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Happy Summer Educators!

This newsletter edition is dedicated to evaluation; which is a topic that stirs a variety of emotions from educators I've chatted with including fear, doubt, inspiration and motivation. Evaluation is becoming a core of all of our institution's programs and exhibits as we are challenged to prove that we are meeting our mission and goals. I want to provide a few great on-line resources that I have found which help me evaluate my organization's programs:

Informal Science:
www.informalscience.org/evaluation

This website's section dedicated to evaluation is chock-full of great resources including a searchable database of front-end, formative and summative evaluation reports from informal learning to science-related projects. It also includes National Science Foundation evaluation resources and a list of evaluators who can be contacted to assist with projects you might be planning.

Evaluation Springboard:
www.evaluationspringboard.org

This resource walks you through the evaluation process, starting with "Evaluation 101." The website includes a "lab" section for users to practice and apply various aspects of an evaluation, and many evaluation case studies to peruse.

My Environmental Education Evaluation Resource Assistant:
www.meera.snre.umich.edu

This website is an online "evaluation consultant" created to assist you with your evaluation needs. One aspect I think is unique about this resource is that it labels the resources as beginner, intermediate and advanced – so you can find a resource that is appropriate for you and your programs no matter how much experience you might have with evaluation.

I hope that these resources and articles in this edition help you to take a new look at evaluation – no matter what emotion you might be feeling.

Also, as the Annual AZA Conference is fast approaching, please make sure and mark your calendars for the CEC Business Meeting. This meeting is open to any conference participant to attend, which will allow you to gain more insight into CEC's initiatives. The meeting will be taking place on Monday, September 10 from 9:00 am until 5:00 pm. We hope to see you there!

Take care, and enjoy the rest of the summer.

Carrie Chen
Director of Conservation Education
Aquarium of the Bay

From AZA'S Director of Conservation Education

Back in April, the first White House Summit on Environmental Education was held in Washington, D.C., bringing together stakeholders from many areas of this broad field. Participants discussed the challenges of environmental education in a world where youth are increasingly disconnected from nature, where the federal government plays a role in shaping science education and where evaluation tools fall short when it comes to converting awareness into action. Representatives from the Association of Zoos and Aquariums included Dr. Paul Boyle, Senior Vice President of Conservation and Education at AZA and Jackie Ogden, Vice President of Animal Programs and Environmental Initiatives at Disney's Animal Kingdom. As a speaker on a panel addressing the topic of Innovators in Environmental Education, Ogden noted that her institution, along with all AZA accredited facilities, faces the challenge of effectively delivering environmental education messages to visitors who are admittedly there for a different purpose.

The majority of summer camp participants, for example, are likely enrolled at zoo or aquarium camp not because their parents are particularly enthusiastic about environmental education, but due to other factors such as convenience, fun, cost, etc. Yet we have an obligation – better stated, an opportunity - to engage these campers in science learning and to inspire them to conservation action. When the kids who have been swarming around your facility for the past several months return to school in the Fall and sit down to write their "How I Spent My Summer Vacation" essays, it is worth asking how their responses may differ from those of students who did not engage in a science-based education program over the summer months. No doubt your campers are more informed about animal facts and conservation messages, but chances are, compared to their peers, they are also more able to think critically, to use data to reach conclusions and to observe thoughtfully and thoroughly their surroundings. Informal science education is a powerful and important part of lifelong learning.

As you look towards the end of the busy summer camp season, I hope that you remain focused on the significance of connecting kids, who are excited about animals, with chances to learn about the environmental issues impacting those animals, and find innovative ways to bring science education into summer vacations.

You can read more about the White House Summit on Environmental Education and watch videos of the panel discussions at http://www.epa.gov/education/eesummit.html.

Nette Pletcher

At Shedd Aquarium, we value evaluation as a process to inform our practice and broaden our understanding of our guests and the aquarium's impact on them. Yet evaluation in informal settings can be a challenging endeavor due, in part, to the traditionally non-evaluative, free-choice nature of these venues. A range of guests come to Shedd for an array of reasons, including entertainment, unique educational experiences and personal hobby interests. To address this challenge, we have implemented novel tools and methods that are designed to reduce the evaluation participant's anxiety and the time we need to collect data, as well as provide new perspectives on the nature of the guest experience in both casual visits and more targeted programs. (One of the benefits of conducting an evaluation in informal settings is that they provide a dynamic venue in which to try new forms of data collection that may further advance the field.)

The first of the novel approaches to data collection we have implemented involves the tools themselves. For example, the use of iPads and Tablets has literally put data collection in the hands of the subjects. Netbooks have been used with guests during a typical visit to the aquarium to collect their feedback, while instantly uploading data into SurveyMonkey. In Shedd's programs at schools, iPads have made completing surveys for students a fun task that efficiently and automatically uploads data into the iForms application. Another new tool for data collection has been the Livescribe pen for interactive notetaking. The pen collects written text synchronized with audio recording. The pens have been used in both qualitative research around students' conversations in a Shedd school program as well as in end-of-the-year evaluation of a teacher professional development program. The pen blends in seamlessly with other materials used by program participants, helping to reduce anxiety over being recorded. While gaining responses from guests can sometimes be a challenge, these tools have sparked their interest in using the devices while providing feedback as well as eliminating our daunting task of data entry.

The second approach to novel data collection at the aquarium has furthered our ability to better understand our guests. We use behavior checklists to instantly capture specific behaviors as guests engage in exhibits and their related components. In conjunction with, or as a supplement to field notes, behavior checklists allow evaluators to quickly code data into predetermined categories and coding schemes, providing a quick snapshot of how guests engage with our exhibits. Lastly, we have begun experimenting with new techniques using video and photo analysis as our evaluation capacity continues to grow. We believe analysis of nonverbal reactions (posture, gestures, facial expressions) may provide a unique perspective of the affective impact of a zoo or aquarium experience.

Implementing these novel tools has improved the efficiency of Shedd's evaluation staff and led to a deeper understanding of the guest experience at the aquarium and in our programs. Integrating technology and alternative approaches to data collection and analysis has inspired a new generation of evaluation at Shedd, one that can be dynamic and thought-provoking for the zoo and aquarium profession as a whole.

Joy Kubarek-Sandor
Director of Learning Planning and Evaluation
John G. Shedd Aquarium

Lindsay Maldonado
Manager of Audience Research and Evaluation
John G. Shedd Aquarium

Using Formative Evaluation to Strengthen Programs & Encourage Learning Within Your Organization

When it comes to creating visitor experiences with lasting impact, one of the best steps you can take is to make a commitment to formative testing. Formative evaluation can provide you with rapid feedback, documentation on how a new program is unfolding and data to inform planning. A commitment to the cycle of ongoing testing and refinement of programs results not only in better experiences for zoo and aquarium visitors, but – most importantly – can encourage a learning culture within the institution.

