

Research article

Defining informal settings through narrative of personal experience: aquariums as unique venues for learning

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Abstract

Natural history museums, art galleries, zoos, botanical gardens and other museum-type venues are commonly and collectively identified as “informal settings” by many researchers, practitioners, and educators. Although all of these spaces share common characteristics, each of them possesses particular features that make each kind of educational venue unique and different from the others. In this paper the author explores how the adult members of visiting family groups perceive and define different types of informal settings through a narrative analysis of visitors’ reconstruction and reflection upon a recent visit to the Vancouver Aquarium. As part of the analysis, visitors’ narratives are located within the larger discourse within most informal settings operate in current times.

Introduction

Researchers all over the world have widely recognised the overall impact of out-of-the-classroom learning, particularly as a result of experiences in museums and similar settings (e.g. Falk and Dierking 2000; Rennie and Johnston 2004). Informal settings have traditionally served important roles in the educational infrastructure of communities; they also add aesthetic and historic interest and social value to their surrounding environment. These places work as public leisure experiences, as educational events for school groups, families, tourists, and the general public, as research institutions, and as historic and natural reservoirs (Falk et al. 1986; Falk and Dierking 2000). On the other hand, today’s informal settings are far more than just the exhibits they present in their galleries and the research they conduct; these venues use their infrastructure and collections to exert a pull on donors, visitors, and economic resources, and are a central piece in the tourism and educational markets at the regional level.

The terms *informal setting* and *museum* have been indistinctively and interchangeably used to denote spaces such as natural history museums, art galleries, history museums, aquariums, science centres, zoos, botanical gardens, and so forth. Such places share indeed some common characteristics, namely, the presence of displays and aids to their interpretation

such as labels and facilitators, and all are open-ended places where visitors have freedom of choice about to what to do and see (Rennie and Johnston 2004; Wellington 1990). Despite the fact that these settings share many commonalities, different kinds of venues have particular and unique educational goals, mission, vision, and layouts. According to Falk and Dierking’s Contextual Model of Learning (2000), the physical context is crucial in defining and shaping visitors’ experiences and learning from informal settings. In fact, research conducted in different contexts has shown that people experience different free-choice settings in different ways. Aquariums, for instance, provide visitors with experiences that include live animals, immersive habitats, and staff-facilitated sessions and presentations, providing experiences that cannot easily be obtained elsewhere in society (Adelman et al. 2000; Briseño-Garzón et al. 2007a; Clayton et al. 2009; Kiesel et al. 2012).

Levin (2006) suggests that informal settings must rethink themselves according to a world moving towards a globalized society where marketing and electronic communications are considered to have prime value. In this scenario, where audience is up for grabs, informal settings compete with each other. The general trend has been to buffer up displays, introduce interactive exhibits, incorporate new technologies into presentations, reduce labels to a main idea that stresses connections with everyday events or replace text with graphics

and convey messages without text altogether, add innovative programmes, seek expert advice on gallery design and programme implementation, open gift shops and restaurants/cafeterias, and make the site family friendly (Hamp 2006; Levin 2006). In short, different informal settings fighting for audience with theme parks and children's galleries, for instance, have become more like their competitors in the race for satisfying and appealing to visitors. Informal settings are perceived and perceive themselves as a mix of fun, learning, research, friendliness and commerce (Blud 1990; Clayton et al. 2009; Diamond 1986; Dierking and Falk 1994; McManus 1987; Levin 2006; Wellington 1990).

It has been recognised that the outcomes of visiting informal settings are strongly influenced, amongst many other factors, by visitors' personal history, socio-cultural backgrounds, their prior experiences and perceptions, and the physical context itself (Anderson et al. 2003; Falk and Dierking 2000; Myers et al. 2004; Kisiel et al. 2012). Nonetheless, visitors' own insights, definitions and characterisations of *informal settings* are yet to be examined. Through narrative analysis, in this paper I examine how adult visitors perceive and define different kinds of informal settings, in the process of making sense of, and building on, their families' accounts and their own experiences at the Vancouver Aquarium Marine Science Centre. By examining people's accounts of their personal experiences, the aim is to locate visitors' definitions of informal settings alongside the self-definition of a particular institution, given the current move to capture a larger audience share.

