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Learning During Wildlife Tours in Protected Areas: Towards a Better Understanding of the Nature of Social Relations in Guided Tours

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Abstract

This article explores guided wildlife tours in Protected Areas (PAs) in the context of free-choice learning, social relations and environmental stewardship. Free-choice learning refers to people's informal learning that occurs without requisite external assessment such as schools or workplaces. While the literature argues that guides on wildlife tours in PAs should make visitors aware of a set of achievable on and off-site actions the informal nature of such educational activities is difficult to measure. Research on guided tours on Tiritiri Matangi, New Zealand highlights the complex nature of social interaction between tour participants and the factors that impact on learning during a guided tour. The nature of the social relations that inform guide visitor interaction (GVI) is discussed in the context of Relations Model Theory and free-choice learning.

Keywords

Guided tours • Learning • Protected areas • Social relations • Relations model theory • Wildlife tours

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Introduction

There is a growing recognition that wildlife tours operating in Protected Areas (PAs) need to advocate environmental stewardship and provide pathways for visitors to engage in conservation behaviour (Moscardo, Woods, & Saltzer, 2004; Orams, Spring & Forestell, 2014; Zeppel, 2008). A common refrain about the efficacy of guided tours in PAs in fostering environmental stewardship is that guides are preaching to the converted. This suggests that in such recreational venues a community structured through shared values exists, and that there is a tacit acceptance of the role of a guide in advocating environmental behaviour change.

A better understanding of the nature of the social relations that inform guide visitor interaction (GVI) may aid in estimating the value of free-choice learning on tours for participants and providers. This article uses research on guided tours on Tiritiri Matangi, New Zealand to examine the complex nature of social interaction between tour participants and the range of factors that facilitate or constrain learning during a guided tour. This offers an opportunity to extend existing work on the social roles of guides into a wider examination of how social relations that exist with an individual tour group impacts on learning outcomes (Weiler & Black, 2015).

Literature Review

Free-choice Learning

Free-choice learning refers to informal learning that doesn't necessarily involve the external assessment required in people's educational or work careers. The impulse for free-choice learning is personal. It is connected to an individual's discretionary time and income such as being on holiday (Falk, 2001; 2005). Free-choice learning environments are any space available to an individual during their discretionary time. In tourism contexts, research on free-choice learning has been conducted in museums and wildlife attractions (Ballantyne & Packer, 2011; Falk, 2001; 2005; Zeppel, 2008).

The term educational infrastructure was coined to highlight the interdependent nature of free-choice and formal learning and to demonstrate the scope of freely available resources that exist in the public sphere for all citizens of a nation to support all forms of education (Falk, 2001; Falk & Dierking, 2012; St. John & Perry, 1993). Free-choice learning involves accessing a range of educational infrastructure that ranges from public institutions such as museums, libraries and universities to private or not for profit organisations. Scientific and educational literacy are dependent on educational infrastructure that is made up of more than just physical resources and "can be thought of as an interwoven network of educational, social and cultural

resources" (St. John & Perry, 1993, p. 60). Much of the information that forms the basis of an interpretation programme at protected natural areas is based in science (Ham, 1992).

Ornithology can be used to illustrate the type of educational infrastructure that can inform free-choice learning. Ornithology is the study of birds. For some it is predominantly a scientific activity and for others the science merges seamlessly into a hobby. Concepts such as taxonomy and distribution are key components of ornithology, both as a science and a hobby; for example, ornithologists will note the sighting of a particular species of bird in the context of its rarity (its population status) or the location of the sighting in relation to that species' natural distribution (Braunias, 2007). The accessibility of the infrastructure of free-choice learning connected to ornithology in many Western-dominated societies is due to the existence of community groups such as the Ornithological Society of New Zealand (OS), which was founded in 1940. OS holds meetings where local residents share their birding knowledge and listen to guest speakers, provides members with its journal, *Notornis*, and runs field activities ranging from bird-banding, bird counts to trips to PAs (Braunias, 2007).

Guided tours in Protected Areas as Free-Choice Educational Infrastructure

Learning and the exchange of information have been identified as important constituents in a visitor's overall experience during a guided tour (Weiler & Black, 2015). Making visitors on a guided tour aware of the relevance of the relationship of the place visited and its ecology to their everyday lives is a challenge (Moscardo, Woods & Saltzer, 2004). However, such awareness raising creates the potential for guided wildlife tours to act as part of a community's free-choice learning infrastructure, a term that describes the resources available to the public for informal learning (Falk, 2001). Tour participants interested in direct encounters with animals include members of neighbouring communities, domestic tourists, and international tourists (Newsome, Moore & Dowling, 2013). Their needs vary from relaxing, socialising, personal reflection, or the opportunity to learn (Dierking, 1998; Weiler & Davis, 1993).