Formative evaluation is a broad topic. In this article, I'll be focusing on implementation evaluation and where to assess the extent to which a new program is being implemented as intended. Simply put, the framing questions come down to these: 1) What did we intend to do? 2) What actually happened? 3) Why did this happen? 4) What are we going to do about it?

The individuals and/or teams responsible for developing the program will, of course, be the best source of data regarding the first question. Internal program documentation (e.g. logic models, program scripts, etc.) can also be useful, along with external publicity, like program descriptions posted on the institution's website.

To answer the second question ("What actually happened?"), one of the most useful data collection methods consists of structured observations of the program in action. Depending upon the particular elements of the program you're interested in, the observations might be designed to capture information on program participants and how they're engaging with the program, or data which messages what the interpreters are conveying, and which ones they shy away from. A few hours' worth of visitor surveys can supplement your observations and give you a general sense of what's coming across for visitors and what isn't. At this stage, informal discussions with staff or volunteers implementing the program are crucial. They can tell you about any challenges they're running into that are preventing them from implementing the program as intended.

We routinely conduct implementation evaluations of new programs and have found it especially useful with the informal programs we develop each summer, such as activity carts and stations staffed by paid interpreters, docents and teen volunteers.

In 2011, for example, education staff developed a new cart activity focusing on climate change. Conversations with staff and an analysis of program documents suggested that a primary desired outcome was increased understanding among visitors of how climate change impacts animals. Structured observations conducted a couple of weeks after the program started found that the teen volunteers staffing the program were often avoiding this topic, however, less than a quarter of observed volunteer-visitor interactions featured some discussion of wildlife. A subsequent survey of roughly 50 visitor groups found a similar trend with only a quarter reporting they had learned something about climate change impacts on animals at the cart.

These results were shared with staff who, then working hand-in-hand with the teen volunteers, developed a modified (and simpler) activity that would enable the volunteers to get to the "punch line" more easily and to highlight impacts on animal species. The second round of visitor surveys found that an impressive 94% could identify one or more examples of climate change on animals. Along with changes to the activity, climate change training for teen volunteers has been strengthened considerably and a new slate of activities was unrolled in 2012.

A new program can quickly begin to diverge from the original concept, especially in the case of informal programs such as discovery carts where there are themes and outcomes guiding the work. It stands to reason that as presenters become adept at the activity and adjust to visitors' reactions, the program will evolve. You may decide that the divergence is fine and creating a better product or you may decide modifications are needed, such as additional training for presenters.

Tips for evaluating program implementation:

- The people implementing the program need to be involved in this process, not just those who designed it. The program presenters will tell you where they're struggling and can provide insight that will help you interpret your observations.
- Evaluation of program implementation can tell you where your programs are likely to succeed and where they're not. The first is easy to talk about - the second, not so much. It's important to constantly reinforce the idea that challenge, even failure, is to be expected. It's essential if we're going to learn and improve, not only within our own teams and institutions but within the field at large.
- This ongoing cycle of program development, testing, reflection and refinement – which is also the core concept of action research - provides invaluable opportunities to encourage reflective practice.

Kathryn Owen
Education Research Supervisor
Woodland Park Zoo

Evaluation – Success by Design

Point Defiance Zoo & Aquarium (PDZA) opened its new Red Wolf Woods exhibit in September of 2010. This naturalistic habitat represents many milestones for the facility, not the least of which is the extensive evaluation process that guided design and development. This process shaped every aspect of the exhibit, from interpretive content to exhibit layout and components, and has honed the strategies and methods we use for assessment throughout the organization. Ultimately, this focus led to the recent creation of a Visitor Studies discipline within the Education Department. The following are just a few of the techniques used at PDZA to create meaningful evaluation.

Location is Everything

If you want to apply your results to the larger population (in our case, zoo visitors), you need to survey in a location that all patrons will move through. If you set up a survey near a specific exhibit, you are excluding all the visitors not traveling through that area; therefore, you cannot extend the findings to the entire population of zoo visitors. For this reason, we administer our surveys at the zoo exit.

Random is Key

If you are applying statistical analysis to your data (such as significance tests), randomness is vital. We are currently administering a three month survey regarding our seasonal wild animal presentation. To ensure randomness, we assigned each day of the show a number and used a random number generating program (random.org) to select non-repeating survey dates. We then divided the day into 3 hour blocks and randomly choose a block on each survey day. Finally, we only approach every third visitor to respond to our surveys. Thus, every person has an equal chance to participate in the survey and all classifications of people are equally likely to be represented in the data.

The utilization of these techniques and a thorough knowledge of statistical analysis have helped PDZA develop powerful and effective evaluative tools and protocols. In turn, the data gleaned from our Visitor Studies focus continues to be invaluable for research-based decisions regarding programs and exhibits.

Craig Standridge
Public Programs & Visitor Studies Coordinator
Red Wolf SSP Education Advisor
Point Defiance Zoo & Aquarium

Evaluating On-grounds Interpretive Programs at Cleveland Metroparks Zoo

On-grounds interpretation at Cleveland Metroparks Zoo means one-on-one, short duration interactions conducted by staff or volunteers (e.g. roving theater, volunteer or staff led interpretation). The audience is in constant motion, sometimes interacting with staff / volunteers for a few short minutes or even seconds. Historically, these types of programs were not evaluated at the Zoo. How do you evaluate a conversation that potentially lasts only a few seconds? We thought evaluating programs with non-captive audiences, unlike those attending shows or fee-based programs, would be quite challenging. We actually found that it can be easy to evaluate these types of programs and receive sound results. You just have to go through the steps.

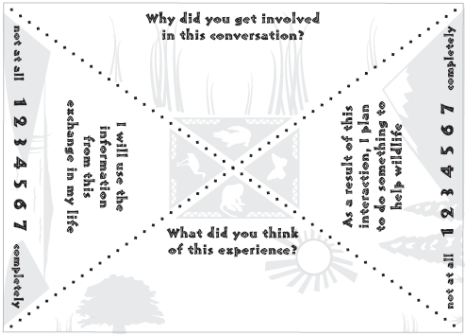
Our process started by working with Dr. Joe Heimlich, Ohio State University, on our Conservation Education division strategic plan. We defined our vision and key behaviors, determined what we wanted to become and how we were going to get there, utilizing our current program strengths. Dr. Heimlich also took us through the process of creating logic models for each of our programs. A logic model is like a recipe card for a program. It defines the audience, outputs and outcomes (knowledge, affective, skills, behaviors) of a program. Our on-grounds interpretive program logic model became the focus for what we wanted our program to become. The content of the logic model helped direct the development of one assessment tool that could be used for ALL on-grounds interpretive programs to see if we were reaching our new goal and objectives. While our process started with in-depth strategic planning which ended with the assessment tool, you could simply create your logic model and corresponding assessment tool.

