The Wildlife Rescue Traveling Exhibit

An Evaluation of the Visitor Learning Experience

EXECUTIVE SUMMARY

Chantal Barriault, Katrina Pisani, Amy Henson
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Chantal Barriault   barriault@sciencenorth.ca

Wildlife Rescue

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Wildlife Rescue is an exhibition that involves visitors in the compelling stories of animal rescue, the dedicated people taking action, and the science that supports their efforts.

This 6000 square foot traveling exhibition, designed by Science North, has 30 exhibits and experiences which include mechanical interactives, multimedia exhibits, computer interactives, large graphic panels, specimens and replicas, a video theatre, and scientific tools used by rescuers.

Exhibit Objectives

The key messages set out by the *Wildlife Rescue* development team are:

1. There are many successful efforts to restore individual animals and entire species back to their natural habitats;
2. People and science are making a difference;
3. Understanding the behaviors and adaptations of the animals is necessary for effective restoration efforts;
4. Individuals can make a difference.

In addition, the exhibit development team established visitor learning goals for individual exhibits. The Visitor Learning Behaviors (Table 1) are based on Barriault & Pearson's (2010) Visitor Learning Behavior Framework which outlines seven discrete learning behaviors that occur as part of a visitor's interaction with an exhibit. These behaviors are

further grouped into three categories that reflect increased involvement and depth of the learning experience.

Table 1. Visitor Learning Behaviors Framework (Barriault & Pearson, 2010)

Learning Behaviors	Engagement Level
Doing the activity	
Spending time watching others engaging in the activity	Initiation Behaviors
Repeating the activity	
Expressing positive emotional response in reaction to engaging in the activity	Transition Behaviors
Referring to past experiences while engaging in the activity	
Seeking and sharing information	
Engaged and involved: Testing variables, making comparisons, using information gained from the activity	Breakthrough Behaviors

The exhibit development team designed the experiences with these learning behaviors in mind, and aimed to provide visitors with a variety of engagement opportunities. By designing exhibits that elicit all three levels of engagement, the exhibit development team, in consultation with the visitor researchers, hoped to provide a balanced visitor experience in *Wildlife Rescue*. Previous experience and evaluations of other traveling exhibits suggest that an ideal visitor experience is provided by an equal number of exhibits engaging visitors in Initiation, Transition, and Breakthrough behaviors. Previous research suggests that a high performing exhibit engages over 40% of visitors in Breakthrough learning behaviors.

Evaluation Objectives

The goals of this evaluation were to assess the learning impact of individual exhibits in *Wildlife Rescue* on visitors and to enable the development team to get a complete picture of the visitor learning experience with respect to the exhibition's key messages.

Methods - Data Collection

1. Observations of Visitor Behaviors

Observations of visitor behaviors were conducted through the use of video recordings of visitors interacting with exhibits. A video camera was set up in the exhibit hall at various times during the duration of the *Wildlife Rescue* exhibition. Video footage of visitors interacting at 25 of the 30 exhibits was collected. Two touch screen exhibits, the entrance experience, and the large video theatre were not included because they were not conducive to videotaping. A minimum number of 100 visitors was recorded interacting with each exhibit.

2. Visitor Surveys

Visitor surveys were conducted using a computer-based survey kiosk located in Science North's Special Exhibits Hall. In the survey, visitors were asked to rate their understanding or knowledge of *Wildlife Rescue's* key messages. A total of 238 visitors completed the survey.

Results
Visitor Observation Results

The exhibits in *Wildlife Rescue* engaged visitors in all levels of learning behaviors. Of the 25 exhibits evaluated, 13 of those exhibits (52%) engaged visitors in high levels of Breakthrough learning behaviors (Table B). Two examples highlight these results.
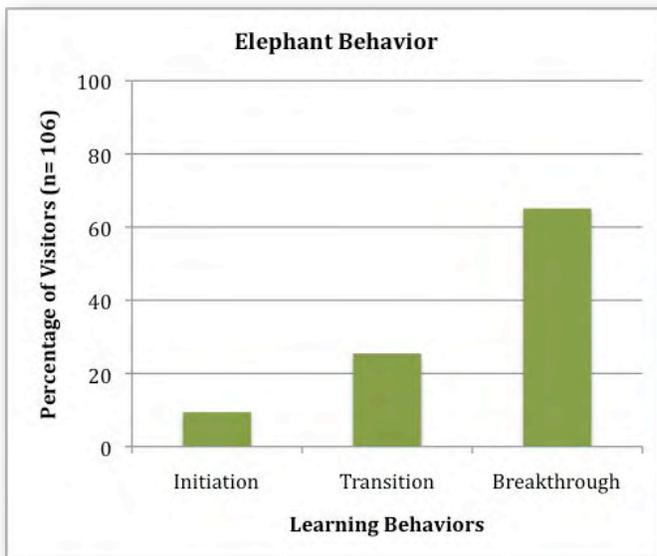