Theoretical framework

Building on the notion that the personal, social and physical contexts are crucial in defining visitors' experiences in museums, aquariums, science centres, zoos, historical sites and other free-choice venues, this research study is framed by the perspectives and theories on family learning that currently shape the museum education and visitor studies fields. The family serves then as the social context where narratives of experience emerge and consolidate, and at the same time instils meaning to a visit and its outcomes.

The study of families in museums and other informal settings is significantly relevant due to the prevalent presence of this demographic in such spaces. Families have been traditionally identified as intergenerational social groups containing at least one child and one adult. It has been recognised, however, that families can actually vary enormously in structure and size. Families have appealed to researchers and practitioners for the past few decades, and it has been possible to establish that families behave in consistently different ways compared with other visitors (McManus 1994; Sandifer 1997; Smith 2009). Families generally behave in a co-operative and co-ordinated way within museums; hence, each member's experience is strongly influenced by the other members of the group (Hilke and Balling 1989; McManus 1994). Also, among the groups containing children, family groups are those who have the longest conversations in museums (McManus 1988). Such conversations, according to Hilke (1987), tend to involve associations and comparisons to past events and individual experiences, thus reinforcing family history and a shared understanding among the family members. The family, hence, works collectively to build what McManus (1994) calls a "family perception" of their experiences within the museum experience and of the museum itself.

Visitors' interpretation of their informal learning experiences as well as their understandings and definitions of the venues are established and confirmed as a result of both the contact with the physical environment of the museum, and the social interactions that take place during and after the visit. In this study I explore

such definitions and expectations by means of analysing the narratives of experience of the members of different family groups visiting an aquarium.

Methods

Even though in education research discourse analysis has played a central role in the exploration of students' and teachers' understandings and views around particular issues or topics (e.g. Brown 2004; Kim et al. 2007; Reveles et al. 2004), discourse analysis methods have not been applied to visitor and museum studies to any great extent.

Discourse analysis has been implemented in an effort to better understand and document the role that museums play in visitors' lives (Ellenbogen et al. 2004). For instance, discourse analysis has been used in order to investigate visitors' learning experiences and interactions during a visit to different informal settings through a detailed analysis of their conversations (e.g. Ash et al. 2007; Botelho and Morais 2006; Clayton et al. 2009; McManus 1989; Tunnicliffe 1995). However, as Rennie et al. (2003) indicate, a deep examination of informal learning demands the utilisation of multiple and creative methods through varied research designs amongst which conversation/discourse analysis is pointed out as a critical tool.

Narrative analysis

Ochs (1997) stresses that narrative is a fundamental genre that organises the ways in which we think and interact with one another and the physical world, and Ochs and Capps (2001) define narrative as ordinary social exchanges in which interlocutors build accounts of life events. According to these authors, narratives as conversational acts involve discourse components such as questions, clarifications, challenges and speculations about what might have occurred. Therefore, the current narrative analysis is conducted under the consideration that interviews are conversational and co-authored narratives that validly reflect people's standpoints regarding the event under construction. The oral narratives analysed here are thus embedded in elicited interview conversational interactions about personal experiences, and are deemed as sites for the reconstruction of a) the planning of the visit, and b) the actual visit.

The data

This study of visitors' narrative stems from a larger empirical work that aimed at investigating the learning outcomes of the adult members of family groups visiting the Vancouver Aquarium Marine Science Centre, Canada (Briseño-Garzón et al. 2007b), as well as the roles that personal and collective agendas played in shaping family members' aquarium experiences (Briseño-Garzón et al. 2007a). A total of 13 family groups took part in that larger research study; all participant families were English speakers, consisting of at least two adult members and one child. The principal mode of enquiry was face-to-face semi-structured, open-ended interviews that were administered on three separate occasions: before the visit, right after the visit and two to three weeks after the visit to the aquarium. All the adult members of each of the family groups participated in the on-site interviews, whereas the follow-up conversation was held with only one volunteering adult.

Interview protocols were designed to elicit reflection on parents'/guardians' aquarium experiences by exploring motivations and interests for the realisation of the visit, history of museum visitation, learning outcomes, emerging interests, and overall perceptions of the visit. They also included specific questions about visitors' perceptions of museums and aquariums, and about people's prior experiences in different informal settings. All interviews were audio-recorded and fully transcribed for subsequent analysis, and

Table 1. Family groups included in this analysis.