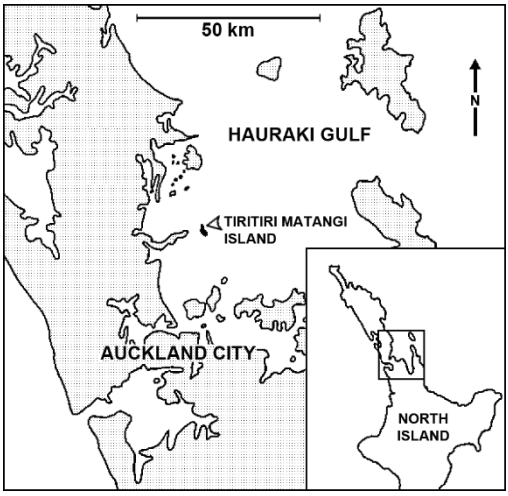
Intrinsically motivated learners are frequently more successful in achieving desired learning outcomes than learners who feel compelled to learn (Falk & Dierking, 2012). Hooper-Greenhill (1999a) highlighted that direct encounters with objects in museums facilitate opportunities to contextualise abstract ideas and experiences, trigger the recall of knowledge and memories, and elicit curiosity. Guided wildlife tours often incorporate information about animal species and their role in their ecological habitat that a person may deem relevant to their learning needs. Learning and the exchange of information have been identified as important elements in visitors' overall experience

during a wildlife tour (Forestell, 1993; Lück, 2015; Orams, 1995). Typically this has been in the form of an informal environmental education programme (Lück, 2015).

There has been scepticism expressed about the extent to which tourism can be changed and adapted to benefit the environment and host community, especially the extent to which tourists will base their consumption patterns on altruistic concerns (Fennell, 2008; Wheeller, 2003). However, tourism at community-based ecological restoration sites such as Tiritiri Matangi Scientific Reserve, New Zealand is recognised as a catalyst for developing community initiatives and enhancing the local biota (Campbell-Hunt, 2013; Galbraith, 2013; Higham & Lück, 2002; Orams, 2001).

While guided tours can act as a mechanism to support the conservation of a PA, the sustainability of such human interaction with its ecological communities is site specific (Newsome, Moore & Dowling, 2013; Weiler & Ham, 2001). A key characteristic of many terrestial PAs in New Zealand is that ecological restoration through human intervention is essential for their conservation (Butler, Lindsay, & Hunt, 2014; Campbell-Hunt, 2013). The ecology of New Zealand evolved with just three bat species as the only terrestial mammals. Bird species were the dominant land animals and filled many of the ecological niches normally associated with mammals such as apex predators (Attenborough, 1998). The arrival of Polynesian peoples and then colonization by the United Kingdom, caused the extinction of 41 endemic bird species by the twentieth century, and the classification of most other endemic bird species as endangered (Butler et al., 2014; Brown, Stephens, Peart and Fedder, 2015; Crosby, 1986).

The SoTM guiding programme provides a template for other community-based organisations throughout New Zealand who are involved in locally-based ecological restoration programmes (Butler et al., 2014; Robinson et al., 2013). Research has established that visitation to the island and the creation of tracks does not negatively impact the translocated fauna (Lindsay, Craig, & Low, 2008). Access to scientific reserves in New Zealand is normally determined on a case-by-case basis by official application to the Department of Conservation (DOC) (Butler et al., 2014; Galbraith, 2013; Rimmer, 2008; Robinson et al., 2013). The 'open' status of Tiritiri Matangi Scientific Reserve means that prescribed types of recreational behaviour are permissible without prior notification to DOC. Open access to Tiri, a 220 hectare-sized island, has provided the opportunity for community groups to make substantive contributions to the restoration of the site at an individual and community level (See Figure 1). Volunteers planted over 280,000 trees between 1984 to 1994. The networking between disparate groups of volunteers, DOC staff, and researchers such as the architects of the restoration project, John Craig and Neil Mitchell, inspired the formation of the Supporters of Tiritiri Matangi (SOTM) in 1988 (Rimmer, 2008).



Source: Galbraith (2013).

Figure 1. *Tiritiri Matangi Scientific Reserve, Hauraki Gulf in relation to Auckland and the North Island of New Zealand*

SOTM is a volunteer community-based organisation that, through a memorandum of understanding, jointly manages Tiri with DOC. SOTM is involved in both the day to day and strategic management of Tiri. It runs the guiding concession, the visitor centre and shop, and maintenance of tracks and most of the visitor-orientated facilities (Galbraith, 2013; Rimmer, 2008). Tiri has been cited as a sustainable model of ecotourism that creates positive outcomes for indigenous biota and the local community (Orams, 2001).

