



THE FULL MEASURE

Nature Play
Evaluation

BY ALINA TUGEND

To a casual onlooker, children building forts or sending leaves spinning down a stream may simply look like kids being kids. But nature play at Association of Zoos and Aquariums-accredited facilities is not just about having fun, but helping families learn and build an ongoing connection with—and empathy for—nature.



BUT HOW DO AZA-ACCREDITED ZOOs AND AQUARIUMs DETERMINE WHETHER THOSE AIMs ARE BEING MET?

“It’s through evaluations—surveys, interviews and observation, among other tools—that zoos and aquariums can discover not just if a program was successful, but why and how we can replicate it,” said Amy Rutherford, AZA’s director of professional development and education.

Between 2014 and 2017, AZA, through generous funding from the Walt Disney Company, gave out almost \$1 million in 141 grants to AZA-accredited facilities to establish or augment their nature play programs.

“The grants really did succeed in moving the needle,” said Rutherford, “Many of our members now see nature play as a core piece of their offerings.”

One of the goals of the grants is to increase members’ evaluation capacity and skills specifically with regards to nature play.

In early 2017, AZA conducted a large-scale evaluation of nature play through surveys administered to employees and parents: 586 participants from 36 sites participated.

The results were positive: those who responded to the survey said nature play programs made it more likely that they would spend time in nature in the future and they were more motivated—and better able—to overcome barriers (such as weather, lack of time and not knowing where to go or what to do) to enjoying nature.

In addition, the surveys showed that after participating in a program, their belief in spending time in nature, particularly as a family, grew.

The Chicago Zoological Society-Brookfield Zoo in Brookfield, Ill., has been at the forefront of nature play; in

2001 it opened the Hamill Family Play Zoo, one of the first nature play places of its kind. It includes 15,000 square feet of indoor-and-outdoor space surrounded by a two-acre children’s garden, with a greenhouse, pretend animal hospital, live animals and plants, and an area where children can play zookeepers.

Eight full-time trained staff work in the area, and they are there to facilitate, rather than to lead.

Putting in place an effective nature play area requires substantial research and preparation; planning for the Hamill Family Play Zoo started in 1997, said David Becker, senior manager of learning experiences at the Chicago Zoological Society-Brookfield Zoo.

The objective he said, was to understand “how do people develop these caring connections with nature,” and to ensure, as much as possible, that every aspect of the play zoo would help cultivate those connections.

The play zoo has both daily walk-in programming and scheduled classes aimed at one-to-three-year olds.

Since the play zoo opened, adults are surveyed at random by staff or volunteers with iPads. Questions include whether they are noticing changes in their children’s interest or play around nature, or more confidence around animals. The responses can range from “not at all” to “very much so.”

Marilyn Brink, manager, professional development and early childhood at Chicago Zoological Society-Brookfield Zoo, said, the responses are almost always “very much so.”

The play zoo also has a nature swap, where children bring in something they found or a drawing and tell a story about it. They receive points that they can “swap” for something within the room, such as a pinecone or animal teeth. A study focused on the impact the swap was having on parents found that it also helped increase parents’ interest in nature.

Staff, through regular meetings and ad-hoc discussions, evaluate and discuss ways to make sure both adults and children are bonding with nature. One example that can occur is when staff is unsure what to do when a child is too timid to touch an animal, but the parent is urging her to do so. The instructor can feel caught in the middle.

“The family drove here, paid for the ticket and wants the child to touch. The child doesn’t want to. So, either the parent or the child could be unhappy,” said Brink. But the staff, after discussion, now tells the families that “scientists begin by observing animals—and that gives the child power to decide whether to touch or not. And often they do.”

Since 2010, the Zoo has been offering NatureStart, a professional development and training for those—including zoos, museums and aquariums as well as people who work with young children—interested in developing and facilitating



nature play programs. The Zoo uses pre-surveys and post-surveys to constantly evaluate the program.

