

**Zoo and Aquarium Research Collaborative (ZAARC)  
Final Year 3 Participant Survey Study**

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*Zoo and Aquarium Research Collaborative (ZAARC)* is a NSF-funded research project by TERC and Oregon State University (co-PI's Andee Rubin and John Falk) that is exploring a collaborative model for action research as a form of professional development for zoo and aquarium educators. Over the past three years, ZAARC has engaged education staff from six zoos and aquariums from across the country in learning about and conducting action research pertinent to their institutions. Dr. Cynthia Char of Char Associates, an independent consulting firm specializing in program evaluation, has been a member of the project's research team, and conducted the program evaluation. The research utilized a mixed methods approach, with data sources including surveys, interviews, analysis of work products, and notes from monthly meetings and mentor site visits. Results below highlight findings from the final survey study.

**Methods and Sample:** As part of ZAARC's program evaluation, two annual surveys were administered to all program participants. The first survey was administered in February 2013, at the end of the second annual 2-day ZAARC institute, and was designed to obtain formative feedback on the second ZAARC institute and other program support offered the past year, and to assess preliminary professional impacts of the program. The second survey was administered in April 2014 as participants were finishing up their final ZAARC action research reports, and was designed to assess the summative impact of the program on participants' professional lives, gather feedback on program components, and ask participants to reflect on the sustainability of the program moving forward.

All 19 program participants responded to the first survey, and all 17 participants responded to the second survey (100% response rate for both surveys). Presented below are findings drawn from the second, final survey. (Results from the first survey were presented in Char's Research Memo #1, May 2013.)

**Background Profiles:** Of the original 19 ZAARC program participants, 15 remained active members of their ZAARC teams throughout the project, while several new members joined two of the six ZAARC teams during Year 2. Regarding the number of years they had worked in their present institutions, most participants (10 out of 17) had been at their current zoo/aquarium for ten or more years (Range = 3 to 18 years; Mean = 9.8 years; Median = 10 years.)

***Number of Years Working at Present Institution***

# of years	0 - 4.9 years	5 - 9.9 years	10 - 14.9 years	15-20 years
# of respondents	2	5	8	2

Almost all of the participants held some type of managerial or supervisory position, such as education manager; assistant director of education, or school outreach coordinator; only one participant had a position managing audience research.

The set of participants overall reported that they had experienced a fair amount of changes in their job positions the past three years, with close to half (8 of the 17) indicating that their job had changed during the 3-year ZAARC project. In almost all the cases, participants had been promoted and were now assuming greater job responsibilities within their same institutions, while a few had left and taken up positions at new institutions.

### Professional Gains

The vast majority (88%, or 15 out of 17) indicated that participating in ZAARC was a valuable experience as a zoo/aquarium professional (with 59% (10) saying it was “very valuable.”)

*To what degree was participating in ZAARC a valuable experience for you, as a zoo/aquarium professional? (n=17)*

	Not Valuable “0”	A little Valuable “1”	Valuable “2”	Very Valuable “3”	Mean
<b>You</b>	0 (0%)	2 (12%)	5 (29%)	<b>10</b> <b>(59%)</b>	2.47

When asked to describe what they saw as the **most beneficial things** they gained from participating in ZAARC, participants most commonly described ZAARC’s value in terms of:

- enabling them to look more closely at their everyday work;
- increasing and strengthening their collegial network
- building their leadership/management skills; and
- increasing their research skills involved in action research.