The Role of Guides on Wildlife Tours in Protected Areas

Study of the social relations in guided tours has focused on the roles of the guide in their mediation between visitors and community and resources where tours occur, especially how the authority of the guide is perceived and negotiated during a guided tour (Cetin & Yarcan, 2017; Cohen, 1985; Cohen, 2004; Cohen, Ifergan & Cohen, 2002; Weiler & Black, 2015). With wildlife tours in PAs, guides are either a part of a team who help facilitate the actual tour or are the sole representative of the agencies and organisations responsible for the management of the visitors (Moscardo et al., 2004). The roles that guides play on nature-based tours fall into three spheres. Tour management is where the focus of the guide is on organising and entertaining the group. Experience management involves the guide focusing on individual behaviour through acting as a group leader and a teacher. Finally resource management is where the guide acts as a motivator and interpreter in connecting the tourists to the ecological features of the host site (Weiler & Black, 2015).

These spheres have featured prominently in research findings on the roles of nature-based guided tours but a challenge with focusing specific roles is understanding the visitors' perspective: "Because of the difficulty of labelling a guide's roles in ways that distinguish one role from another, especially in the eyes of a visitor" (Weiler & Black, 2015, p. 26). A way forward may be focusing on the underlying social relations between guides and visitors that underpin the role of the guide in the learning that occurs on a tour.

Important facets involved in the social relations between guides and visitors on wildlife tours is the authority of the guides in terms of their knowledge of site and its resources (Moscardo et al., 2004; Orams et al., 2014, Weiler & Black, 2015). The providers of wildlife tours often have an educational agenda to ensure legally required behavioural standards during the tour are met, especially when in close proximity to wildlife. If such desired behavioural norms are unfamiliar to visitors, then these goals may not be achieved. These agendas often include a set of off-site actions that people can do to ensure the survival and well-being of wildlife.

According to Marton & Tsui (2004) "learning is always the acquired knowledge of something, and we should always keep in mind what that 'something' is" (p. 4). This can be a challenge for visitor attractions such as museums that utilise material objects such as weapons in relation to topics such as peace as individual visitors may be more focused on the aesthetics of the design or other aspects of the weapon itself (Hooper-Greenhill, 1999b). In wildlife tourism, the wildlife are the object of interest but the learning is often formed around intangible ideas such as conservation, biology or ecology (Forestell, 1993).

While the personality of the learner is intrinsically central to learning, research on the psychology of learning indicates external factors such as the physical world and social contacts play complementary roles (Falk & Dierking, 2012). Interaction with adult teachers or 'capable peers' increases the learning potential of children by creating a 'zone of proximal development' (Vygotsky, 1978). This zone represents "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined by independent problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

The assistance of capable peers for adults in free-choice learning environments can allow them to learn at their own level but it requires a space where individual learning needs can be recognised or communicated (Czikszentmihalyi & Hermanson, 1999). For guided tours, the zone of proximal development suggests how the actions and behaviour of operators, guides and fellow visitors can inform the learning process of visitors during interpretive experiences (Dierking, 1998; Forestell, 1993).

Guides can model appropriate behavior on minimizing impacts on the wildlife and their habitat (Forestell & Kaufman, 2007). Guides can demonstrate appropriate types of behaviour such as staying on designated paths, retrieving litter, and not attempting to touch or feed wildlife. This modelling of behaviour can have a positive impact on a visitor's experience (Lück, 2003).

Research Design

The research focused on specific incidents of guide visitor interaction on tours (GVI) where the researcher was a participant observer. These incidents were explored through tour outcomes such as learning and personal insights as perceived from the viewpoint of visitors, guides and the researcher. Learning outcomes were defined as the learning that visitors perceived occurred from the tour experience based on their own self-assessment. An important constituent of learning is the venue where it occurs (Nuthall, 2004). For both the tour operators and the visitors of the tours observed there was no expectation of any formal behavioural assessments of learning outcomes of the tour such as written tests or monitoring of pro-environmental activities. Visitors' perceptions of their own learning outcomes were connected to phenomena that the relevant guide and researcher also had recollections of.

Personal insights are defined in previous research as a research participant's self-appreciation of the value of a tour based on how it stimulated their understanding or behaviour in an environmentally positive manner (Walker & Moscardo, 2014; Walker & Moscardo, 2016; Walker & Weiler, 2017). In the context of the research presented here, personal insights are the narratives constructed from the information that visitors bracketed with their own perceptions of learning such as what they cited as knowing before and what they perceived as new information and the source or processes they attributed to the accrual of new knowledge during GVI (Spring, 2016).