Chart 1. Visitor Engagement Profile for *Elephant Behavior* Exhibit

Visitors at the *Elephant Behavior* exhibit participate in a multi-player computer quiz. Video clips of elephant communication are played and visitors must interpret and answer questions to identify the behavior or emotion expressed by the elephant. Over 60% of visitors who interacted with the *Elephant Behavior* exhibit (Chart 1) displayed Breakthrough learning behaviors such as seeking and sharing information with others, engaging in the activity for as long as 15 minutes, and participating in the quiz several times.

In the Fly with the Whooping Cranes multimedia exhibit, visitors sit in an ultralight aircraft and experience a simulated flight to direct whooping cranes on their first migration route. Fifty percent of visitors at this exhibit (Chart 2) engaged in Breakthrough learning behaviors. For example, visitors stay for the entire duration of the flight, return more than once to experience the flight again, and engage in discussions about the exhibit with others.
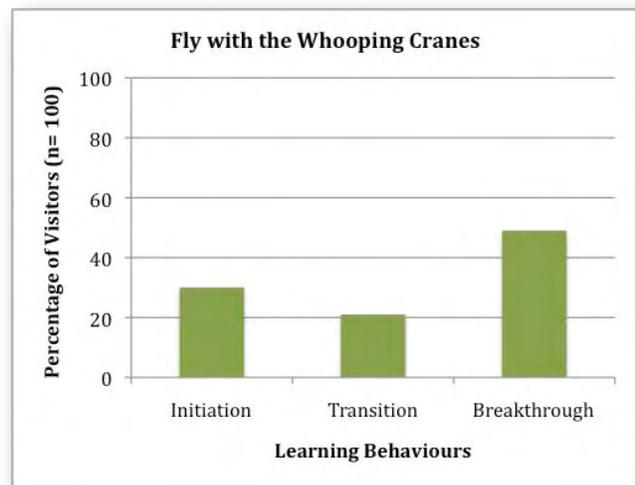
Chart 2. Visitor Engagement Profile for *Fly with the Whooping Cranes* Exhibit

Table 2. Exhibits engaging a high percentage of visitors in Breakthrough Behaviors

Exhibit Name	Visitors Engaged in Breakthrough Behaviors
Elephant Behavior Quiz	65%
First Response Station	65%
How Oil Impacts Birds	64%
Oil Spills and Wildlife	64%
Feed the Chick: California Condor	59%
Heartbeat Diagnostics Station	54%
Species Recovery Around the World	53%
Fly with Whooping Cranes	50%
Giant Panda Adaptations	50%
Turtle Rehabilitation	49%
Making a Good Pet Choice	43%
Life Expectancy	43%
X-Ray Station	41%

The other exhibits in *Wildlife Rescue* engaged visitors primarily in Initiation and Transition learning behaviors. Two examples highlight these results.
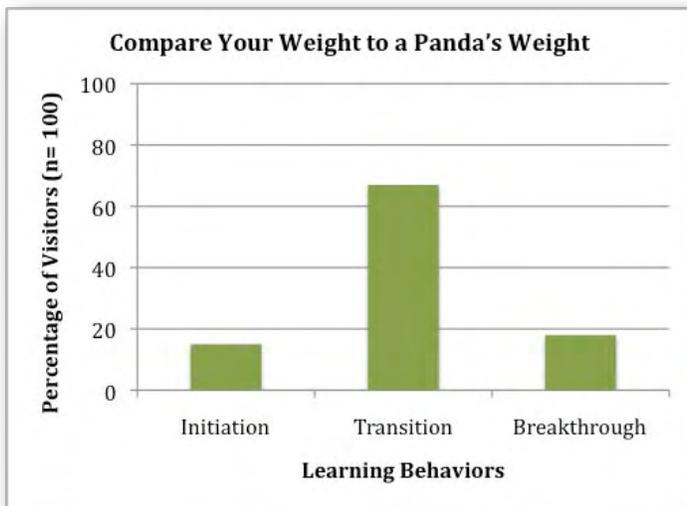
Visitors at the Panda Weight exhibit step on a large scale to compare their weight to that of a panda. This exhibit elicited mostly Transition learning behaviors (67%) from visitors as they expressed positive emotional responses through surprise, laughter and smiles, and often repeated the activity to see their weight compared again, with different sized pandas (Chart 3).