Family	Structure		Relationship	Gender and age* of the children
	Adults	Children		
A	3	2	Parents, grandmother (mother's mother) and children	Boy (5.5 yrs) and girl (3.5 yrs)
B	2	1	Parents and child	Girl (2 yrs)
C	2	3	Parents and children	Girls (6, 4 and 3 yrs)

*At the time of the interviews.

a coding system was implemented to identify family members. No child codes were included due to the original focus on the adult members of the participant family groups. When applicable, the identity of participants was protected by the use of pseudonyms.

Transcripts were analysed in order to identify parents'/guardians' perceptions and definitions of different informal settings, as they made sense of their personal and collective experiences at the Vancouver Aquarium. It was determined that only the narratives embedded in the pre and post-visit interviews were relevant for this study and therefore, the present analysis only includes data from the on-site interviews.

Out of the original interviews with thirteen different family groups, the accounts and comments of the members of three families were identified as containing particularly rich, relevant and contrasting data for the purpose of this narrative analysis of personal experience. Families are identified with the letters A, B, and C, and so are the corresponding family members (e.g. the mother of Family A is MA, the father of Family B is FB, etc.). A general description of the three families is presented in Table 1.

Results and analysis

The fragments of the original interviews presented in this section were chosen for clearly representing and illustrating visitors' notions and perceptions of what informal settings are; the line numbers displayed in each text fragment correspond to the line numbers assigned to the original and complete transcript. The analysis is organised into two main sections. In the first section visitors' perception and definitions of museums and other informal settings are explored and the generalised use of both of these terms as umbrella terms is discussed. In the second section visitors' expectations and characterisations of aquariums as particular settings with particular missions are discussed.

Visitors' perceptions of museums and other informal settings

Participants were deliberately asked what came to mind when they thought about "museums" before their visit, because this term is frequently employed in the field of visitor studies and museum learning as synonym with informal setting. The following text corresponds to Family A:

Text 1

- 1 MA: Museum? A place to learn something and usually they are fun too. In class you find out they
- 2 are fun too
- 3 AB: And what do you think about science centres and aquariums?
- 4 FA: Museums and science centres are fun places. Also aquariums. I always liked museums when I
- 5 was growing up, so they are places to expand my knowledge base. I used to visit with my family
- 6 and also with my classroom when I was in elementary school

In these visitors' discourse (lines 4 and 5), aquariums, science centres, and so forth are different settings with different characteristics or attributes, and thinking about each of them independently elicited particular expectations and recollections.

The adults of this family group also regarded learning and "having fun" as separate activities that can be concurrently found at museums, science centres and aquariums (lines 1 and 2). It is interesting to note, nonetheless, that according to these visitors, whereas the learning aspect of a visit to these settings is somewhat taken for granted – this is what museums ought to offer to their public – the fun side of the experience needs to be discovered, or searched for ("in class you find out they are fun too"). The notion that learning and fun are not necessarily separate activities is at the core of the definition within which most informal settings currently operate. However, for these visitors museums and other informal settings, such as science centres and aquariums, are primarily defined as learning spaces. This is corroborated later in the conversation when the mother states that her expectation for their visit that day is "to spend some nice time and learn something on the way."

As in the case of Family A, the adult members of Family B also recognised and defined museum, art gallery, science centre and aquarium as different settings with particular characteristics:

Text 2

- 4 FB: I have good experiences with museums, so I like them. They are usually pretty interesting.
- 5 They have good displays and stuff like that
- 6 MB: I think on exhibits. There are usually things to look at, some of them are a little more
- 7 interactive than say an art gallery or something
- 8 AB: And Science Centre?
- 9 FB: Science World, really
- 10 MB: Science. Education and Science combined, I guess
- 11 AB: And aquarium?
- 12 FB: Aquarium? Fish can be pretty spectacular. And tanks and a lot of different things and big tanks
- 13 and quite unique displays
- 14 MB: Fish that you can see in their local, you know? And exotic species of fish that you wouldn't be
- 15 able to see otherwise
- 16 FB: Recreation of the natural settings and stuff like that. They are usually pretty interesting
- 17 AB: Did you as children yourselves use to visit aquariums?
- 18 MB: I came here with a school trip once, and I've been here with my family quite a bit as a child.
- 19 Always positive experiences and we are excited to come here with her [their daughter]

Displays and exhibits were associated with museums, along with the fact that they were perceived as interesting places (line 4) where good experiences can take place. These participants

expected to find objects or things in museums, and at the same time they deemed that museums offer the possibility of interaction, as opposed to an art gallery where, in their view, no hands-on experiences were expected (line 7). This discourse reflects the efforts that museums have made in the last decades to offer their visitors with more participatory and active experiences and to reinvent themselves as not only interesting but enjoyable places to visit. Yet it is arguable that in the opinion of this couple, museums and art galleries share some basic characteristics that make them comparable.