The overall aim of the research used in this article was to understand what visitors learnt in the context of observed GVI and the reflection of both guides and visitors. The data presented in this article was collected on volunteer-led bird watching tours of Supporters of Tiritiri Matangi (SOTM) on Tiritiri Matangi Scientific Reserve (Tiri), Auckland, New Zealand. Using narrative methods data was collected through participation in, and observation of, the tours and via in-depth semi-structured interviews with visitors and guides (Riessman, 2008). Five case studies were selected from fieldwork on 31 SOTM tours between October 2010 and May 2012. Each case study included in situ and reflective interviews with both visitors and guides.

The participants were given an alphabet letter and the moniker of Guide, Visitor or partner to delineate their role. For example, Visitor E and his wife, Partner E were

observed on the tour conducted by Guide E. Knowledge about the guided tour was produced during the research through agreement and recognition of difference with the participants about what occurred during the tour and the nature of the phenomena discussed. The inclusion of the perspective of visitors, guides and the researcher's observation of the actual tour in each of the case studies, intra-data comparisons between case studies and a four-stage approach to the thematic analysis established the trustworthiness of the data and facilitated clear interpretations.

Discussion of Results

The research found that learning was an important part of the experience sought by the visitors involved in the guided tours studied. Guide Visitor Interaction (GVI) plays an important and influential role in shaping visitors' experiences during wildlife tours. Participants often referred to the role of guides and others in facilitating memorable experiences. When visitors discussed learning outcomes there were both implicit and explicit references to GVI. Although these references were more often made during the in situ interviews (i.e. in their short-term recollections) they were often still a feature of visitors' recollections in their long-term reflective interviews over 10 months later (See Table 1).

While the research process focused on interviewing individual participants in the context of GVI, it allowed for participants to be interviewed in the presence of their social circle. An unintended consequence of this was insights into different facets of the social nature of free-choice learning during a tour. Visitors often discussed their interaction with the guide, what they chose to share, and what they learnt with reference to family, friends, strangers, staff or volunteers present on their tour. This suggests that a range of social relations were operating within any given tour group for each individual for the duration of the tour. Visitor C indicated there was a potential impediment for his family in socially accepting Guide C based on their first impressions of her. This problem, however, appeared to have been negotiated away through his family's social interaction with her:

> We quite liked Guide C. Originally my wife even made the point that she looked like she may be one of these; she was worried Guide C was going to be one of those "know it alls", you know? Fricking greenies which is, okay. I don't want to mean that in a derogatory way but just too much "know it all", [who might] talk down [to us]... But we all found her to be really believable and I think she had a good sound knowledge. So, she got our respect because of that (Visitor C, in situ interview)

Some visitors communicated an awareness of how their own conduct can impact on the social relations with the tour. Visitor A shared after the tour that she had been

sea sick during the boat trip and at the start of the tour she still needed to recover by staying seated and having a cigarette. Visitor A was conscious that she may have made a bad impression and wanted to indicate her willingness to participate in the tour:

> The guide has to assess in a very short amount of time, don't they? What their audience is, that's why they ask where you come from? Their actually probably listening to the tone of your voice, whether your making eye contact, whether you're interested. That's why at the beginning I was sitting down, that's cause I'm a lazy bird! But I noticed, she was having to turn cause she was trying to gauge me, so that's why I stood up and got in front of her to say 'no, I am interested, I'm just lazy and like to sit down'. (Visitor A, in situ interview, SoTM)

Table 1
Quotes from the in situ and reflection interviews about the educational nature of their tours and the role of the guides

Visitor A (SOTM) Day of tour	"[The guide] said quite a lot about the interrelations between the different types of birds of what they had there, between the grub-eating birds and the nectar-feeding ones. So, I remember quite a lot. Thinking back; it's very educational (Visitor A, in situ interview, SOTM).
Visitor A (SOTM) 10 months or more later	"And just knowing that it had all been, it was kind of like a private endeavour that had created this island which was quite, yeah, I think that was the most memorable thing about Tiritiri Matangi" (Visitor A, reflective interview, SOTM)
Visitor D (SOTM) Day of tour	"On a one to ten again, I think probably a ten, because I feel that he explained all the bird variety on the island really well, explained their eating habits, explained the vegetation and what they are feeding off, and history on the way in, and was very thorough". (Visitor D, in situ interview, SOTM)
Visitor D (SOTM) 10 months or more later	The tour leader was definitely knowledgeable and definitely excited in showing what he knew about the place and because he was a volunteer so obviously he had did his own research and through going to Tiri and I'm sure had learned just by observing and he was more than willing to share that with all of us and excited to do so. I'm a very visual person so just connecting that to the island. I can imagine still walking through the trails and landscapes (Visitor D, reflective interview, SOTM)
Visitor E (SOTM) Day of tour	"I mean, took a little while, you know, just to get your eye in to peering through all the branches and things but once you got your eye in, you know, I could spot things pretty easily. Initially he's pointing and I was thinking. 'What's he pointing at?' and then 'Aah, I've got it!'. You know, after that it got easier and easier as we went round really." (in situ interview, SOTM
Visitor E (SoTM) 10 months or more later	"The guide, for example, pointed out how, you know, to see, rather than just to look. I mean anyone can look but until he points out the little bird on the branch and there's somewhere buried in the bush and oh, God, I would never have seen that but gradually as you start going around you know, you get your 'eye in' and you learn to look, you know past the foliage and you can spot the birds and for me that was a huge difference because I'm sure if we, if these little critters remained quiet and you could just bumble along a path and peer left and right and not see anything." (reflective interview, SOTM