Chart 3. Visitor Engagement Profile for *Compare Your Weight to a Panda's Weight* Exhibit

At the *Deadly Fungus: Panamanian Golden Frog* exhibit, visitors use a touch screen video, micrographs of infected skin, and a model of the frog to learn about the deadly fungus that is threatening amphibian populations worldwide. This exhibit engages most visitors at an Initiation level (68%), where visitors look at the artifacts and interact with the touch screen computer to access video (Chart 4).
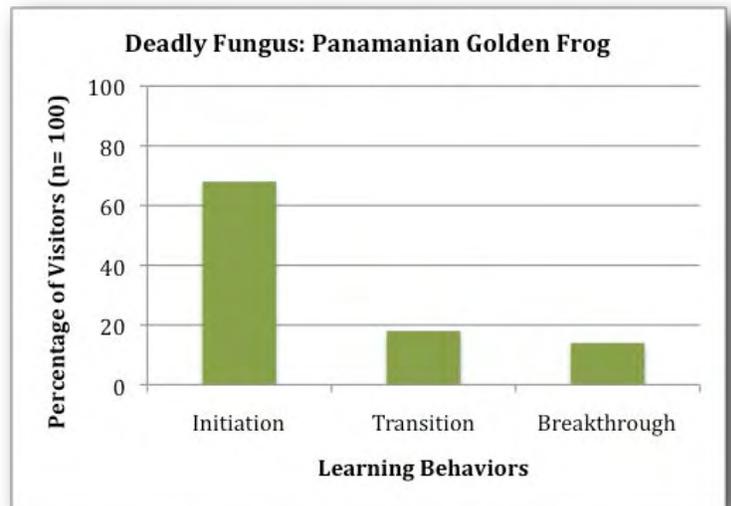

Chart 4. Visitor Engagement Profile for *Deadly Fungus: Panamanian Golden Frog* Exhibit

Survey Results

Survey Section A

The survey questions were based on the learning goals of *Wildlife Rescue*. When exiting the exhibit hall, visitors were asked to rate their knowledge and understanding of:

    a) the need to help and protect wildlife around the world.

    b) the methods used to help reestablish wildlife.

    c) the number of wildlife restoration projects around the world.

Respondents rated their level of previous knowledge and understanding of these topics, on a scale from "not at all" to "excellent". Using the same scale, visitors were asked to rate their knowledge and understanding of these topics, **after** experiencing the *Wildlife Rescue* exhibition.

a) Knowledge and Understanding of the Need to Help and Protect Wildlife

A total of 50% of visitors rated their previous knowledge and understanding of the need to help and protect wildlife as "very good" or "excellent" (Chart 5). When visitors were asked to rate their knowledge and understanding of the need to help and protect wildlife after visiting the exhibition, they reported an increase in knowledge and understanding despite the original ratings being fairly high (Chart 6).
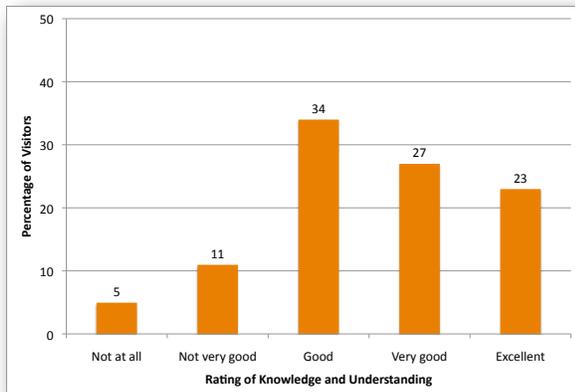

Chart 5. Rating of previous knowledge and understanding of the need to help and protect wildlife around the world.
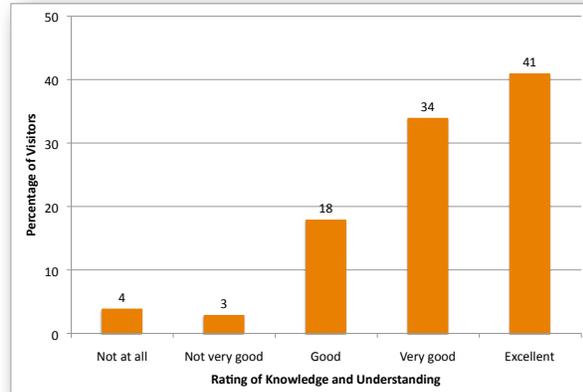

