more relevant to the needs of each audience sector.

Project Work Plan

What specific activities will you carry out and in what sequence? Mid-America Science Museum proposes a one-year work plan to train all full-time staff on the merits and processes of program and exhibit evaluation using the Team-Based Inquiry model. “Team-Based Inquiry (TBI) is a practical approach to empowering education professionals to get the data they need, when they need it, to improve their products and practices, and, ultimately, more effectively engage public and professional audiences.” (Pattison, Cohn, & Kollman, 2014). Funded by the National Science Foundation, the development of TBI has created a resource for informal educators and provided a process based on an ongoing cycle of inquiry that requires educators to “question, investigate, reflect, and improve” when creating or updating programs (Pattison, Cohn, & Kollman, 2014). This method offers museum professionals the ability to collect and act upon relevant data in real-time to make data-driven decisions as they develop and manage projects. Mid-America Science Museum plans to engage Sarah Cohn from Aurora Consulting, one of the developers of TBI, to conduct the training.

Upon notice of funding and before Ms. Cohn begins the formal training, Museum staff will be given a pre-project survey to measure current understanding of the process. Then, in a regularly scheduled staff meeting to hold preliminary discussions on evaluation and review plans for the coming year. Questions the staff will consider include:

- What do we know about evaluation?
- What methods do we use now?
- Why is it useful to evaluate projects?

- What more do we need to know about our programs and exhibits?
- What do we know about what our community needs?
- What projects or programs do we want to focus on during the training year?
- What do we/you/I want to know about said projects?

In this meeting, the members of each Museum department (the Education Department, the Guest Services Department, the Facilities and Exhibits Department, and the Development Department) will be asked to make a preliminary choice of a program, project, or exhibit that they would like to evaluate during the grant year and use as their test project while they work with Ms. Cohn. The hope is that by discussing this openly with one another staff will be influenced to begin thinking in terms of including evaluation as a part of everyday work. The conversation will also serve as a primer for the formal training sessions and reinforce the collaborative culture that will be required to sustain the practice in future years.

Within a month after the preliminary discussions are held, the formal training will begin with a two-day in-person workshop conducted by Ms. Cohn. The first full day will be an overview of program and exhibit evaluation and an introduction to the TBI method. The entire staff will attend this session together. A variety of presentations interspersed with application and discussion will be used to ensure that everyone has a similar understanding and is ready to put the new knowledge to use. The precise schedule will be finalized upon receipt of a grant, but a sample outline of the day is offered below:

Day 1: Evaluation 101 and TBI Walk-through

Welcome, Introductions, Project Overview, Q&A

Evaluation 101

- Purpose of evaluation
- Evaluation versus research
- Forms of evaluation over a project's timeline
- Human subjects training

Introduction to TBI

- Background and purpose
- Structure in depth: Question, Investigate, Reflect, Improve

Discussion of integrating activities into projects

Define departmental evaluation goals to develop in Day 2

On Day 2 each department will separate into teams and each team will work with Ms. Cohn to make a final decision on the project to use during the year of training. Ms. Cohn will then help the teams identify questions they have about their project and assist with developing goals to measure. With her assistance, each team will design an appropriate evaluation instrument and discuss how to collect and store the data. Together, they will create a timeline of the evaluation period, based on the depth and the breadth of the goals to be evaluated. This process is estimated to take one to two hours per department. At this time the Project Director will begin the development of a formal Evaluation Handbook that will be ultimately incorporated into the Museum's Operations Manual. The Handbook will be updated throughout the grant year and will become a permanent procedural framework for Museum staff to use in the future.

In the first four weeks following the two-day workshop, staff will finalize their evaluation instruments and begin to collect data using the methods that were chosen. At this point Ms. Cohn will begin hosting weekly Zoom meetings, checking in with a different department each week. The Project Director will attend each meeting to monitor progress on the proposed activities. These hour-long sessions will allow time for questions as they launch and continue their projects and to address or fine tune any issues that may arise. Once enough data has been collected, the weekly Zoom

meetings will serve as an opportunity to begin to analyze results and discuss implications. If warranted, adjustments may be made to the evaluation instruments as data collection continues.