As expressed by participants,

*The most valuable thing I gained from my participation in ZAARC was the realization of how important it is as a facilitator of educational programs to step back and observe the process. It’s so easy to get caught up in the excitement of the guests while you are directly interacting with them and letting yourself assume that the program is doing great. Stepping back provides a separated perspective and allows you to make adjustments as needed.*

*It was a helpful process to deconstruct our audience observations to better understand what we are seeing that gives us the “gut feeling” of what works and doesn’t work in a program. Identifying signs of engagement is a useful tool and I look forward to seeing how we can continue to incorporate this in our work.*

*ZAARC has given me the tools to really think critically about my practice and built my capacity to be a leader among our staff. I'm able to apply principles learned in ZAARC to the way that I manage my staff and the way that I help to gauge our performance. ZAARC has also networked me to a community of professionals who are doing similar work – that kind of support is so important to creating sustainable programming.*

Regarding the **skills, understanding and capabilities** that participation in ZAARC afforded, the top four areas that participants rated had occurred “some” or “a great deal” were: expanding and strengthening of their professional network with educators and evaluators outside their institutions (100%, mentioned by all 17) learning about how action research might be relevant and applicable to their work (94% (16)), deepening their understanding of what action research is (94% (16)), and looking at visitor engagement in a more informed way (88%, (15)). Personal gains were also reported for becoming familiar with research literature related to visitor engagement (71%).

As for enhancing their professional capacities in serving their institutions, participants reported that ZAARC had enabled them to improve the staff training and visitor experiences they have at their institutions (77%, and 65% respectively), advance the institutional mission of their organizations (77%), take on greater responsibilities and/or leadership roles in their institution (71%), and increase the regularity and/or depth of conversation with colleagues about visitors and programs (65%).

***To what extent has the ZAARC project enabled you to do the following:***

	Not at all “0”	A little “1”	Some “2”	A Great deal “3”	Mean
a) Deepen your understanding of what action research is	0 (0%)	1 (6%)	<b>9</b> <b>(53%)</b>	<b>7</b> <b>(42%)</b>	<b>2.35</b>
b) See how action research might be relevant and applicable to your work	0 (0%)	1 (6%)	5 (29%)	<b>11</b> <b>(65%)</b>	<b>2.59</b>
c) Become familiar with research literature related to visitor engagement	1 (6%)	4 (24%)	<b>9</b> <b>(53%)</b>	3 (18%)	1.82
d) Look at visitor engagement in a more informed way	0 0%	2 (12%)	<b>8</b> <b>(47%)</b>	<b>7</b> <b>(41%)</b>	<b>2.29</b>
e) Improve the visitor experiences you offer at your institution	1 (6%)	5 (29%)	<b>9</b> <b>(53%)</b>	2 (12%)	1.71
f) Improve the staff training you have at your institution	2 (12%)	2 (12%)	4 (24%)	<b>9</b> <b>(53%)</b>	<b>2.18</b>
g) Take on greater responsibilities and/or leadership roles in your institution	1 (6%)	4 (24%)	<b>8</b> <b>(47%)</b>	4 (24%)	1.88
h) Increase the regularity and/or depth of conversation with colleagues about visitors and programs	1 (6%)	5 (29%)	<b>7</b> <b>(41%)</b>	4 (24%)	1.82
i) Expand and strengthen your professional relationships with other professional educators and evaluators outside of your institution	0 (0%)	0 (0%)	4 (24%)	<b>13</b> <b>(76%)</b>	<b>2.76</b>
j) Advance the institutional mission of your	2	2	<b>12</b>	1	1.71

organization	(12%)	(12%)	<b>(71%)</b>	(6%)	
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### **Institutional Context and Impact**

Regarding the institutional context for their action research work, a little less than half (7) said that their institutions provided some level of administrative or institutional support for their ZAARC work. This was about evenly split between general support (such as giving permission for individuals to participate and take the time to travel, meet, etc.), and more active support (a sense of institutional support of their project involvement and of doing action research.) A number (5) also mentioned the help they received from colleagues, such as access to on-line journals, and help from the AV staff to do videotaping of visitors.

In their surveys, people were somewhat less definitive about how ZAARC had benefitted their institutions, compared with the clear value they perceived for themselves as individual professionals. A little over half (52%, 9 out of 17) said that participating in ZAARC was valuable for their institution as zoo/aquarium organizations (5 saying it was “very valuable.”), while 7 said it was “a little valuable.”