(Source: Spring, 2016)

Visitors' on the SOTM tours recalled that during the GVI, staff provided them with skills to observe targeted phenomena. For example, Visitor E related how Guide E helped him adjust to being able to observe birds between the trees. Visitor E felt that Guide E had an ability to see things that he could not initially see. In both his in situ and reflective interviews, Visitor E said the guide was able to orientate the visitor to observe things that the visitors would not have seen without the guide. The role of the guide in helping Visitor E to see the birds, an indication of the guide's knowledge and skills, was still a key idea in Visitor E's reflective interview, a year after the tour (See Table 1).

In the discussion about their interaction with guides and other staff on their tour, the visitors commonly referred to 'knowledge' and 'information'. The visitors appeared to use the two words interchangeably most of the time, although information provided by the guide was sometime qualified by its quality and this was not the case when visitors used the word knowledge. Visitor I became aware of a level of informal training provided to SOTM guides through GVI to determine if Guide I knew about John Craig and Neil Mitchell, the architects of Tiri's ecological restoration restoration plan:

> Obviously, [the guide] has met the both of them, and he told me that they come over once a year, they have like a guided tour for the guides. So, in a sense, any hard questions about the ecology and things like that, the guides can ask them, because they've got research knowledge about it. (Visitor I, in situ interview, SOTM)

As with Visitor C, Visitor I assumed that his guide held strong pro-environment beliefs and that these were also shared by other SOTM volunteers (See Table 4).

Visitors noted how guides created an atmosphere where they felt able to explore ideas with the guides, which in turn, facilitated the provision of information. The most common expression of this idea was that it stimulated questions for the visitors. Visitors often associated the reasons they asked certain questions with GVI. The excerpts from the fieldnotes of Visitor C's SOTM tour and the recollections of both Visitor C and Guide C based on a direct encounter with a North Island Saddleback (*Philesturnus carunculatus*) highlights the complex nature of GVI. The guide identifies the sound of a Saddleback that the group got to see. While the commentary of the guide is about visual features of the bird, Visitor C asks about the distribution of the species (See Table 2).

Table 2
Field notes recording GVI between Visitor C and Guide C about Saddlebacks (Philesturnus carunculatus), and the recollections of Visitor C and Guide C about a question Visitor C asked from their in situ interviews

Fieldnotes of Visitor C's tour:	**Guide C:** Sounds like we are hearing Saddleback (*Philesturnus carunculatus*). Kōkako (*Callaeas cinerea*) and Saddlebacks are members of the Wattlebird family. **Visitor C:** That's the one we want to see! **Guide C:** Funny bird [Saddleback]. In North Island; stripes of yellow are a feature of Saddlebacks. First feathers of juvenile birds on its back form it's saddle. First feathers on the back of juvenile South Island birds are different compared to adult South Island Saddlebacks. Juvenile South Island Saddlebacks were called the Jack Bird. Visitor C: Why don't we see Saddlebacks in areas outside protected areas [specific term used by Visitor C not recorded] Guide C: Saddlebacks don't fly well. From an evolutionary perspective, Saddlebacks are on the way to not flying…1116-1123 time of recording
Visitor C in situ interview	"I'm interested in birds. I hunt a lot and I've gone into the Ureweras [mountain range and national park in North Island, NZ]. Like bush where I'd expect to see this sort of thing [birdlife on Tiri]. You don't see that. So I'd never, I suppose I started to think 'Well, why don't ya?' So that's why I asked the question ['Why don't you see Saddlebacks outside protected areas?']. Because I've been in other protected areas, only two or three, but the one that stands out in my mind, where there's a heap of Saddlebacks and that's in the Queen Charlotte Sound [Protected Area, South Island]. And where I saw them was on another island like this. So I'm thinking, so if we see them here, why don't we see them anywhere else?" (Visitor C, in situ interview, SoTM)
Guide C, in situ interview:	"He asked 'why don't we see them on the main land?', and I don't know if it was that stage. I said that Saddlebacks (Philesturnus carunculatus) are not great flyers". (Guide C, in situ interview, SoTM)