With each department doing its own mini study, the staff can be more reflective and methodical in putting their new-found skills into practice, which will make the training experience more relevant to their work. In this way, each staff member will have direct involvement in evaluating a program or exhibit with which they are familiar, increasing the possibility that they will be able to translate the process to other programs or exhibits after the grant year. It is anticipated that the goals, the scope, the evaluation instrument used, and the duration for each evaluation project will vary widely among the departments. For example, the Facilities and Exhibits Department team might want to understand why a particular exhibit continues to break during use, despite repeated repairs and adjustments. Working with Ms. Cohn, this team may decide to gather data through observation of visitors using that exhibit for a specified amount of time over several days. The Education Department team may choose to measure educational value of a recurring early childhood program that is being reintroduced after a hiatus. The Guest Services Department staff may want to develop an exit survey to capture more reliable data and better understand the demographics of our visitors. The Development Department team might want to better understand program goals and outcomes, which will be beneficial for grant writing. They may develop a logic model to learn the process of program design as it relates to fundraising. Encouraging this variety of projects and activities is a key benefit of the plan because staff will essentially experience multiple methods at once as the teams share their projects with each other. Organizational capacity will be strengthened as confidence is bolstered, a shared language is developed, benefits become apparent, and staff have gained the ability to help one another on future projects.

After approximately six months of data collection and weekly Zoom check-ins, Ms. Cohn will return to the Museum to conduct a full-day meeting with the entire staff. Each of the department teams will be invited to share their experiences and review data that has been collected. Staff will be asked to discuss questions such as:

- 1) Should we pause or change the data collection?
- 2) Are we gathering the information we intended?
- 3) Are we documenting sufficiently?
- 4) What does the data indicate at this stage?
- 5) What are our next steps?

It is intended that this process is progressive and iterative, through encouraging the teams to start on a small project, find a solution, and then move on to the next one if time allows. Some teams may choose to continue to gather additional data on a project or make tweaks to the evaluation instrument if indicated. If a department feels they have collected enough data on one project and the goals are achieved, they may choose to start a new evaluation project.

A final Zoom meeting with Ms. Cohn will be scheduled in the summer after all teams have completed at least one evaluation project. This extended session will involve all staff members and will provide time for each department to review their experience with the test project and to reflect on successes and challenges. Ms. Cohn will provide feedback, make recommendations, and suggest any follow-up actions that might be necessary for a complete evaluation. Staff will then be given the same survey they received before the project began. Responses will be compared to measure changes in perception, skills, and knowledge. After this meeting, the Evaluation Handbook will be finalized and role of a permanent Evaluation Manager will be identified.

What are the risks to the project and how will you mitigate them? The potential risks to the project include 1) staff scheduling and time constraints, 2) staff turnover, and 3) ensuring the maintenance of accurate and timely recordkeeping. 1) A full year of staff time spent on evaluation under the guidance of Ms. Cohn will lay the groundwork to establish the practice of program evaluation into a systemic routine as the staff carries out the exercises and begins to witness the benefits. Each Department Director will be required to build time for evaluation tasks into staff

schedules and planning. 2) Staff turnover is a constant concern for all areas of the Museum and is unavoidable. If this occurs during the grant year and a new person is hired while the project is still ongoing, all staff will be expected to engage the new hire in the projects at that time and include them in the appropriate tasks. For future hires the Museum will update the job descriptions to include the tasks of evaluation, ensure that training in evaluation becomes a part of the extensive onboarding process, and add it as a point of discussion in employee performance reviews. 3) Accurate and timely recordkeeping will be the biggest challenge as it is imperative to the continuance of this practice and to the creation of a reliable database. The Project Director will be responsible for ensuring that the project tasks are completed on a timely basis and that all records are continually and correctly updated.