### ***To what degree was participating in ZAARC a valuable experience for your institution, as a zoo/aquarium organization? (n=17)***

	<b>Not Valuable “0”</b>	<b>A little Valuable “1”</b>	<b>Valuable “2”</b>	<b>Very Valuable “3”</b>	<b>Mean</b>
<b>Your institution</b>	1 (6%)	<b>7</b> <b>(41%)</b>	4 (24%)	5 (29%)	1.76

People described a variety of ways they regarded ZAARC as beneficial to their institutions, including improving how they looked at their programs, and ways they trained and managed staff. The range of views of ZAARC’s institutional benefits were expressed by some participants in the following ways:

*The conversations that grew out of our ZAARC team sharing what we were doing and thinking with our larger department across the last few years have taken a life of their own. I think they were personally relevant and valuable to a number of individual staff as well as a means to address topics we’ve been trying to address as a group for years (classroom dynamics, engagement, childhood development). Overall, it has advanced our skills as a group.*

*Our institutional participation in ZAARC allowed us time and funds to support interpretive training for staff...a first step in working towards a more knowledgeable and reflective staff. The experience of facilitating training also helped drive our department strategic plan – our ZAARC experience had a big impact early on in how we decided to approach the strategic planning process (because we learned things about the staff and how they currently work/view their jobs.)*

*I think the work that we did has potential wide reaching benefits in how we look at any of our programs and how we engage with the audience. This has already helped colleagues within my department outside of the ZAARC team. Beyond our immediate program area I think there is potential value but that also needs to come from institutional buy-in and how we are able to disseminate outside our program area. We have been able to do some of this but time and attention can be a limiting factor.*

*I think my department valued it much more than the institution, just due to how large it is. A few departments may have found it worthwhile but it is hard to tell. It did get some recognition since it was presented at AZA, so that is something.*

In their final interviews as well as during a final virtual meeting of all program participants held in May 2013, individuals explained how some of ZAARC's impact to date had primarily taken place within their education department, rather than institution-wide. Others added how institutional impact takes time, but were confident that with time, they would be able to enact some improvements in the ways some of their public and school programs or staff training would be offered.

About half (8) felt that ZAARC enabled them to think differently about how they would determine if a program at their organization is working. They cited how ZAARC had given them new tools, as well as shown them the importance of looking at evidence, and defining and looking at outcomes.

*This work gives us new tools to think about program success. The tool we developed to conduct observations on participant engagement allows us to gather information about programs. There are a lot of ways we can use this information and we are just now exploring what they can mean – but it is a new tool that makes our understanding of program dynamics less abstract.*

*I think that participation in ZAARC helped me understand how important it is to have specific outcomes and to understand what you want to accomplish in a program or a guest experience.*

*A successful program/encounter is more than just having visitors show up. While attendance is a big part, the true value is focusing on what the participants/visitors get out of the experience. Another part of this is understanding that the outcomes will be different for each person.*

*I'm thinking less about the content of the program and whether or not every part of the program was covered versus an individual can read their audience and adjust their teaching. Also I'm more concerned as to whether the staffer can stop and reflect on their actions/behavior – what could they change in their practice to enhance the experience.*

Participants were asked about the ways in which their ZAARC experience tied back to their **organization's mission** or current initiatives. The most common response focused

on the notion that if they can better engage visitors and/or train educators to engage visitors, that they can then more effectively convey the mission of their organization.