Creating the assessment tool was easy - really. Interpretive staff brainstormed all the questions we wanted answered as a result of our interactions with guests. We boiled down all of the ideas into the four most important questions: 1) why did they get involved in the interaction; 2) what did they think of the experience; 3) will they use the information in their daily life; and 4) do they plan to help wildlife as a result of the interaction. Why did we choose only four questions? Our program audience is a moving target. They often have kids in tow, it may be a hot day and the kids may be hungry or want to see something else. We don't want to inconvenience our guests by asking them to stay and answer too many questions. And... four questions fit perfectly on a half sheet of paper! We printed three different color versions of the assessment tool to correspond to the three different program delivery options (i.e. roving theater, staff interpretation, and volunteer interpretation). This allowed us to look at the data within and across types of interpretive programs to target further needs, such as training. The questions on the assessment tool can be changed often, the layout can be changed quickly and it can be duplicated on your own copier. Anyone can develop it and use it!

To administer the assessment tool, we utilized our seasonal staff to conduct one hour sessions. They offered an assessment tool to one member of the audience after every interaction. The guest filled out the tool and dropped it in a secure box. At the end of the day, staff collected the cards, dated each and forwarded them to our research staff who entered and analyzed the data (we did this ourselves after the first year by creating an excel document).

In the end, we were pleased to find that we were reaching our objectives. We CAN get our messages out – higher level messages - in mere minutes - with a moving audience! And creating the tool to find out how we were doing was easier than we thought!

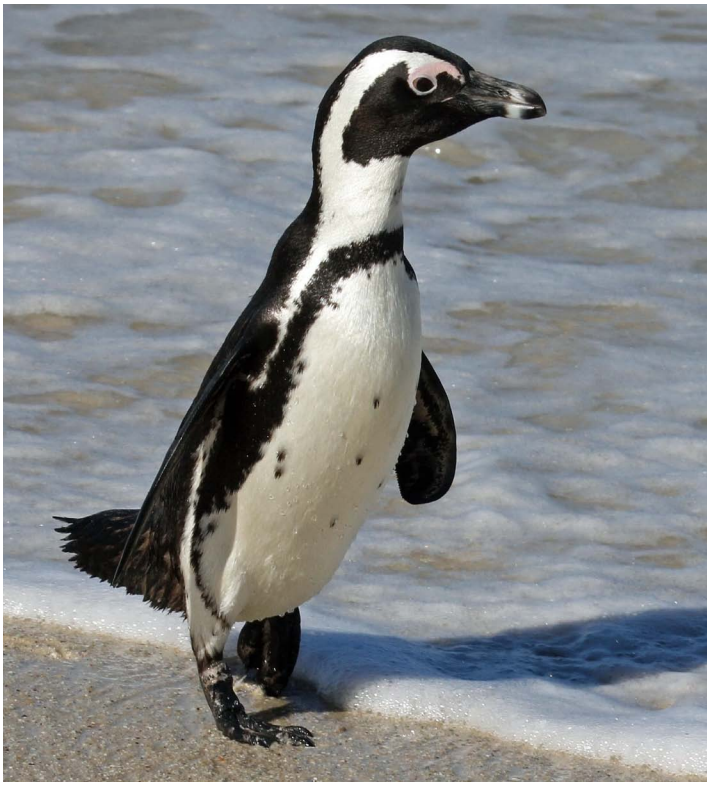
Chriss Kmiecik
Education Manager
Cleveland Metroparks Zoo



Supporting Evaluation Projects with Education Volunteers

This year, the Maryland Zoo has undertaken an evaluation project to examine the impact of different experiences on visitor learning, attitude and behavior. Specifically, we are exploring the differences among four experiences:

- Visiting the African penguin exhibit
- Visiting the African penguin exhibit and talking with an interpreter
- Visiting the African penguin exhibit and watching a narrated feeding experience
- Having an encounter with an African penguin animal ambassador



After participating in one of these experiences, visitors are asked to complete a short survey. Collecting visitor surveys is a very time consuming process, and volunteer support has been critical to our success. Evaluation is a new role for our volunteers and we learned some important lessons that will help our future projects.

The Challenge:

In the early planning stage, I met with our volunteer management staff to answer some of the following questions:

- Should we try to bring in new volunteers or recruit existing volunteers?
- How will we train these volunteers?
- How will we communicate with them?
- Who is responsible for managing them?

Getting the answers to these questions up front was crucial to helping the process run more smoothly. We decided that the Education Manager coordinating the study would be responsible for training and day to day supervision, with support from the volunteer management team. We also determined that recruiting from our pool of existing volunteers was preferable to training new people. Since they are already familiar with the Zoo, existing volunteers would be better equipped to interact with visitors. This familiarity, however, also presented a challenge. We knew that if the survey collector discussed or answered questions about the exhibit animals, then they would change the experience that we were attempting to evaluate. These volunteers needed to avoid interpreting at the exhibit when they were serving in a survey collector role.

The Solution:

We invited a group of experienced volunteers to attend an information session designed to help all of our volunteers understand the study, regardless of whether they volunteered to become survey collectors. In addition to asking the volunteers if they would be able to refrain from talking about the animals on exhibit while collecting surveys, we also went over other potentially challenging aspects of the survey protocol, such as approaching visitors in a systematic fashion and handling rejection gracefully. During this process, we were open and honest about our needs and expectations. We asked the volunteers to be honest with themselves about whether they could do what we were asking.

The information sessions were attended by about 30 volunteers. Some dropped out right away, explaining that they were concerned about their ability to follow the research protocol. Eight volunteers remained interested and attended a follow-up training on the survey itself and the specific data collection protocol. The end result is that we have reliable volunteers who have given about 80 hours of service and have so far collected close to 350 surveys from our visitors. Could we have used more help? Absolutely, and we hope that this program grows for future evaluation projects. But knowing that we can rely on these surveys to provide solid, unbiased data is worth the initial time investment that it took to recruit and train the right people to help us with the project.

Katie Manion
Education Manager
Maryland Zoo

Evaluating a Special Event at Disney's Animal Kingdom

Disney's Animal Kingdom was tasked with creating a month-long special event that would keep our guests in the Park longer, extending their stay to eat and play into the evening. All lines of business from Merchandise to Food & Beverage to Entertainment and Education were asked to participate. Sound familiar? This is not an unusual request for many zoos and aquariums, especially during the summer. Jumping right in, the guest education team created four activities at the flamingo exhibit. The four activities were called the Feeding Frenzy, Fancy Footwork, Flying Flamingos and Chic in Pink.