(Source: Spring, 2016)

However, Visitors' perception of the composition of different social circles with the one tour group may impact on whether visitors ask questions or not. Visitor A was part of a tour group where at least three sets of visitors were strangers to each other while Visitor E's tour group consisted of one social circle of his friends and family. Visitor A restricted the amount of questions she wanted to ask because of her consideration of the needs of other visitors who were not part of her own social circle. This was not an issue that Visitor E had to consider. Ultimately, Visitor E felt that the number of questions he asked negatively impacted on his memory of the tour. While questions may indicate receptivity to learning, visitors' ability or inability to self-censor their contribution can make it difficult for a guide to observe what visitors actually want to learn about (See Table 3).

Table 3
Visitors' quotes about the nature, the stimulus or reluctance to ask questions on tours

Visitor A (SOTM)	Well there's whitey wood (*Melicytus ramiforus*) as well. I had heard of that of that so I kept shut, stum. Because other people have to have a [chance to speak], I didn't want to take over, asking silly questions (Visitor A; in situ interview, SOTM)
Visitor C (SOTM	Yes, that's why I asked the question: 'Why did they [Māori] let them [Pacific rats (*rattus exulans*), go?' Because you think, 'Well, if it's a rodent, why would you do it?' But like she [Guide C] said they were probably a good eating rodent as they were vegetarian, a form of protein. (Visitor C; in situ interview, SOTM
Visitor E (SOTM)	"Well he, in some ways; I don't know if he deliberately gave some information that… I guess he doesn't want to overload people with information so he would … give you just a basic understanding so we could have just gone around, not asking any questions at all, and still come out of it quite fully informed. Some areas, I thought 'That begs the question about this'." (in situ interview, SOTM)
Visitor E (SOTM	"I think for me, I was a victim of my own curiosity. I asked so many questions you end up with information overload, and at the time you think you will remember it, and obviously, you don't" (Visitor E, reflective interview, SOTM).

(Source: Spring, 2016)

In the process of attributing to guides the quality of having knowledge, the visitors indicated that they had their own processes of assessing whether the guides were knowledgeable by comparing the information provided by guides with their pre-existing knowledge. Visitors indicated that their knowledge not only came from the guide but also from other sources: "I mean, I'm only going by what the guide said and the few bits I've read" (Visitor A, in situ interview, SOTM).

There was an expectation that guides would be knowledgeable but what stood out for visitors about their guides was their intense personal interest in the topics they discussed. The volunteer status of SoTM guides appeared to help to establish the credibility of their knowledge. The voluntary nature of their work on Tiri was cited as evidence by visitors of the guides' enthusiasm and personal commitment for the island and its resources. Visitor I talked about the regularity of his guide's volunteering activities for SoTM, and, saw this as an indication of the guide's passion for the island. In her reflective interview, Visitor D had a perception that the guide was knowledgeable, and that this knowledge had derived from the guide's familiarity and own personal interest, as evidenced in his act of volunteering (See Table 4).

Table 4
Quotes from visitors about their perceptions of their guides and the project they volunteer for

Visitor C:	"Just gave us a bit of … enthusiasm, a passion for it, for the birds and the island." (reflective interview, SoTM)
Visitor D:	I'm just impressed with volunteers in general I think, because they donate a lot of their time, and he was very enthusiastic and was a wealth of information so I gained a lot of respect for him in that way (reflective interview, SoTM)
Partner E:	"The guide and the passion of people to give up their own time to make it happen…in a way it doesn't surprise me that people are so passionate about: (1) wanting to be involved in that and (2), wanting to share their knowledge and just joy that such a place has been created and that its being protected for everybody." (reflective interview, SoTM)
Visitor E:	"He [Guide E] was obviously very sort of passionate and dedicated person and he was also a very knowledgeable person and so he was able to make it very interesting and informative." (in situ interview, SoTM)
Visitor I:	"I think he does an excellent job. I mean, you saw a lot of groups, right, so they're all volunteers and all of them quite passionate about nature. They are probably very 'green' … they have a green mentality, and, I just appreciate there are many people in New Zealand who have a sincere, what's the word? Passion to restore New Zealand back to a bit of what it was." (in situ interview, SoTM)

(Source: Spring, 2016)

The findings indicate that visitors' self-perceptions of learning or the incorporation of new information with pre-existing knowledge often involved hearing non-elicited information from the guide. Also, the guides' response to their own or others' questions were commonly connected to what they perceived they learnt. Visitors recognised that guides facilitated interaction on a tour but visitors' perception of factors such as the size of the guided tour group and peoples' self-awareness of how they may impact on the experience of others also inhibited people from interacting with the guide and visitors outside of their personal social circle.