Chart 6. Rating of knowledge and understanding of the need to help and protect wildlife around the world *after* visiting *Wildlife Rescue*.

b) Knowledge and Understanding of Methods Used to Help Reestablish Wildlife

Most visitors rated their previous knowledge and understanding as "not very good" or "good", while a total of 24% of visitors rated themselves as having "very good" or "excellent" previous knowledge and understanding of the methods used to help reestablish wildlife (Chart 7). Visitors reported a marked increase in their knowledge and understanding after experiencing the *Wildlife Rescue* exhibition (Chart 8). For example, most visitors (67%) described their knowledge as "very good" or "excellent".
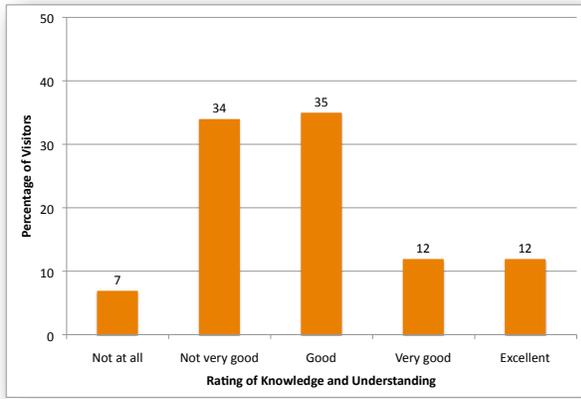
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Chart 7. Rating of previous knowledge and understanding of methods used to help reestablish wildlife.
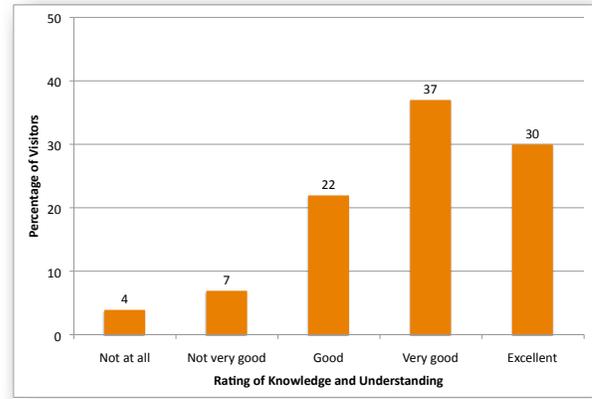

Chart 8. Rating of knowledge and understanding of methods used to help reestablish wildlife *after* visiting *Wildlife Rescue*.

c) Knowledge and Understanding of Wildlife Restoration Projects

Visitors were asked to rate their knowledge and understanding of the number of wildlife restoration projects around the world before and after their visit to the *Wildlife Rescue* exhibition. Chart 9 shows that most visitors (66%) rated their previous knowledge as being "not very good" and "good". Visitors felt that their knowledge and understanding of restoration projects increased after visiting *Wildlife Rescue*, with most visitors (62%) rating their knowledge as "excellent" or "very good" (Chart 10).
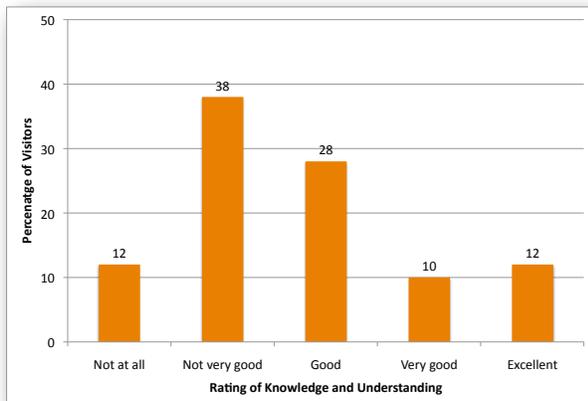