We wanted to include some type of smaller evaluation as a part of the event since we realize that education activities do not alone influence our guests' to extend their stay. We wanted to measure whether the offerings were successful from a conservation education perspective (knowledge, attitudes and behavior). We decided to collect thoughts from our educators, called Presenters, who were conducting the activities at the end of each day and also guest's comments about the activities. Here are a few of the comments we received:

Conservation Education comments from guests:

Presenter Cassie had a little girl who did not want to stop playing the flamingo feeding frenzy. When her parents wanted to leave, the little girl said "But my flamingo is still hungry!" Impact on attitudes/caring

After playing the games with a family, the 8 year old boy said, "I didn't know flamingos could really fly!" Impact on knowledge

As a family was walking away from our flamingo activity, an older child said "Wow that was awesome! I loved it! Flamingos are cool!" and her (very young) sister said "yeah, me too!" Impact on attitudes

Presenter Heather received a letter from a British, 8-year old boy who she talked with at flamingos and he said, "Thank you for talking with me at Disney's Animal Kingdom. I promise to take care of all wildlife for my whole life." Attitude and behavior impact

Arielle was doing the labyrinth migration activity with two brothers. As one was playing, the other was cheering him on and trying to help him avoid obstacles. At one point he got very flustered and said "It's in the dirty water! It's in the dirty water! We've gotta get them out!!" Impact on attitude/behavior/conservation

Conservation Education comments from the Education Presenter team:

Presenter Arielle: "The kids are really excited about the migration activity. It really helps them understand what happens to animals as they travel."

Presenter Josh T: "The Chic in Pink activity is great for bilingual guests. They can play without needing to be completely fluent in English."

Presenter Miguel: "The activities have built in actions, and are really helpful for both guests and cast members. They help the guests to understand what elements are challenging to flamingos and help us connect to conservation actions."

Presenter Nicole: "I started placing multiple "pink bouncy balls" representing flamingos in the maze game at one time and have guests guide the whole "flock" to the clean water."

Here are verbatim from DAK managers:

Angie Stevens, evening duty manager, said, "she and many guests had fun trying the Flamingo Feeding Frenzy and learned how flamingos eat, find food and sleep. And most importantly, learned how important it is to keep water ways clean for wildlife."

The Vice President of Disney's Animal Kingdom, Michael Coglaizer, visited the flamingo activities and Presenter Josh said he showed Michael the migration activity, and Michael even stood on one leg like a flamingo! He got positive feedback from Michael and the other cast members with him. He said that Michael was very impressed with the content and messaging we were giving, as well as the number of activities we had and that we were able to engage so many Guests at once!

Summary

Based on the comments from guests and cast, the four flamingo activities developed for the Sundowner event were very effective at engaging guests, holding their attention and allowed for great conservation message delivery. The Education Presenters used clickers to count the number of guests they interacted with at flamingos during the 3:00 pm until closing time slots. Our final guest contact numbers were very high; 7,249 guests for the month of June, from 3:00 pm until Park close (either 7:00 or 8:00 pm).

The biggest issue for the month-long event was rain. It's Florida after all! There were many days of rain during the month of June which impacted the other lines of business that had no cover for their experiences. We found that choosing a great location was the key to success. The flamingo exhibit was still close enough to the main pathway to attract guests, the animals were visible 100% of the time and the covered arbor kept our activities running even in the pouring rain. We were able to run our activities every day in June.

This report was shared with all lines of business at the end of the month. Everyone appreciated our extra effort to assess our activities. So, we found a way to informally evaluate special event activities through comments from guests, educators and managers, as well as, our conservation education impact. A win for all!

Kathy Lehnhardt
Curator of Education
Disney's Animal Kingdom

Collaborating with a Consultant on Audience Research: a Case Study from the Oregon Coast Aquarium

When the Oregon Coast Aquarium initiated a project to replace our exterior exhibit interpretive graphics, we wanted to understand our visitors' ideas and attitudes, and to learn about new trends in exhibit interpretive media within the zoo and aquarium industry. Our choices were to dedicate staff resources to accomplish this work or to hire an outside evaluator; like many zoos and aquariums, we were limited by both time and budget. This case study illustrates the collaborative nature, realities, and potential of zoo and aquarium audience needs assessment or front-end evaluation. It also dispels a few myths along the way.

Myth # 1:

Audience research is too expensive (or, we don't have the time). Our response: The cost for audience research depends on your needs. However, consider the value of your investment in staff time and budget dedicated to completing the project. Without audience research, you cannot be sure that your exhibit or program will meet your audiences' needs and result in your intended outcomes. If it does not, what will be the cost to fix it later?

Selecting an Evaluation Consultant

Zoos and aquariums can choose to hire an evaluation consultant to complement the team's expertise, provide an external perspective for added credibility to funders, or to add capacity to an already-stretched workload. Choosing the right consultant depends in part on your needs. All evaluation consultants can provide rigorous quantitative and qualitative methods and analysis that yield valuable results. Your study may or may not require random sampling and statistical significance. For larger studies where significance is valuable, partnering with a local university may also be a good option, and you may be able to secure collaborative funding. For this project, the Oregon Coast Aquarium wanted to contract with someone with aquarium and zoo expertise, and hired Seattle-based Terry O'Connor Consulting. Terry had previously worked with the Aquarium to develop the Aquarium's conservation messages and action advocacy strategy.

Myth # 2:

I cannot hire an evaluator because I am not sure what I need. Our response: Part of an evaluator's role is to help you define your needs and recommend appropriate methods.

Selecting Methods

An evaluator can help you define the scope of the project, suggest options for appropriate methods, and make a realistic recommendation that is within your budget. The Oregon Coast Aquarium began the project by having Terry conduct an extensive assessment of zoo and aquarium exhibit interpretive trends. To accomplish this, we selected phone interviews in order to collect in-depth responses. These results gave us insight from our colleagues on trends in interpretive content and media.

Our next task was to gather information from Aquarium visitors. We wanted to focus on four areas: (1) assess visitor interest in several potential topics for exhibit interpretive graphics; (2) understand how exhibits could be further improved by becoming more engaging for children; and (3) learn what the Aquarium could provide that would encourage visitors to explore Oregon coastal beaches and other wild places; and (4) gauge visitors' knowledge of, and interest in, taking several possible conservation actions. We decided to split these into two separate intercept surveys of Aquarium visitors. To save on consultant time and travel costs, we agreed that data collection would be the Aquarium's responsibility. Kerry arranged to have a graduate student from Oregon State University interview visitors onsite.

Myth # 3:

Once the evaluator is hired, you can step back from the project. Our response: Evaluation depends on teamwork. Timely and continual communication is essential.