These visitors explicitly acknowledged the educational value of informal settings only when referring to science centres (lines 8–10). Regarding these visitors' definition of aquarium, it is interesting to note that the uniqueness of the experience, the presence of living creatures, and the recreation of marine fauna natural environments came up as the highlights of what an aquarium is and ought to offer (lines 12–16).

These visitors too established the Vancouver Aquarium as a friendly space where different audiences (e.g. school groups and families, lines 18 and 19) can expect to develop enjoyable and positive experiences (line 19).

These family members' perceptions were pretty much in agreement with the way in which informal settings self-characterise and actually market themselves in today's society. These individuals strengthened their definition of the Aquarium as a children-friendly space, as a place where entertainment can be attained, and a place where novel, interesting and diverse things to look at can be found. All these ideas concur with informal settings' current self-narrative.

Defining aquariums as particular learning spaces

Text 3

- 40 AB: Is this their first time in an aquarium ever, or have they been to other places like this?
 41 FC: No, they've been to Sea World in Niagara Falls
 42 MC: Yeah, but it's not the same thing
 43 FC: They've been to Marine Land
 44 MC: Marine Land, yeah. Sea World is in Florida, I've been there too. But it's not the same thing
 45 FC: It's not the same interaction, interactive
 46 AB: In what ways?
 47 FC: You see the show and you see the whales, but you don't have the aquarium experience
 48 MC: They don't have the aquarium experience. It's actually not an aquarium at all; it's more like an
 49 amusement park
 50 AB: And what do you think this place could offer them that those sorts of places can't?
 51 MC: Well, the close interaction with the actual fish, at the aquarium. Whereas there, it's just this
 52 thing with killer whales in a small pond
 53 FC: Yeah, the shows
 54 MC: There are no killer whales here anymore, right?

The most salient feature about the adults of Family C was their clear discourse on what an aquarium was and was not for them. In the pre-visit conversation they viewed aquariums as fun places for them and their children to visit, but there was also a strong shared conviction that an aquarium was not an amusement park (lines 48 and 49). In other words, for them Sea World was not an aquarium and this distinction was made clear numerous times during this short segment of the conversation, by making use of statements like "it's not the same thing," "it's not the same interaction," "it's not the same experience," and even "it's not an aquarium at all." Their definition of aquarium and aquarium experience included

the notion of fun, interactivity or things to touch, family outing, contact with real fish as a non-usual activity, and contact with the environments in which fish live. However, it excluded the idea of shows and large animals performing in confined spaces, which was at the same time their definition of amusement park (lines 51 and 52). In fact, there was a deep concern on the part of this mother about large marine mammals being kept in captivity, which was first uttered in line 54. Her question to the researcher about the current presence of killer whales in the Vancouver Aquarium was both a demonstration of her knowing the venue from prior experiences (there actually used to be killer whales at the Vancouver Aquarium), and a confirmation of her concern about and aversion towards whales living in small ponds. For these visitors, a personal concern framed their discourse of what an aquarium experience ought to be:

Text 4

- 58 MC: I actually don't want to see the whales here. That's not why we are here
 59 AB: Why are you here?
 60 MC: To see the fish, yeah. I don't want to see whales. Well, the belugas maybe, but I don't know. I
 61 feel better about them than I do about the killer whales. They used to be here and I didn't like it at
 62 all, it was sad

Later, during the post-visit interview, their concerns and convictions about what aquariums should be about also showed up:

Text 5

- 241 FC: We didn't do any shows, and I don't think
 242 MC: I don't like shows anyway
 243 FC: They [the girls] are probably too young for that, so. They would sit down for a couple of
 245 minutes and then get restless and walk around
 246 MC: No, but I don't really want to show them shows, that's not why I'm here, to see performances.
 247 I don't want to see performances by animals; I don't want to see that

This vision was not shared by all the participants of this study. The members of Family A, shared a rather different perspective on what an aquarium is and what visitors should expect from a visit to these venues:

Text 6

- 7 AB: What's your most vivid memory of a visit to an aquarium?
 8 FA: My most vivid memory is when I went to Sea World down in San Diego California and
 9 watched the killer whales perform with the trainers, back in 1979
 10 MA: Mine was in the Newport Aquarium. They had a shallow pool where you could go and touch
 11 starfish and other little fish, and they had this tide so the water came out as a wave and then you
 12 retreat back. We all got kind of excited the first time because we did not know what was going to
 13 happen, so it was funny

When asked by the researcher about aquariums in particular, the adults of Family A elaborated on past experiences that related to specific events and activities that can both be considered as entertaining (e.g. a killer whale performance at Sea World, line 8) and in line with the contemporary move towards interactivity in

informal settings (e.g. hands-on experiences, physical and active connection with exhibits, lines 10–13).