Taking nature play into the community is something many zoos are doing. Three years ago, Denver Zoo in Denver, Colo., started Nurturing Scientists through Nature Play, a partnership program with local preschools. It consists of eight sessions over ten months, half at the school and half at the Zoo, as well as a series of parent/caregiver workshops and teacher professional development.

“Evaluation has been a key aspect of the Nurturing Scientist program from day one,” said Joanna Cagan, early childhood programs manager at Denver Zoo. “We had to think about what outcomes we were aiming for—the evaluation team was with us from the beginning when we knew that we wanted to go for richer, deeper nature play. We worked with them to make sure the evaluations and assessments fit naturally into the program. It’s really holistic.”

Nick Visscher, audience research and evaluation manager at Denver Zoo, noted that a lot of data in assessing the program are “gathered from teachers and observation. With the teachers, we’ve done one-on-one interviews, group interviews and surveys. With the children, most of what we’ve done is observation.”

“We start with the end in mind,” he said. “We identify the change we want to see in our audience and to what degree the instructors are facilitating for that outcome.”

When evaluating the staff, the question is “are instructors actually providing child-centered learning?” he said. “Then we’ll reflect with them what they’re doing well and what they can improve. That’s proven to be a very useful evaluation tool.”

For some new teachers, it’s a stretch—they’re not in front of the classroom, but literally getting down in the dirt.

“With the pre-school programs, each year we interview the instructors at various points during the program and at the end,” said Visscher. “They still struggle a little with the open-endedness of the learning and ask for more structure. They end up liking it, but we have to be persistent with instructors to come to that side.”



And for some, the nature play programs have been life-changing. “Interviews with the program staff were really powerful to sit in on, hearing from them how the program has transformed them as educators and even as parents,” said Marley Steele-Inama, director of audience research and evaluation at Denver Zoo.

One area that is still a challenge, Steele-Inama said, is how to integrate parents and caregivers into regular nature play. The Zoo recently established a family advisory group to help better understand how to meet the needs of the parents and further engage them.

As an outgrowth of that program, the Zoo also offers nature play outreach programs at schools, community sites and at its camp; the intensive evaluation process developed for the Nurturing Scientists program has had benefits for staff development.

“It has really pushed us as a team to think about what we want to get out of the program, which has been helpful in all our program development,” said Cagan. It has also strengthened their skills, she added. Visscher developed a template for debrief interviews with the preschool teachers that are done after a certain number of nature play sessions. Where once someone from the audience and evaluation team would have performed such interviews, Cagan said her team can now do such debrief interviews on their own.

The Toledo Zoo and Aquarium in Toledo, Ohio, has gone high-tech with its evaluations of Nature’s Neighborhood, its nature play facility that opened in 2009. The two-acre area features a two-inch deep stream (the most popular feature), a treehouse, climbing wall, mud kitchen, a sand beach and a child-sized beehive, among others things, as well as lots of loose parts for kids to play and build with. Twelve staff members, plus volunteers, work in the area.

Recently, researchers equipped ten children, ages four to eight, with GoPro video cameras during an hour’s play cycle, and interviewed them after each cycle.

“We wanted to know what actual learning took place,” said Mitch Magdich, curator of education at the Toledo Zoo. “We wanted to know if the actual hypothesis is correct that science learning takes place during play—and we wanted to develop a tool that can evaluate the type of science learning.”

The data were collected in August and are currently being evaluated, he said.

“We’re attempting to correlate the play that we observe with the science learning behavior that takes place,” said Magdich. The idea is to see if children are not only playing but, for example, understanding cause and effect—that when stones are put in the stream here, the water runs there.

While formal evaluations are necessary, all those involved in nature play programs say that the ongoing observations and organic back-and-forth between parents and staff provide much of the feedback. As Brink, from the Chicago Zoological Society-Brookfield Zoo, said, “I feel like we’re looking at ourselves all the time.”

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