Terry developed separate evaluation tools for each of the visitor surveys, and Kerry reviewed and edited questions. Good results depend on good questions, so it is important to ensure that the language is right for your audience and that you are selecting the most essential questions. A graduate student intercepted Aquarium guests and administered the surveys during two separate time periods. She summarized each day's data and typed open-ended responses, using the data collection summary sheets designed by Terry. Terry analyzed the data for both surveys and prepared two reports with recommendations to inform the content of the Aquarium's exhibit interpretive graphics. Kerry carefully reviewed these to ensure that the results and conclusions were presented in a format that could easily inform Aquarium leaders and affect future work.

The take-away: be realistic about the time you will need to spend reviewing the questions and the final report. If the evaluator will not be onsite and you are working with one or more graduate students or a cadre of volunteers who are collecting data, you will need to make logistical arrangements and supervise the work.

Collaborating with a Consultant on Audience Research: a Case Study from the Oregon Coast Aquarium cont'd

Myth # 4:

Audience research is not necessary—we already know what our visitors want and need. Our response: If you have conducted research and asked similar questions of your guests on a previous occasion, those results will be applicable. While we have all benefitted by learning from previous research in other settings, you will not know the specific needs and interests of your local audience unless you ask them.

Results of our visitor surveys gave the Oregon Coast Aquarium valuable feedback on proposed topics to address in new exhibit graphics. Some of the results from our exhibit survey were surprising. Visitors' interest in locally-focused climate change issues along the Oregon Coast was greater than their interest in daily animal care, enrichment and conservation work at the Aquarium. Results of the second survey revealed which conservation actions that our visitors are doing consistently or intermittently, and which they have no interest in taking. From these responses, we learned the barriers our visitors face in taking action, and where the Aquarium can provide further inspiration, education and training.

Conclusion

Front-end audience research is a valuable tool to understand audiences' interests, needs and conservation values. Considering the staff time and money that the institution will dedicate to an exhibit or program, the added time and expense for audience research is a sound investment to help ensure effectiveness of the messages and conservation actions. From our perspectives as the hiring staff and the contracted consultant, the keys to a successful collaboration are dedicating the time up front to plan carefully and review questions, maintaining frequent and timely communication on progress, and dedicating time to review the analysis and report. This collaboration between the staff and the evaluator will ensure that you get meaningful results in a format that is most useful to the organization.

Terry O'Connor
Principal consultant
Terry O'Connor Consulting LLC

Kerry Carlin Morgan
Director of Education and Volunteer Services

Fearless Evaluation in America's National Parks

As part of a multidimensional project for the National Park Service (NPS), MPR Museum Consulting conducted an evaluation training open to all National Park staff. Prior to the training, NPS staff was asked to complete a survey about their feelings regarding evaluation and its role in the National Park Service. 200 park staff participated in the survey. This front end data was then applied to the development of a goal, the course outline and materials. The goal of the course was to take the fear out of conducting evaluation. Course participants received a manual detailing stages, purpose and methods used in conducting evaluation, and a step-by-step pull out guide for conducting each method.

The Fearless Evaluation training course took place in March, 2012 as a nine hour webinar over three days. The three day format allowed participants to apply each day's information to a "homework" project. Prior to the training, participants were asked to come up with an idea for a project they wanted to do in the future. By the end of the three day course, participants had created a front end focus group script for their project, a formative survey for their project and had conducted an unobtrusive observation on their park's waysides or program. On the final day of training, the participants created summative evaluation questions that were later used in the summative evaluation of the training.

The summative evaluation revealed a significant jump in confidence among participants. Before the webinar, 27% of the survey participants felt "comfortable" conducting evaluation and no one felt "supremely comfortable." After participating in the webinar, 81% of the participants felt "comfortable" or "supremely comfortable" conducting their own evaluation. Another notable statistic is that 90% of the webinar survey participants plan to incorporate evaluation in future projects.

The following chart and descriptions are excerpted from the Fearless Evaluation Manual.

Monica Post
MPR Museum Consulting

There are 5 types of evaluation: Front End, Formative, Remedial 1, Summative, and Remedial 2.

This can get confusing because Remedial Evaluation is sometimes not included, and sometimes both types of Remedial Evaluation are considered to be the same thing. The following chart provides the purpose, methodologies, and appropriate use for each evaluation type.

Front End Evaluation is conducted at the beginning of the design phase. Front end can help you define and write a central idea or theme, but a topic must be established before starting a front end evaluation. Front end will help you find out what audience knows already, their vocabulary, misconceptions, and how they want to learn.

Formative Evaluation takes place during the design phase and as the project is being designed, but before the project is too far along to make changes. Formative evaluation is the time to try out as much of the design as possible as well as to make adjustments and improvements before going into final production. Formative evaluation in exhibit design is often conducted on cardboard or foam core prototypes and mock ups. In program design, inexpensive props may be used. During this stage you are determining how the audience uses and responds to the proposed design, the take away messages, what parts work, what needs to be changed, and what needs to be removed.

Remedial 1 Evaluation is conducted after the program is presented a few times or the exhibit is complete and the first audiences have experienced it. Most remedial evaluation happens naturally, finding what doesn't work and fixing what you can. Elements such as a burned out light bulb, an inappropriate gesture or tone of voice, a hidden label, or a loose screw are identified in remedial 1 evaluation. Remedial evaluation is not intended for major changes. Those should have been identified during a formative study. Remedial is done to polish the final product and to prevent finding out during a summative evaluation that no one read that sign because the light was burned out.

Summative Evaluation happens after the program has been presented a few times, the exhibit is open, visitors are coming in, burned out light bulbs have been replaced, and all the adjustments that are going to be made, have been made. Summative evaluation is not intended for making improvements. It is intended to measure program or exhibit success. Summative evaluation measures take away messages like what visitors feel, what they did, how they behaved, their future intentions. You can't necessarily say what they learned, unless you know what they entered knowing and then measure what they leave knowing. While cognitive gain can be measured in a summative evaluation, it has to be addressed specifically.

Remedial 2 Evaluation is used when an exhibit or program has been in place for a while, and it may be ready for an overhaul. In these cases, staff identifies the need for change, but they may not know exactly what or how to make the changes. They want more direction and guidance on what is and isn't working so that more informed decisions can be made in the overhaul. There is a semantics issue here: studying the existing program or space for the purpose of making changes could be classified as front end, because it is happening before the new program or exhibit is being designed and the study will advise the design. It can also be considered formative evaluation because changes are anticipated. In this case the existing program or space plays the role of prototype. It could even be summative evaluation because the final piece is being studied after it has been in use.