It must be noted that many aquariums around the world, and this is the case for the Vancouver Aquarium too, are not only places that offer displays or performances to the public but are also constituted as research institutions, just as many museums are. In fact, one of the goals of the Vancouver Aquarium as a marine research centre is to sensitise visitors towards marine ecology and conservation issues, as well as to enact environmental action. Nonetheless, the Vancouver Aquarium is amongst the institutions whose existence relies solely on donations and admissions. As a self-supporting, non-profit organisation, the aquarium is faced with a real competition for audience and sponsors; as pointed out by Levin (2006), this situation has forced venues to become more like their competitors and look for marketing strategies that appeal to a greater number of visitors. As a result, the aquarium opted to implement shows and performances that several years ago were not part of visitors' experiences, and that to some extent offer visitors an entertaining experience comparable to the ones that can be found at an amusement or thematic park. In keeping with the objectives of a research and conservation centre, the Vancouver Aquarium has implemented performances and shows that not only aim to entertain people with animal acrobatics, but also present information regarding marine ecology and habitats, animal behaviour and requirements for survival, and research efforts that are in place. It is not possible, based on the original interviews, to discern whether this couple considered a Sea World show comparable to a show found in the Vancouver Aquarium regardless of the distinctiveness between the two. What can be said from Text 6 is that for the father of this family group, a place such as Sea World and aquariums shared common grounds, and that performances and shows formed part of his definition of aquarium.

During the pre-visit interview, the parents of Family C narrated that an aquarium was also a learning environment, where teaching about respect for the environment should take place:

Text 7

- 91 MC: Well, it's like there is certain amount of teaching going on, and certain amount of enlightenment
 92 when it comes to other creatures on the planet; you are teaching them respect. And making sure
 93 there is safety, that they are not running around
 94 FC: And making sure they see what they want to see
 95 MC: Yeah
 96 AB: What kind of talking do you do with them?
 97 FC: We maybe try to explain where things do come from and what they are
 98 MC: But the problem is that we have to be educated as well, so hopefully there is going to be some
 99 sort of information

These visitors not only acknowledged the educational value of the aquarium experience, but they also defined this setting as a place where they, as a family group, had the control of their visit and thus were able to choose what they wanted to see and when (line 94). In their discourse, the parents also recognised their role as educators, explainers, and care givers for their children (line 97), but also pointed out their interest in finding information in the venue. Such information was expected to be found in the form of labels (text). However, this definition challenges the current trends in informal settings towards reducing the text and information found in the galleries and replacing it with graphics or images. The resulting frustration on the part of visitors as their notion of what an aquarium ought to offer and do for its visitors collided with the one held by the Vancouver Aquarium, was evident during the post-visit conversation:

Text 8

- 169 MC: Actually the labels weren't, for every tank there wasn't one, I found
 170 FC: Well there was on the side, you just didn't have the time to read them
 171 MC: No. We tried to look at the fish and then look at the picture, that type of thing which I really
 172 didn't have time for. But I didn't find that everything had a label

It is also interesting, that along with the policy of reducing the text displayed in informal settings, there is also a current discussion amongst educators and programmers working at aquariums and zoos, as to whether it is or not desirable to expose visitors to the tradition of the Latin names of species. Nonetheless, the adults of Family A considered that Latin names were valuable information that should be made accessible for the general public in the labels that the aquarium displays (line 215).