Assessment of Learning in Guided Tours and Social Relations

A finding of the research was that the actions and conversation of the guides conveyed credibility to visitors. Observed interaction between guides and visitors in the field notes and self-reported by visitors and guides indicates that existing social relations between members of the guided tour parties are a catalyst in the exchange and evaluation of information during the tour. The visitors' narratives revealed the visitors' perceptions of themselves as part of a distinct social circle. When discussing building rapport, visitors noted the views and ideas of members of their own social circle or the visitors' perceptions of that social circle in relation to the guide or tour group. The findings give support to the importance placed by visitors on the role of guides in the spheres of tour management, experience management and resource management. This highlights the importance of training nature-based guides in all these three areas to ensure sustainable outcomes on tours (Weiler & Black, 2015).

Another dimension of the social context of a tour is how visitors perceive the nature of the social relation between themselves and the tour guides. An educational element to a wildlife tour was an expected part of the tour for both guides and visitors but the nature of the learning outcomes is a very vague concept for most participants. The rules governing the social actions in a tour appear to include a sense of a shared commons where any individual can ask questions or share their knowledge. The opportunity for each visitor to contribute to the exchange of ideas on a tour exists but visitors may self-censor what they communicate due to social consideration such as the existence of more than one social circle within the tour group.

Guided tours contribute to outcomes that foster post- visit attitudes and behaviours but Weiler and Black (2015) note with caution the potential bias of self-reporting on the part of the visitors in many studies in respect to in respect to visitors off site behaviours before and after a tour. This makes it difficult to assess to what extent a guided tour may have reinforced existing pro-environmental behaviours rather than stimulated new ones (Weiler & Black, 2015). SOTM tours contribute successfully to raising or reinforcing visitor awareness but fostering ownership and stewardship goals are more difficult items to measure when researching tour outcomes.

Problematising the nature of the social relations within a tour group may facilitate a better understanding of how guides can play their role in resource management so that their visitors may consider a role in environmental stewardship. In theorising how social relations inform the distribution of resources in any given human social setting, Fiske (1992; Fiske & Haslam, 1997; Rai and Fiske, 2011) argued that humans use four mental models for most of our social interactions: Authority ranking, communal sharing, equality matching, and market pricing. In discussing how indirect speech acts corresponds to relationship negotiation, Pinker et al. (2008) posited that three of the four are historically shared by all cultures: Dominance (authority ranking), mutuality (communal sharing) and reciprocity (equality matching) while market pricing is a feature of industrial and post-industrial societies. Fiske's (1992) Relational Models Theory (RMT) was a response to an emphasis on the individual in social psychology as a way of understanding the importance of social interaction as an underlying structure in how people organise their lives. Through authority ranking, communal sharing, equality matching, and market pricing, humans "construct and construe relationships. This means that people's intentions to other people are essentially sociable and their social goals inherently relational" (Fiske, 1992, p.689).

Communal sharing (CS) relations involve a conception of a grouping of people who believe that a shared quality such as kinship ties binds them together, and that this bond facilitates the sharing of resources such as living spaces, food and transport.

Social roles are based around repetitive activities that create a sense of equivalence and commonality between the group members (Fiske, 1992; Rai & Fiske, 2011). The findings provide no insight into a CS sharing relationship informing the social exchange within specific tour groups researched. Their observations about the guides do indicate that visitors perceived a shared attribute between their tour guide and other members of SoTM in their dedication to the restoration and conservation of Tiritiri Matangi.

Authority ranking (AR) represents differentiating people within a group in terms of a defined hierarchical basis for determining authority when it comes to decision making or evaluating information connected to the sharing of resources; "AR allows us to know the relative position of individuals in a linear hierarchy" (Rai & Fiske, 2011, p.60). Social roles are based around the idea that, in certain situations, two people within a social grouping cannot outrank each other. When it comes to the safety of a ship at sea, the authority of the captain of a vessel supersedes that of any of the passengers even if one of them is the head of a sovereign state. The tour participants all conveyed a sense of recognising the leadership role of the guide when it came to the dissemination of information about Tiritiri Matangi phenomena on their guided tour. Their sharing of how they evaluated their tour-based learning and knowledge accrual suggests that the negotiating of such relationships within a tour group involves a recognition of shared and different values, a sense of mutual respect and a shared interest for certain phenomena. The RMT recognises that "in any complex relationship between two or more persons, individuals often employ multiple models at the same time to navigate different aspects of different social-relational interactions" (Rai & Fiske, 2011, p.60).