Fearless Evaluation in America's National Parks
Evaluation Basics cont'd

Type	Purpose	When	How (Methods)	How it is applied
Front End	Find out what the audience knows and feels, vocabulary, misconceptions, how they want to learn	At the beginning of the process when you know the topic, but not much more	Surveys, Focus Groups, Interviews, Think alouds, Post-it Surveys	Directs the proposed message and delivery method
Formative	Tweak concepts and designs, make improvements, work toward better outcomes	Throughout the design phase, before going into final construction	Unobtrusive observation, interviews, questionnai e, Post it surveys, think alouds, concept mapping, tracking and timing, focus groups	Refines delivery methods and clarifies proposed messages
Remedial 1	Fix the fixable and the obvious (replace a light bulb, move a sign, repair whatever is broken)	After opening or fi rst presentation, when you can see how audience responds and identify issues	Obvious observations, candid questions, anecdotal information	Identifies the fixable before it fails with most of the public or before a lot of money is spent on summative
Summative	Identify and measure the good and the bad parts to make informative decisions that may be useful in the future.	After the public has experienced the program or media more than once.	On final exhibit: Unobtrusive observation, questionnaires, interviews, think alouds, Post it surveys, focus groups, tracking & timing,	Provides a "how good is it?" measurement. Informs future program or exhibit design, proves that that outcomes are important to your organization
Remedial 2 A different kind of remedial	This is not a part of the evaluation process mentioned above. This method is employed when it is known that something isn't the way it should be and major changes will be made, but there is uncertainty about the changes that need to be made.	This remedial happens after the exhibit has been opened for a long time or the program has been presented many times.	Tracking and timing, surveys, interviews, Post it surveys, questionnaires, pre-post questions, unobtrusive observation, think alouds	Identifies unsuccessful delivery methods and messages so that informed changes can be made in the proposed overhaul

Update on Audience Research and Program Evaluation Initiative

What does the CEC envision as the future for research in zoo and aquarium education? There is no one approach that is recommended, but rather, the CEC sees a variety of studies-- evaluative, applied, and basic-- conducted through a mixture of levels.

We see:

- Independent studies in local zoos and aquariums
- Collaborative and confirmatory and replication studies in one or two sites
- Small action groups that might be defined regionally, by species, by program, or by interest
- Nationally representative studies
- University researchers working beyond the boundaries of zoos and aquariums

"This framework... recognizes the substantive need for an aggressive research agenda to be implemented. Clearly, evaluative work must be conducted as a part of all professional education activity. Such work could begin to contribute to sub questions in the... framework and thus be incorporated into normal routine. On the collaborative and small action group level, funded projects can, and should, use the framework to demonstrate how the project will provide insight into part of any of the framework questions.

Ultimately, what we learn is to help zoos and aquariums meet our conservation mission. Thus, the CEC strongly encourages all research to be shared, both academically and practically. It will ultimately be important that any research findings fitting into the above framework should be digestible and usable by those doing education in our institutions, and those who are responsible for the direction and management of our institutions and our future."

From the AZA's Framework for Zoo and Aquarium Social Science Research

As I get ready to leave my post as the research and program evaluation cheerleader for CEC, I am pleased to see what has been accomplished by all of us. To begin, we all know more about how our visitors and other audiences value us. In fact, 398 of us from 145 institutions have attended ten workshop sessions focused on how to use the "Why Zoos and Aquariums Matter" (WZAM) visitor research tools. Also, as a result, AZA accredited institutions are developing marketing and educational materials more and more using the information about what our audiences expect from us and what is important to them.

These workshops were first conducted by John Fraser, Jessica Sickler and Joe Heimlich, researchers themselves,. Then, answering a call for help from the CEC, John Fraser trained educators how to conduct a WZAM workshop. Many of these trainers have conducted regional workshops throughout the year and they are available to conduct a workshop in your area, if you have a need, and can pay their basic costs.

The Animal Welfare Committee, Research and Technology Committee and CEC completed an assessment of what overlapping research regarding animal welfare and our audience's perceptions about program animal use should be pursued. This was incredibly valuable and the CEC folks working on program animal studies, as well as those working on the audience research, now have clear priorities on studies that individual organizations can pursue that would contribute to what we, as a group, want to better understand.

What is the next step? The CEC members who have worked on this over the past six years would like to see increased communication about what CEC-established priority research and evaluation are in the works. In addition, one more WZAM workshop will be offered at the Annual Conference on Sunday, September 9 from 8 am to 5 pm. There will be a fee above the registration of $50 to pay for materials and room space. If you are interested in attending, please look for it on the 2012 AZA Annual Conference Registration.

Finally, Danielle Ross of Columbus Zoo and Aquarium will be taking on the leadership of this initiative in September. Please join her in continuing the professional work our institutions are doing to better understand what effects we are having on our visitors...and thank you for your participation. The goal? – positive change.

Vicki Searles
Curator of Conservation Education
Cleveland MetroParks Zoo

Empowerment Evaluation at the Zoo

Program evaluation can be an intimidating project for staff members at informal learning institutions. Educational programs at the zoo – meant to be fun and inspiring – beg for innovative evaluation methods. How do we empower staff to develop embedded, useful and fun ways of evaluating their participants?

At the Oregon Zoo, we trained our Zoo Camp leadership staff in empowerment evaluation – a framework developed by David Fetterman. In empowerment evaluation, staff members are given a strong hand in the evaluation process and an external evaluator – if present – acts as a coach or critical friend. At the zoo, we ran an abbreviated form of empowerment evaluation training. Leadership staff members were asked to articulate a camp mission, list the activities in camp that helped achieve that mission and then choose the three most important activities from that list. These activities – in our case, scientific inquiry, exhibit activities and introducing the theme of the day – formed the foundation for an evaluation plan that all age groups could adhere to. For each of these activities, staff members defined what success would look like for any age group. For example, in scientific inquiry, campers should be able to develop a hypothesis related to the inquiry question. In exhibit activities, campers should be able to say how the animal viewed fits with the theme of the day. Armed with this plan, staff members went on to create individualized evaluation tools that would work for different age groups from kindergarten to 8th grade.

The evaluation tools generated by camp staff members were far ranging – from games that measured campers' changing attitudes toward non-charismatic animals to concept maps that illuminated student understanding of animal care. Through this process, camp staff members were able to run evaluation plans that they were proud of. They also felt connected to other staff members in the common goal of evaluating student learning in the three areas they had identified as being particularly important. In the year following this effort, camp staff members have embraced evaluation as a core part of their teaching and have continued to develop interesting and effective ways of measuring student learning and attitude change.

Want to learn more about this project? Attend the session "Using Evaluation to Engage Stakeholders and Improve Programming" at 4:00 on Wednesday September 12th, at the AZA Conference in Phoenix.

Kathayoon Khalil
Research Associate
Oregon Zoo

Something to Think About: Reflections on Research and Evaluation

The Visitor Studies Association (VSA) has a web-based feature that explores the connections between research, evaluation and practice by way of a dialogue prompted by an article in the latest issue of Visitor Studies. The latest Reflection focuses on an article of particular interest to aquarium and zoo practitioners. The latest Reflections discussion focuses on a research article by Perdue, Stoinski and Maple, Using Technology to Educate Zoo Visitors About Conservation (Volume 15 (1)), where researchers examined the relative effectiveness of live and video-based presentations conducted at a live animal exhibit. For this conversation, Marley Steele-Inama, Education Research and Evaluation Manager at Denver Zoo, and Erica Kelly, Exhibit Developer at the San Diego Natural History Museum, were asked to reflect on the article and the complexities of learning and interpretation.