Text 9

- 208 FA: Yeah, but usually I like to learn all the Latin names, and I try to leave knowing their Latin
 209 names, but I figured I had to try and explain it to them [the children] and I did not want to have
 210 more stuff in my head, so [...]
 215 MA: I think it should be displayed; it is how living things are classified. The others are just popular
 216 names

On the other hand, for Families B and C the recognition of the educational significance of a visit to an aquarium meant being in touch with "the real thing" and actually getting an opportunity to come into contact with a natural world. For instance:

Text 10

- 176 MC: As a group it was just a great family day. As individual, I am always amazed of how on the
 177 surface of the earth there is just this small portion of life within our planet. It's like intellectually I
 178 know that, but to see the real thing is always. I mean even looking at the jelly fish. That actually
 179 exists on the planet, but I don't think of that because I am not in the water, you know what I mean

Besides having an enjoyable time as a family, this visitor's experience at the Vancouver Aquarium involved a strong affective component that developed from the encounter with a fraction of the natural world that in daily life is not acknowledged (lines 178 and 179). Such lack of acknowledgement or detachment was a consequence of this mother not being able to physically or experientially tackle what she "intellectually" (line 177) knew. The aquarium, however, provided an opportunity for this connection to take place. This outcome supports Adelman et al.'s (2000) assertion that aquariums are unique places with unique learning opportunities, and that such learning opportunities are in part the result of visitors' bond with the living creatures that otherwise would be almost impossible to realise, observe, and even touch.

Discussion

Today's museums, art galleries, science centres, aquariums, zoos, botanical gardens, and other free-choice learning environments cope with multiple economic, political and social forces. As a result of the competition for audiences between many of these settings, they have become more like other commercial enterprises represented by thematic and amusement parks. Hamp (2006) and Levin (2006) highlight that circumstances such as the frequent

reduction of public funds have often had negative impacts on the social, educational, and cultural goals that informal settings have traditionally held. Many of these places have envisioned that they need to make use of contemporary communication techniques and implement entertainment policies to appeal to visitors' desires, interests and needs. The Vancouver Aquarium is one such venue. However, this institution's self-definition conflicts with visitors' perceptions and expectations from an aquarium setting.

The analysis of visitors' narratives about a visit to the Vancouver Aquarium presented in this paper had two objectives. First, to employ and substantiate the validity of discourse analysis as a methodology to explore visitors' experiences that go beyond learning outcomes. And second, to examine the correspondence between people's notions of what informal settings, aquariums in particular, should offer the public, and this institution's own self-definition.

Despite the fact that discourse analysis has been mainly used in museum and visitor studies with the goal of investigating visitors' learning experiences through a detailed examination of their conversations (e.g. Ash et al. 2007; Botelho and Morais 2006; Clayton et al. 2009; McManus 1989; Tunnicliffe 1995), narrative analysis has rarely been used to explore people's perceptions and understandings of the roles that different informal settings ought to play in our societies. The outcomes of this analysis support the claim that narrative analysis is indeed a powerful means to explore the social and collaborative nature of an aquarium experience, since in the conversation process, visitors co-narrate and co-author (Ochs and Capps 2001; Ochs et al. 1992) narratives that expose the saliency of the social context of an aquarium visit. Embedded in such narratives are people's understandings and expectations about aquariums, museums, science centres and other informal settings, as well as concrete notions of what makes each kind of informal setting unique. The use of discourse analysis as method for exploring visitors' experiences and perceptions proved to be an informative approach to be considered when conducting museum and visitor research.

While through their narratives visitors defined "aquarium" as a family-friendly space where learning and entertaining or fun experiences take place, and also as a space where displays and "things to touch" allow interaction for adults and children – all of these features compatible with the current discourse of many informal learning institutions around the world, including the Vancouver Aquarium – an important tension was also exposed. Visitors' narratives indicate a clear distinction between their perceptions of an aquarium and a thematic park. Such a divide challenges the current drift towards including shows and performances in the daily programming of aquariums, and further contests the tendency of many informal learning institutions to emphasise an entertainment agenda. The contact with live animals, as afforded by aquariums and zoos, offers a unique learning and affective experience that visitors value and expect. Based on the outcomes of this study, institutions should strive to sustain that identity and service to the public.

Researchers and educators should bear in mind that the learning experiences that take place in aquariums and zoos may differ in nature from the ones visitors' find at science centres, natural history museums, and other informal settings, and also that visitors are aware of those differences. Also, the examination of visitors' narratives reaffirms the fact that informal settings, as represented by the Vancouver Aquarium, receive and attend to greatly heterogeneous audiences, as exemplified by the cases presented in this paper, and this is a crucial factor for both research and practice.

Aquariums around the globe have been recognised by researchers and educators as places with particular characteristics, which make them different from, for instance, science centres

and natural history museums. Visitors' narratives around their aquarium experiences indicate that they, too, are aware of those differences, and that their expectations and ultimate learning experiences are framed by those perceptions.