Who will plan, implement, and manage your project? Noreen Killen, Chief Operations Officer, will act as Project Director and will be responsible for planning, implementation, and ongoing management. She will also be responsible for the creation of a new Evaluation Handbook that will become a part of the Museum’s Operations Manual and will be used as a reference and guide after the grant period is complete. Ms. Killen began her career at the museum as Director of Guest Services in 2011 and in 2015 she was promoted to Chief Operations Officer. In the eight years that she has served in this role she has managed the Directors of the Education, Guest Services, and Exhibits and Facilities Departments. She has a close working relationship with the staff members of each department and is best suited to ensure successful completion of the project and long-term sustainability. Over the years she has led the entire museum team in developing and new educational initiatives such as the early childhood programming, the DHS licensed after school program, and the outreach program. She has also been responsible for ensuring exhibits are maintained in optimal condition, secures traveling exhibitions, and was on the staff team that oversaw a major museum renovation in 2014-2015. Noreen has a Bachelor of Arts in Communication from the College of New Jersey and has completed some hours at the Graduate School of Arts and Science at New York University.

How will you organize and structure the project team to support equitable and inclusive engagement of all participants? While Ms. Killen will manage the overall grant project, she will also participate in the training. The Directors of each department will act as “Department Lead” and will carry the responsibility of ensuring that their staff participate fully. Currently the Director positions of the Exhibits and Facilities Department and the Development Department are vacant so the Chief Facilities Officer and the Chief Executive Officer will perform those duties respectively. Each “Department Lead” will ensure all full-time staff members are involved from the beginning of the training, through all the exercises, and the final wrap-up of the grant project. This structure is illustrated below.

Chief Operations Officer, Grant Project Manager	
Participating Staff	
Director of Education - Education Dept. Lead	1
Education Department Staff	4
Director of Guest Services- Guest Services Dept. Lead	1
Guest Servies Department Staff	2
Chief Facilities Officer, Exhibits and Facilities Dept. Lead	1
Exhibits and Facilities Department Staff	4
Chief Executive Officer, Development Dept. Lead	1
Development Department Staff	2
Chief Operations Officer	1
Total Staff Engaged	17

What time, financial, personnel, and other resources will you need to carry out the activities? Financial support is needed for the cost of Ms. Cohn of Aurora Consulting to perform the initial two-day training, weekly check-ins, mid-year visit, and final Zoom meeting. Per recommendations from Aurora Consulting, we will need to purchase Alchemer online survey software, two iPad tablets to record data, and a COVES membership to engage with the broader museum community. This project by design will require significant staff time, but accommodation will be made throughout the year to ensure complete participation while continuing to serve our community.

How will you track your progress toward achieving your intended results? The project has been designed so that progress is continually tracked over the year. In addition to the initial training workshop, the mid-year workshop, and the final summary and wrap-up Zoom meeting, the weekly calls between museum staff and Ms. Cohn of Aurora Consulting will confirm if tasks are completed on time and goals are met. This regular communication will be vital to ensuring that staff are coached along the way and understand what they are doing and why. This will also provide the opportunity to make tweaks to any portion of the process throughout the grant period if necessary.

Project Results

What are your project's intended results and how will they address the need, problem, or challenge you have identified? Mid-America Science Museum needs to learn how to evaluate programs and exhibits, not only because it is directed in the museum's Strategic Plan, but because having this skill will enable the Museum to be a better community partner and offer targeted, high quality, effective educational experiences. The intended results of this project are 1) that all full-time staff have been fully trained Team Based Inquiry approach to program and exhibit evaluation, 2) each department has practiced Team Based Inquiry skills by developing project goals, designing an evaluation instrument, and collecting and analyzing data, 3) all full-time staff have the skills and knowledge necessary to implement and sustain a consistent evaluation practice, and 4) the first steps have been taken to embed evaluation into the culture of operations of the museum. To stay relevant to the needs of the community, a museum must continually offer new and updated programs and exhibits that offer learning opportunities on current topics that are of concern and interest to the audience. From experience it has been found that some programs and exhibits that should be relevant to the Museum's audience do not garner the support or interest that was expected. Having this new ability to measure a project's intended goals and outcomes, staff will be able to use real data to make informed decisions about the next step in any project. This project will essentially be conducted on two levels. First, on the wholistic, museum-wide level as everyone participates in the training sessions and, second, on an individual level in which each staff member learns from personal experience. In this way the process of evaluation will be fully integrated into the standard operations of the Museum as it becomes a natural part of program and exhibit design. With these tools, the Museum will be able to demonstrate that current and future programs are effective, that they meet goals of the strategic plan, and they are instrumental in improving the visitor experience overall.