You can read the reflection on the Visitors Studies Association's website at: http://visitorstudies.org/resources/journal-and-archive and click on Current Reflection on the left side. You can access a free download of the article (for a limited time) at http://www.tandfonline.com/toc/uvst20/current

For more information on this feature or the Visitor Studies Association, please contact Jim Kisiel at j.kisiel@csulb.edu.

Jim Kisiel
Professor
California State University, Long Beach

Evaluation: A Team Effort

At the Calgary Zoo, we're so pressed for time during our high season that it's challenging to observe and assess our on-grounds programs. However, we have to prioritize conducting evaluations for several reasons. It ensures that our visitors are experiencing quality programs that meet a standard set by our organization. It's a valuable tool to assist staff in identifying areas that require development. Evaluation is also an excellent form of recognition.

Our Visitor Education team worked collaboratively to identify a comprehensive list of interpretive program essentials and then incorporated them into a rubric which lists criteria, scores and comments. When you head out on grounds you simply take the rubric criteria and a scoring sheet.

We knew the form was successful when several program observers scored it similarly after following the rubric criteria, demonstrating that it could be reliably used by different observers. We enjoy using this format as it is simple, clear and quick to use.

One of our team members writes, "Having an objective way of evaluating our talks is key to making sure that we are doing our best as educators. The rubrics give us a chance to see how our programs are being seen by the audience and the feedback generated by this process has always been helpful. Although it can be nerve-wracking to perform in front of our supervisors, they've always been constructive."

Our rubric is attached. Please feel free to adapt it to your own needs. Your feedback is welcomed.

Lisa McDonald
Manager, Visitor Education
Calgary Zoo

Nature Talk Presenter Evaluation Rubric

Criteria	0	1	2	3	N/A
Program Setup	No program set up.	1 of the following: Posters, biofacts (w/ CP sign) or props.	2 of the following: Posters, biofacts (w/ CP sign) or props.	3 of the following: Poster, biofacts (w/ CP sign) or props.	Always applicable
Presentation Style	Tone/inflection are ever changing, speed of speech is too fast or too slow, movement of presenter is distracting to the audience.	1 of the following is achieved: Tone/inflection is consistent or purposeful, speed of speech is good, movement of presenter is enough to keep audience engaged but not too much to distract.	2 of the following are achieved: Tone/inflection is consistent or purposeful, speed of speech is good, movement of presenter is enough to keep audience engaged but not too much to distract.	Tone/inflection is consistent or purposeful, speed of speech is good, movement of presenter is enough to keep audience engaged but not too much to distract.	Always applicable
Audience Acknowledge-ment	Interpreter makes no eye contact with audience – spends most of the talk with back to audience. Does not alter talk to fit audience present (e.g. forcing volunteers and participation for a reluctant audience).	Make periodic eye contact with audience. Spends portions of the talk with back to the audience. Makes some attempt to adjust talk to fit audience (or adjust talk part way through) & acknowledges some audience engagement.	Makes eye contact with only a section of the audience. No strong effort is made to engage the audience, talk may be adjusted slightly. Acknowledges audience engagement.	All portions of the audience are addressed (eye contact made). Talk meets the audience demographics and needs (speaking to the ages and demographics present), adjusts talk instantly. Acknowledges audience engagement & participation.	Always applicable
Flow of talk -Emotional and structural flow	Talk does not flow from one topic to another – topics are spoken about randomly. Low energy. Emotions do not match the subject discussed –for example, happy/excited tone with a sadder topic etc.	Talk flows between two subjects, then breaks down. Theme mentioned but not maintained. Energy level is not maintained or peters out during presentation. Emotional tone varies markedly (less than 50% appropriate).	Talk flows from one subject to another but there are breaks (link 3 or more subjects). Theme mentioned. Energy fluctuates throughout the talk. Emotional tone varies somewhat (75% appropriate).	Talk flows from one subject to the next seamlessly. Theme mentioned and consistent. Energy is maintained throughout the talk – emotional tone matches the subject matter.	Always applicable
Basic Knowledge – Must include diet and habitat	No basic facts are given.	1 basic fact is given about the species (e.g. habitat, diet, etc).	2 basic facts are given about the species (e.g. habitat, diet etc).	3 or more basic facts are given about the species (e.g. habitat, diet etc).	Always applicable
Animal Knowledge	No individual animal knowledge is given.	Animal names are mentioned – no additional information is given about them.	Animal names are mentioned and audience is told how to identify them **OR** animal names are mentioned and the audience is told an interesting fact about the individuals.	Animal names are mentioned and audience is told how to identify them and an interesting fact about the individual animals is mentioned.	Always applicable

Structure and Function	No physical characteristics are pointed out.	Physical characteristics of species are pointed out but function is not discussed (i.e. giraffes have long necks, elephants have trunks etc but no why).	A physical characteristic of a species is pointed out and its function is discussed.	A physical characteristic of a species is pointed out, its function is discussed and some sort of visual is used to emphasize connection (e.g. using a skull to talk about the teeth).	N/A for Creature Feature Program
Species movement ***or*** *communication*	Species movement/ communication is not mentioned.	Species movement/ communication is discussed.	Interpreter uses their body/ voice to mimic the movement or communication.	Audience also mimics the movement or communication.	N/A for Creature Feature Program
Conservation Message - should be clear and concise.	No conservation message is mentioned.	A conservation message is mentioned but not discussed. For example, habitat preservation.	A conservation message is mentioned and discussed. For example habitat preservation and how it helps tiger populations.	A conservation message is mentioned, discussed and example is used. For example habitat preservation, how it helps tiger populations and Kanha Tiger Reserve is mentioned.	Always applicable
Audience Volunteers -the quality of the volunteer experience is measured.	No volunteers are chosen or too many are chosen.	Interpreter chooses at least one volunteer and uses them effectively (not just used to hold something, for example but make it a memorable moment).	Interpreter introduces volunteer(s) to audience and thanks them afterwards, utilizes them effectively.	Interpreter introduces volunteer (s) to audience, thanks them afterwards and integrates them fully into the program – never leaving them standing around awkwardly.	N/A for Creature Feature Program
Audience Participation	Audience does not participate, no one volunteers, no one mimics movement sounds answers questions etc.	A few people in the audience choose to volunteer and mimic sounds, etc.	Many people choose to volunteer and few people mimic movement/ sounds **OR** a few people choose to volunteer and many people mimic movement/sounds.	Many people choose to volunteer and many people mimic movement/ Sounds.	N/A for Creature Feature Program
Audience Engagement	Audience is not engaged, over 50% leaves during program.	1/3 of people in the audience are engaged (answering questions, WOW face) and less than 50% of audience remains until the end.	2/3 of audience engaged (answering questions, WOW face) and 70% of audience remains until the end.	Most (2/3) of the audience engaged (answering questions WOW face) and 90% of audience remains to the end.	N/A for Creature Feature Program