References

- Adelman L.M., Falk H.H., James S. (2000) Impact of National Aquarium in Baltimore on visitors' conservation attitudes, behaviour and knowledge. *Curator* 43: 33–61.
- Anderson D., Lucas K.B., Ginns I.S. (2003) Theoretical perspectives on learning in an informal setting. *Journal of Research in Science Teaching* 40: 177–199.
- Ash D., Crain R., Brandt C., Loomis M., Wheaton M., Bennett C. (2007) Talk, tools, and tensions in informal science: tool for observing biological talk over time. *International Journal of Science Education* 29: 1581–1602.
- Blud L.M. (1990) Social interaction and learning among family groups visiting a museum. *Museum Management and Curatorship* 9: 43–51.
- Botelho A., Morais A. M. (2006) Students–exhibits interaction at a science center. *Journal of Research in Science Teaching* 43: 987–1018.
- Brown B. (2004) Discursive identity: assimilation into the culture of science and its implications for minority students. *Journal of Research in Science Teaching* 41: 810–834.
- Clayton S., Fraser J., Saunders C.D. (2009) Zoo experiences: conversations, connections, and concern for animals. *Zoo Biology* 28: 377–397.
- Diamond J. (1986) The behaviour of family groups in science museums. *Curator* 29: 139–154.
- Dierking L.D., Falk J.H. (1994) Family behaviour and learning in informal science settings: a review of the research. *Science Education* 78: 57–72.
- Ellenbogen K.M., Luke J.J., Dierking L.D. (2004) Family learning research in museums: an emerging disciplinary matrix? *Science Education* 88(S1): 48–58.
- Falk J.H., Dierking L.D. (2000) *Learning from Museums: Visitor Experience and the Making of Meaning*. New York: AltaMira Press.
- Falk J.H., Koran J.J., Dierking L.D. (1986) The things of science: assessing the learning potential of science museums. *Science Education* 70: 503–508.
- Hamp S.K. (2006) The value exchange: museums and their context. *Curator* 49: 45–54.
- Kim I., Anderson R.C., Nguyen-Jahiel K., Archodidou A. (2007) Discourse patterns during children's collaborative online discussions. *Journal of the Learning Sciences* 16: 333–370.
- Kisiel J., Rowe S., Vartabedian M.A., Kopczak C. (2012) Evidence for family engagement in scientific reasoning at interactive animal exhibits. *Science Education* 96: 1047–1070.
- Levin M.R. (2006) Museums as media in the emergent global context. *Curator* 49: 31–35.
- McManus P.M. (1987) It's the company you keep... The social determination of learning-related behaviour in a science museum. *International Journal of Museum Management and Curatorship* 6: 263–270.
- McManus P.M. (1989) Oh yes they do! How visitors read labels and interact with exhibit text. *Curator* 32: 174–189.
- Myers O.E., Saunders C.D., Birjulin A.A. (2004) Emotional dimensions of watching zoo animals: an experience sampling study building on insights from psychology. *Curator* 47: 299–321.
- Ochs E. (1997) Narrative. In: *Discourse as Structure and Process: A Multidisciplinary Introduction*. van Dijk T.A. (ed.). London: Sage, 185–207.
- Ochs E., Capps L. (2001) *Living Narrative. Creating Lives in Everyday Storytelling*. London: Harvard University Press.
- Rennie L.J., Johnston D.J. (2004) The nature of learning and its implications for research on learning from museums. *Science Education* 88(Suppl.1): S4–S16.
- Rennie L.J., Feher E., Dierking L.D., Falk J.H. (2003) Toward an agenda

- for advancing research on science learning in out-of-school settings. *Journal of Research in Science Teaching* 40: 112–120.
- Reveles J., Cordova R., Kelly G.J. (2004) Science literacy and academic identity formulation. *Journal of Research in Science Teaching* 41: 1111–1144.
- Smith L. (2009) Identifying behaviours to target during zoo visits. *Curator* 52: 101–115.
- Tunncliffe S. (1995) The content of conversations about the body parts and behaviors of animals during elementary school visits to a zoo and the implications for teachers organizing field trips. *Journal of Elementary Science Education* 7: 29–46.
- Wellington J. (1990) Formal and informal learning in science: the role of the interactive science centres. *Physics Education* 25: 247–252.