How will the knowledge, skills, behaviors, and/or attitudes of the target group change as a result of your project?

The goal of this project is that the target group of full-time employees of the Museum will have a new skill set to perform and sustain program and exhibit evaluation. After completing the grant year, staff will have the ability to:

- Become active participants in building a new culture at the museum of continuous and routine evaluation of the Museums' programs and exhibits.
- Use their knowledge and understanding of program and exhibit design to develop robust, evidence-based projects that meet the needs of the local and regional audience.
- Demonstrate the educational value of the Museum's exhibits and programs to stakeholders.
- Build a database of evidence from projects gathered over time to use in planning future programs and exhibits.
- Demonstrate new skills in communicating project goals and outcomes with each other and the public.

- Demonstrate new skills in data collection and interpretation.
- Independently initiate the evaluation process when designing new programs.

What products will result from your project? Once the project grant year is complete, the Museum will have several tangible products to use for future evaluation projects and to reflect upon when designing new programs or exhibits.

- As a result of the practice evaluation that each department completes during the grant year, the Museum will have access to at least four completed projects to use as models for future endeavors. Staff will use this resource to review when embarking on evaluating new or other projects.
- The Museum will have new evaluation tools and a new evaluation framework and strategy to use on forthcoming projects.
- The Museum will have established a database from the practice evaluations that can be used to build upon as we continue to collect more data. Over time the database will become a rich source of information for further program or exhibit development, fundraising, and strategic planning.
- The Museum will have an Evaluation Handbook included in the Operations Manual and will contain instructions on best practices and procedures on conducting Team Based Inquiry. The Handbook will establish reporting cycles and formats.
- As a part of the final summer session with Ms. Cohn, the Museum will have a plan for sustaining project evaluation, which includes establishing a permanent Evaluation Manager role to oversee all projects, ensure data is collected and stored properly, and to act as mentor and coach to staff.

How will you sustain the benefits of your project beyond the conclusion of the period of performance? After the conclusion of the project, the success and sustainability will chiefly lie with the Evaluation Manager. During the project and immediately following, the Chief Operations Officer will perform this role until a permanent designation can be made. The Evaluation Manager will work with all departments to determine how and when to implement what was learned in an ongoing way and to insert these practices into the workflow of the Museum. The Manager will also ensure the database of results is maintained accurately and that reports to staff, administration, and Board of Trustees are accurate and timely. The newly formed Evaluation Handbook will be used as a reference when planning new or revising existing projects and will be a part of onboarding new staff. It will be the responsibility of the Evaluation Manager to make sure the Handbook remains updated and relevant to Museum operations.

In addition, annual department plans will be required to include evaluation of all appropriate projects and results from previous evaluation activities will be used to create annual department goals. The Museum also holds a Director's Retreat every January to share department goals and discuss how to assist one another in achieving those goals. This will provide a platform for strategizing upcoming evaluation projects and for incorporating lessons learned from past projects. Management staff will work with the Board of Trustees to ensure that evaluation requirements are a part of future formal Strategic Plans. Reports will be incorporated into weekly staff meetings and bimonthly board meetings and evaluation expenses will be added as a line item to the operational budget. Finally, a review of the evaluation records will be included in the annual records audit that the Museum performs every January.

Near the end of the grant year, the Museum will join the Collaboration for Ongoing Visitor Experience Studies (COVES), which has resources, tools, and information for the museum field. It was "designed to unite museums across the country to systematically collect, analyze, and report on visitor experience data." (COVES, 2023). With the completion of this proposed training, the staff will have gained the ability to continue developing these new skills and will be able to maximize participation in the COVES project in an ongoing way. Everyone on staff will be ready to engage in collecting data, discussing the information gathered from visitors, and making institutional changes because of this project, and COVES will be a touchpoint for all, regardless of how each department continues conducting their own studies.