Evaluation	Audience is not asked to fill out evaluation forms.	Audience is asked to fill out evaluation forms – no one fills them out.	Audience is asked to fill out evaluation forms – one person fills them out.	Audience is asked to fill out evaluation forms – more than one person fills them out.	Always applicable

Nature Talk Presenter Evaluation Rubric

Name of Presenter _____ Program_____ Number of visitors attending @ start:___
@ middle:___ @ end:___

Name of Evaluator _____ Date _____Time_____

Criteria	Score	Comments
Program Setup		
Presentation Style		
Audience Acknowledgement		

Flow of talk -Emotional and structural flow		
Basic Knowledge		
Animal Knowledge		
Structure and Function		
Species movement/ communication		
Conservation Message		
Audience Volunteers		
Audience Participation		

Using Formative Evaluation to Strengthen Programs and Encourage Learning Within Your Organization

When it comes to creating visitor experiences with lasting impact, one of the best steps you can take is to make a commitment to formative testing. Formative evaluation can provide you with rapid feedback, documentation on how a new program is unfolding and data to inform planning. A commitment to the cycle of ongoing testing and refinement of programs results not only in better experiences for zoo and aquarium visitors, but – most importantly – can encourage a learning culture within the institution.

Formative evaluation is a broad topic. In this article, I'll be focusing on implementation evaluation and where to assess the extent to which a new program is being implemented as intended. Simply put, the framing questions come down to these: 1) What did we intend to do? 2) What actually happened? 3) Why did this happen? 4) What are we going to do about it?

The individuals and/or teams responsible for developing the program will, of course, be the best source of data regarding the first question. Internal program documentation (e.g. logic models, program scripts, etc.) can also be useful, along with external publicity, like program descriptions posted on the institution's website.

To answer the second question ("What actually happened?"), one of the most useful data collection methods consists of structured observations of the program in action. Depending upon the particular elements of the program you're interested in, the observations might be designed to capture information on program participants and how they're engaging with the program, or data which messages what the interpreters are conveying, and which ones they shy away from. A few hours' worth of visitor surveys can supplement your observations and give you a general sense of what's coming across for visitors and what isn't. At this stage, informal discussions with staff or volunteers implementing the program are crucial. They can tell you about any challenges they're running into that are preventing them from implementing the program as intended.

We routinely conduct implementation evaluations of new programs and have found it especially useful with the informal programs we develop each summer, such as activity carts and stations staffed by paid interpreters, docents and teen volunteers.

In 2011, for example, education staff developed a new cart activity focusing on climate change. Conversations with staff and an analysis of program documents suggested that a primary desired outcome was increased understanding among visitors of how climate change impacts animals. Structured observations conducted a couple of weeks after the program started found that the teen volunteers staffing the program were often avoiding this topic, however, less than a quarter of observed volunteer-visitor interactions featured some discussion of wildlife. A subsequent survey of roughly 50 visitor groups found a similar trend with only a quarter reporting they had learned something about climate change impacts on animals at the cart.

These results were shared with staff who then – working hand-in-hand with the teen volunteers – developed a modified (and simpler) activity that would enable the volunteers to get to the "punch line" more easily and to highlight impacts on animal species. The second round of visitor surveys found that an impressive 94% could identify one or more examples of climate change on animals. Along with changes to the activity, climate change training for teen volunteers has been strengthened considerably and a new slate of activities was unrolled in 2012.

A new program can quickly begin to diverge from the original concept, especially in the case of informal programs such as discovery carts where there are themes and outcomes guiding the work. It stands to reason that as presenters become adept at the activity and adjust to visitors' reactions, the program will evolve. You may decide that the divergence is fine and creating a better product or you may decide modifications are needed, such as additional training for presenters.

Tips for evaluating program implementation:

The people implementing the program need to be involved in this process, not just those who designed it. The program presenters will tell you where they're struggling and can provide insight that will help you interpret your observations.

Evaluation of program implementation can tell you where your programs are likely to succeed and where they're not. The first is easy to talk about - the second, not so much. It's important to constantly reinforce the idea that challenge, even failure, is to be expected. It's essential if we're going to learn and improve, not only within our own teams and institutions but within the field at large.

This ongoing cycle of program development, testing, reflection and refinement – which is also the core concept of action research - provides invaluable opportunities to encourage reflective practice.

Kathryn Owen
Education Research Supervisor
Woodland Park Zoo

What's in Your Toolbox?

When starting a home repair project, one typically consults the user-guide first and then gathers the appropriate tools necessary. Conducting evaluations at our institutions can be approached in the same manner. Indulge me as I share my first journey into formal evaluation.

Project:

To assess if a zoo visit influences teen visitors' attitudes towards conservation.

Workspace:

Oklahoma City Zoo and Botanical Garden

Technical Specifications:

Sample population was zoo visitors identified as teens (ages 14-18) who participated in a field trip (free-choice learning) or an education class (formal learning).

User Guide:

Why Zoos and Aquariums Matter: Assessing the Impact of a Visit (Falk, etal, 2007). Its aim was to help zoos/aquariums measure their effectiveness in supporting visitor conservation attitude change and to contribute to the development of a national AZA database, which in turn helps all accredited zoos and aquariums better verify their contribution to public conservation education.

Instruction Manual:

Visitor Impact Toolbox, tool number four, conservation attitudes survey. Developed jointly by AZA Conservation Education Committee and the Institute for Learning Innovation, tool four measures affective changes in visitors' attitudes towards conservation topics.

Tutorials:

Training workshops on the visitor impact toolbox located within the Why Zoos & Aquariums Matter research are offered periodically. Check AZA website (http://www.aza.org/visitor-and-public-research/) for listings.

Project Outcome:

Using the toolbox was very user-friendly. Likewise, the toolbox provided a guide to implementing and utilizing this instrument but also contained the statistical package, a t-test in this case. Since I'd only had two statistics classes, I found the Excel spreadsheet very easy to input and extrapolate data from.

Troubleshooting:

Working with teens can be a bit challenging. Assumptions were that they would make an honest effort 1) to state their true age 2) in answering the instrument questions and 3) to refrain from discussing the survey with other participants during the survey.

You too can become an evaluation technician at your zoo or aquarium. Roll up your sleeves & "Just Do It." It's easier than you think!

Teresa Randall
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