*If we can better train our educators to better engage more students on programs, hopefully our mission will reach more of their ears in a meaningful way.*

*The ZAARC experience had direct connections to my institution's initiatives of increasing audience contact and developing ways to engage visitors on grounds.*

*[Our institution] is always looking to instill wonder, respect and stewardship and I feel that if you have a staff that is practiced in their craft and can assess their audience effectively then we are increasing those experiences and the quality of those experiences.*

Regarding what participants saw as some of the **limitations of conducting action research**, regarding its usefulness to them and their institution, most participants (13) mentioned time, as in having limited time and the time-intensive nature of conducting action research. A number of participants (9) also mentioned that action research was outside of what normally constitutes their job, and that there needed to be a change in job priorities and the culture of their institution in order for them to be more reflective.

*It is/can be time intensive and somewhat outside our daily tasks so it can be easy to put it on the backburner or not start it at all. When you have competing priorities it can be hard without a grant.*

*It's hard to get everyone on board with it because we are a very reactive environment. Getting other to take time to sit and think about what they are doing is almost impossible, let alone take data and prove it.*

*Time is always a resource we are short on. Action research (at least initially as you learn the process and figure out how it will work for you) takes a lot of time – and that's often difficult to come by! That said, it's not impossible to think action research could begin to play a major role in our institution. I think we have the support for it and the understanding that it can be beneficial. However, it would still involve a significant change in work practices and culture...and institutional change is often difficult to create on many levels.*

*Time is the biggest limitation. The benefits have surely been reinforced. Regardless, time will always be a limiting factor for institutions operating with minimal resources. We just need to find the balance of using reflection and observation as part of our ongoing development process without allowing it to slow us down so much that it becomes unsustainable as a practice.*

*It took us a while to come up with a method that proved to be sustainable (in time and [prior] approach/method was too much additional workload to what is already a hectic job). In changing our approach we came up with a way that allowed us to guide*

staff (cultivate) toward being more reflective without overburdening the standard workload.

*It takes time, just like everything else! Our institution hasn't historically prioritized the research/evaluation aspect of our practice, but...things could be changing!*

### **Program Feedback and Sustainability**

Regarding feedback on the various forms of professional development offered through ZAARC, the top four program components viewed as most valuable concerned opportunities for face-to-face interactions with the other ZAARC teams and the greater professional community, and contact with their mentors – either on-site or by phone.

Receiving ratings of either “valuable” or “very valuable” were: the *annual ZAARC institutes* (100%, 16 out of 16; 1 NA; 13 very valuable); *opportunity to present their ZAARC work at a conference* or other professional gathering (81%, 13 out of 16, 1 NA; 9 very valuable), the *annual on-site visits by their ZAARC mentor* (88%, 15 out of 17; 8 very valuable) and *monthly phone meetings with their ZAARC mentor(s)* (88%, 15 out of 17; 6 very valuable).

### **Perceived Value of Different ZAARC Professional Development Activities**

	<b>Not Valuable “0”</b>	<b>A little Valuable “1”</b>	<b>Valuable “2”</b>	<b>Very Valuable “3”</b>	<b>NA</b>	<b>Mean*</b>
a) Annual ZAARC institutes (at NEAQ & AOP)	0 (0%)	0 (0%)	3 (18%)	<b>13</b> <b>(76%)</b>	1 (6%)	<b>2.81</b> <b>(#1)</b>
b) Monthly phone meetings with your ZAARC mentor(s)	1 (6%)	2 (12%)	<b>9</b> <b>(53%)</b>	6 (35%)	0 (0%)	<b>2.24</b> <b>(#4)</b>
c) Annual on-site visits by your ZAARC mentor	1 (6%)	1 (6%)	<b>7</b> <b>(41%)</b>	<b>8</b> <b>(48%)</b>	0 (0%)	<b>2.29</b> <b>(#3)</b>
d) Multi-team ZAARC virtual (Google Hangout) meetings	0 (0%)	<b>10</b> <b>(59%)</b>	5 (29%)	2 (12%)	0 (0%)	1.53 <b>(#8)</b>
e) Regular project-wide e-mail announcements from Andee and other project staff	1 (6%)	3 (18%)	<b>10</b> <b>(59%)</b>	3 (18%)	0 (0%)	1.88 <b>(#6a)</b>
f) Technical assistance provided by staff re: IRB, equipment, and research methods	1 (6%)	3 (18%)	<b>8</b> <b>(47%)</b>	4 (24%)	1 (6%)	1.94 <b>(#5a)</b>
g) Research literature and other resources provided by project staff	1 (6%)	5 (29%)	<b>8</b> <b>(47%)</b>	2 (12%)	1 (6%)	1.69 <b>(#7)</b>
h) Shared information and feedback offered by participants from other ZAARC team	2 (12%)	4 (24%)	5 (29%)	6 (35%)	0 (0%)	1.88 <b>(#6b)</b>
i) Opportunity to present our ZAARC work at a conference or other professional gathering	1 (6%)	2 (12%)	4 (24%)	<b>9</b> <b>(53%)</b>	1 (6%)	<b>2.31</b> <b>(#2)</b>
j) Teams’ Year 2 research reports to be disseminated as a book	4 (24%)	0 (0%)	5 (29%)	<b>7</b> <b>(42%)</b>	1 (6%)	1.94 <b>(#5b)</b>

