

Learning in Human-Dolphin Interactions at Zoological Facilities

Diane Sweeney, Ed. D., dsweeney@dolphinquest.org
NMEA Annual Conference, Gatlinburg, TN, July 20, 2010

Purpose: To better understand what and how learning related to marine mammals occurs in zoos, aquariums, and marine parks

- There are few empirical studies of learning. They are challenging to do because of:
- Diversity among participants (age, experience, knowledge, interest, goals, etc.);
 - Voluntary and recreational nature of visits to zoos, aquariums, and marine parks; and
 - Lack of common theoretical frameworks and methodologies.

Theoretical framework: Community of Practice (sociocultural)

Learning is a socially-mediated process. Individuals construct meaning through interacting with:

- (a) signs, including speech, language, and gestures;
- (b) artifacts, i.e. cultural expectations and behavioral norms; and
- (c) tools, objects that have been created through human activity.

Learning is change through participation: active engagement with an activity or experience.

	Animal Person	Dolphin Person
Visitors	80%	80%
Spectators	75%	81%
Questionnaire respondents	93%	94%

References

- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Belknap Press.
Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
Matusov, E., & Rogoff, B. (1995). Evidence of development from people's participation in communities of learners. In J. H. Falk & L. D. Dierking (Eds.), *Public institutions for personal learning: Establishing a research agenda* (pp. 97-104). Washington, DC: American Association of Museums.
Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

1



Research question:

What do people learn through interacting with dolphins in zoological facilities?

Human-dolphin interactions are bounded experiences where people

- Enter the water to touch and feed dolphins;
- Are photographed with dolphins; and
- Give hand signals that elicit trained behaviors.

Methods:

Participants: Human adults

Cross-sectional approach

- Visitors
- Spectators
- Trainers

Setting: Three zoological facilities in the United States

Frameworks that guided analysis:

Friedman, A. J. (2008). Framework for evaluating impacts of informal science education projects: Report from a National Science Foundation workshop.

Retrieved from http://caise.insci.org/resources/Eval_Framework.pdf

National Research Council [NRC]. (2009). *Learning science in informal environments: People, places, and pursuits*. Washington, DC: National Academies Press.

Data sources and evidence:

- Written and verbal statements of interviewees
- Written statements of questionnaire respondents

Data-collection methods:

- Interviews (n = 51)
- Observations (n = 16)
- Online questionnaire of past visitors (n = 933)

Data-analysis methods:

- Interviews were transcribed
- Interviews and questionnaires were coded and categorized

Different types of participants had different means of learning available to them.

Diane Sweeney, Ed. D., dsweeney@dolphinquest.org
NMEA Annual Conference, Gatlinburg, TN, July 20, 2010

2

Findings

All visitors, spectators, and trainers gained knowledge.

Dolphin Information Zoological Activities Conservation

All participants constructed meaning in and from the experience by connecting it to concepts and experiences outside of the brief interaction context.

Idiosyncratic meanings Familiar beliefs and practices Conservation

Most participants shifted their attitudes and gained a sense of personal agency about beginning or increasing stewardship actions.

Attitudes Intentions Behavior changes

Some participants learned new skills.

- 87% of visitor interviewees and 60% of past visitors reported having learned *dolphin etiquette skills*.
- All trainers learned dolphin training and management skills, and management and teaching skills with people.

Visitors had long-lasting and vivid memories of what they learned from eight months to 18 years in the past.

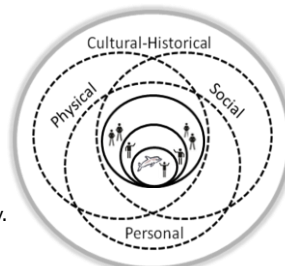
Diane Sweeney, Ed. D., dsweeney@dolphinquest.org
NMEA Annual Conference, Gatlinburg, TN, July 20, 2010

3

Potential Mediating Factors

Social

- Co-participants enhanced fun and learning.
- The trainers served as experts and also modeled positive attitudes and behaviors.
- Being with like-minded co-participants reinforced and strengthened a stewardship identity.



Physical

- Close proximity to living dolphins was emotionally powerful.
- Full sensory immersion commanded full attention.
- Meeting the dolphins eye-to-eye and on the same plane may have reduced perceptions of human dominance.

Personal There was a **strong** affective dimension of the experience; almost all participants expressed positive feelings about the activity.

Representations and Expectations

- Human-dolphin interactions in zoological facilities were carefully-crafted experiences, presented as positive, controlled, and safe.
- Educational content was based in science rather than myth; content was also basic and often familiar, serving to reinforce existing knowledge.
- The dolphins were represented as friendly individuals with close relationships with their trainers; this mapped onto the "media image" of dolphins.
- Visitors and spectators expected the dolphins to be happy, friendly, and intelligent. The recreational nature of the activity also contributed to their expectations of fun and value.

Reference

Falk, J. H. (2009). *Identity and the museum visitor experience*. Walnut Creek, CA: Left Coast Press.

Diane Sweeney, Ed. D., dsweeney@dolphinquest.org
NMEA Annual Conference, Gatlinburg, TN, July 20, 2010

4