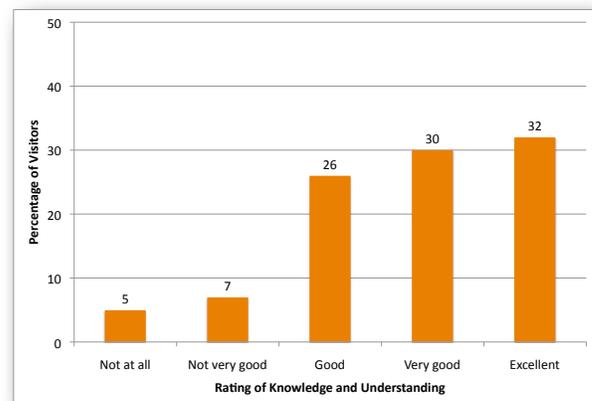**Chart 9. Rating of previous knowledge and understanding of wildlife restoration projects.**

Chart 10. Rating of knowledge and understanding of wildlife restoration projects *after* visiting *Wildlife Rescue*.

Survey Section B

Visitors were invited to comment on what they found *most interesting* during their visit to *Wildlife Rescue*. This was an open question where visitors could type as little or as much as they wanted regarding their visit. A total of 175 comments were collected, reviewed and coded into categories and themes (Table 3). The percentage of comments found in each of the themes are displayed in Chart 11.

Table 3. Comment Themes, Categories and Comment Examples

Themes	Categories within theme	Examples "What did you find most interesting?"
Identifying Experiences	Naming or Identifying an Exhibit	*"[name] was very knowledgeable and interested in the work that was going on"*
	Naming or Identifying Demonstration	
	Naming or Identifying Staff Member (Bluecoat)	*"... feeding chicks, acting like an elephant, crawling like a turtle"*
	Identifying Need for Further Information / Experience	*"It would be nice to see more on local animals affected"*
Positive Affective Comment	Positive Emotional Response	*"The interactive stuff, just reading and watching doesn't really stick with you but when you DO stuff it's funner and you'll remember it better"*
	Entertaining	
	Interactivity	
Meaning Making	Change in Understanding	*"The weight and size of the Giant Panda"*
	Acknowledging Relevance to Self or Society	*"How so many people want to help. It really inspires people to do something"*
	Further Action	
	Acknowledging Learning of Others (Facilitator)	*"That it is remarkable for children's learning"*
Negative Affective Comment	Negative Emotional Response	*"I hated it"*
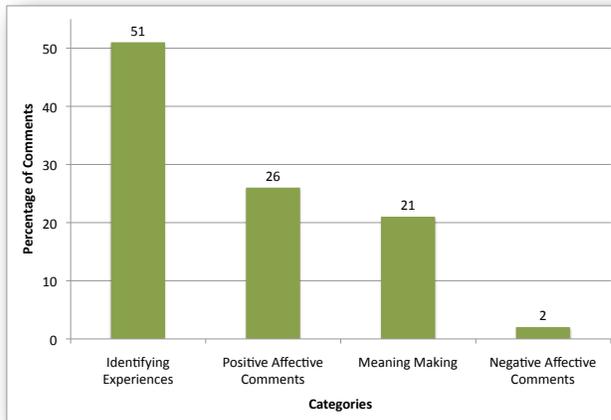
In 51% of the comments, visitors identified an experience, whether it was a particular exhibit that they found most interesting, or a conversation they had with a staff member. Positive comments (26%) reflected the enjoyment visitors experienced while interacting with exhibits. In 21% of the comments visitors referred to gaining knowledge and learning something new.

Chart 11. Percentage of visitor comments in each theme when answering the question "What did you find most interesting?".

Conclusions

Based on the three sources of visitor experience data, we conclude that The *Wildlife Rescue* exhibition is successful in providing a rich learning experience. Many of the exhibits engaged a high percentage of visitors in Breakthrough learning behaviors. This was evident in 13 of the 25 exhibits, all of which engaged at least 40% of visitors in learning behaviors like:

- seeking more information through discussions with family members
- making meaning through previous experiences and knowledge
- returning to the exhibit numerous times to experience it again
- sharing new knowledge
- interacting with individual exhibits for 3 to 5 minutes or more.

Wildlife Rescue is also successful at communicating most of the key messages surrounding wildlife restoration and rescue. The open-ended responses to "What did you find most interesting in the exhibition?" suggest that visitors were not explicitly identifying ways that they themselves could contribute but instead expressed the need and obligation for society to protect and rescue wildlife. Survey responses also indicate that visitors felt they had increased their knowledge and understanding of the need for efforts to protect and restore wildlife, the number of restoration projects around the world, and the methods used to rehabilitate and restore wildlife populations.