\*Means calculated by removing NA responses.

Participants in their previous Year 2 survey also indicated the ZAARC institutes as the events rated most highly. The top two activities were the recent Year 2 ZAARC Institute and prospects for a future Year 3 institute, with participants unanimous in rating a future Year 3 institute as very valuable.

Participants described the **most useful project supports** in the following ways:

*The most useful thing: time, space and money to talk about engagement! Second most useful thing: amazing and experienced researchers who think about this all the time and are willing to talk to us MONTHLY about it. So cool. Third most useful thing: a group of like-minded colleagues who were in the same boat as us.*

*Having mentors share their expertise and knowledge about action research; resources – articles, journals and other written studies that provided the background information to help us shape and define our projects; professional insights from interacting with colleagues from other AZA institutions.*

*The overall guidance from our mentor(s) – acting as a sounding board and a support system/information resource, asking probing and thought-provoking questions, offering feedback and encouragement. Everyone was great at letting us find our way, but also gently guiding us when we needed help/encouragement.*

*The guidance was critical to help us to focus and think through challenges. Several times through the project ZAARC staff provided course corrective feedback that was essential to our successes. Specifically they helped us to sharpen language and to redirect our focus so that we were more clear in our desired outcomes.*

Participants were very positive about the opportunities to interact with other ZAARC teams, and were desirous of increased contact and communication.

*Generally the opportunity to talk to each other – face to face or virtually – provided insights, different ideas, thoughts...that were either useful for this particular work or some other domain of our work. Networking and group projects like this are always so useful.*

*The face-to-face interaction, conversation, and collaboration during the ZAARC Institutes was the most beneficial. This format allowed the time and space needed for good conversations to develop and for feedback to be received, processed and clarified if needed. I found the Google hangouts to be not so productive or useful (it was difficult for me to concentrate and process in that highly auditory format and in the limited duration of the calls). Other than the hangouts and the institutes it seemed there was minimal interaction between ZAARC teams. This is an area that perhaps could be developed to be more useful.*

*It was great to hear about other groups' projects and was often times the subject of our discussions. Getting feedback or suggestions from colleagues was sometimes*



*useful. We liked hearing about some of the ideas or methods of how the other groups were collecting data from their staff/students/teachers and how we might use some of those methods to gather info on some of our programming/staff.*

*Sharing information about some of the similar challenges we face at our various institutions and then using that information to troubleshoot ways to set up our visitor engagement study.*

*It was helpful to know what other institutions were working on and where the overlap was between our projects. There is also the potential that some of the work that other groups created could be directly relevant to questions we are interested in answering.*

*It was helpful to see where each of the institutions were to help gauge our progress. Since it was a new process for all, it allowed a sense of camaraderie.*

Participants were asked specifically for their reaction to the **project's two-phase structure** – in which the first year focused on a common research activity called *Be An Animal Scientist* (which each team could modify as they wish) to familiarize the group to some of the basics of action research, while the second year allowed each team to frame, design, and conduct their own original action research project. Participants' views were about evenly split with half viewing the structure positively (5 very positively; 3 somewhat positively) and with half viewing it less positively (3 mixed, 5 somewhat negatively; 1 NA.) The range of views are captured in the following comments:

*I liked it. I thought the structure really set up an atmosphere where all 6 institutions could be on the same page and reflect on each others' work with a shared language. I wish that we could have met more with other institutions; there was a lot of learning from meeting face-to-face with people doing similar work at other institutions.*

*It was challenging to see the purpose of the structure as we were going into the process. Looking back at it, Phase I was hugely helpful in establishing the usefulness of action research as we moved into Phase II.*

*Phase I felt scattered initially –especially the first institute – but it was nice to have the shared experience for the second institute. I feel the first year could have been restructured to be more efficient but we understood that we were, in ourselves, a research project as well.*

*I wish we could have had more time to work on our own projects. The Year 1 shared experience felt forced and it took up a lot more time than it could have. I would suggest instead of leading the group through a mini-project based on their own work for Phase I (3-6 months) and then again doing a more in-depth project for Phase 2.*

Regarding what kinds of things they had hoped would have been provided in ZAARC but weren't, and **recommendations for improving ZAARC** or other similar professional development efforts for zoo/aquarium professionals focusing on action research,

participants mainly expressed a need for a clearer understanding of both program expectations and of action research earlier on in the project, and also increased collaboration with the other ZAARC institutions, and the convening of a third Institute.

As to what kind of **institutional supports** would have to be in place for them to continue to do the kind of action research work they did for ZAARC, the two most common responses reported were time (7), and the need for buy-in/support from management and for it to be a greater part of the institutional culture (7).

*It would need to become a part of the culture for staff to be thinking about and taking time to do action research. This would need to become an expectation from upper management and workloads would need to be managed more appropriately.*

*More time and staff support would need to be in place for us to continue to do this kind of research. We are challenged to increase programming and revenue, so having time to come up with a project based on need or priority, and then collecting and analyzing data is one of our biggest limitations.*

*[We would need a] shift in focus that allowed some tasks to slow down and include action research and time for reflection. Greater buy-in/understanding from all staff involved in the action research. An understanding that this practice supports our work and the work of other institutions/ASA as a whole when implemented regularly and not just as part of a “special” project.*

Five individuals (from three of the six organizations) felt that they could sustain the ZAARC effort with minimal institutional support. Interestingly, relatively few people specifically mentioned the need for resources and money.

### **Concluding Remarks**

In summary, program participants were quite positive about the professional gains they felt were afforded by ZAARC. The vast majority indicated that participating in ZAARC was a valuable experience, citing benefits such as increasing their research skills, enabling them to look more closely at their everyday work and to consider visitor engagement in a more informed way, strengthening their collegial network, and building their leadership and management skills. Regarding benefits to their institution, participants felt their ZAARC experience had allowed them to improve the staff training and visitor experiences they have at their institutions, which in turn supported their institutional mission.

Participants especially valued the program opportunities for face-to-face interactions with the other ZAARC teams, the support and guidance they received from their mentors, and the chance to define and tackle a research project of their own design relevant to their organization.

Participants saw the main limitations of the utility of conducting action research as the time-intensive nature of action research, and how it was outside of what normally

constituted their jobs. They felt that for this action research work to continue, they would need institutional support in terms of buy-in/support from management and other steps that would make action research and reflection a greater part of their institution's culture. Nonetheless, participants remained interested in continuing to explore how their institutions could experience such a culture shift, and ways in which action research and reflection could be incorporated into aspects of their program development and implementation, and management practice.

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