Equality matching (EM) relations is about maintaining a reciprocal balance between the members of the relevant group. Where there is a tacit acceptance of certain imbalances between people in an EM relationship, there is periodic revision of the distribution of resources shared. Both deliberate and accidental actions that change the equilibrium between the group members need to be assessed; "the idea is that each person is entitled to the same amount as each other person in the relationship, and that the direction and magnitude of an imbalance are meaningful" (Fiske, 1992, p. 691).

Market pricing relations involves the use of a metric such as money to compare items on a ratio scale that may otherwise be considered non-comparable (Rai & Fiske, 2011). Measuring the value of any service that provides an expectation of educational outcomes for its users is challenging. With the SoTM tours, learning and the accrual of new knowledge are items that all participants identified as tour outcomes but the informal nature of such learning creates a challenge in understanding any long-term benefits for the individual or others from such learning.

Free-choice Learning Careers

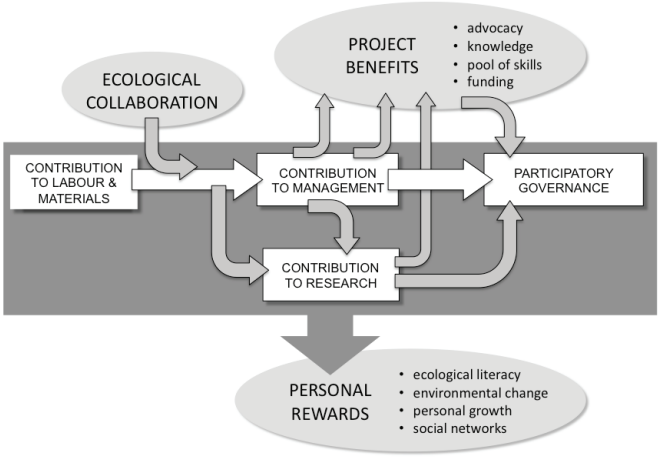
Falk and Dierking (2000) state that "learning is a dialogue between the individual and his or her environment through time" (p. 236). While formal educational achievement involves a form of external recognition, the milestones and benefits of free-choice learning at an individual or societal level are often very difficult to measure. In their discussion of the significance of leisure science learning in Los Angeles, California, Falk, Storksdieck and Dierking (2007) used the term "lifelong science learning" to invoke a sense of continuity in an individual's interest in science. A more universal term is "free-choice learning career" which can be defined as a sustained learning focus over time by an individual on a specific discipline, subject or activity.

Career, here, is in the sense of a vocation or a calling rather than a profession. In tourism research, Pearce used the term career to identify how both constant and ephemeral motivational factors affect a person's tourist behaviour over a period of time (Ross, 1998). A travel career suggests a sense of progression in each tourist's motivation for travel from inner to outer focused needs and that can be identified from their behaviour that over time becomes more altruistic in exchanges with destinations visited (Pearce, 2005). For a travel career to be operationalised as an empirical research model, past travel experience needs to be directly measured so that a discernible pattern in the psychological motives of a tourist, is demonstrably linked to changed patterns of behaviour over time (Ryan, 1998). While the idea of a career suggests that time is a quality that can provide opportunities for behaviour change, other studies suggest that the duration of the actual holiday can act as a constraint on change and a conduit for repeating past tourist behaviour (Ryan, 1998).

The free-choice learning career may culminate in following formal education paths that can provide external assessment of proficiency such as a tertiary education qualification. In a knowledge-based economy, learning is valued as a creator of economic capital. At a national level the development of learning infrastructure is an intrinsic platform for economic growth. A nation's well-being depends on its commitment to supporting institutions such as museums, libraries and visitor centres in protected areas as these represent the foundations of a knowledge-based economy (Falk, 2001; 2005). The value we place on those institutions and the learning they foster is often commensurate to what we value as necessary at a societal level: "Infrastructure investments help provide structures, create conditions, and develop capacity that are prerequisite to the functioning of daily life" (Falk, 2001, p. 11). Galbraith's (2013) model outlines the career path that many volunteers took from visitors to Tiri on a guided tour motivated to see rare bird species to becoming members of SOTM and committed to protecting a localized ecosystem (See Figure

2). A volunteer's career may start with guiding, track maintenance, beach clean ups, and culminate in monitoring specific bird species, as well as becoming involved in research and governance. Members of SOTM work collaboratively with researchers and DOC staff, and through this their understanding of individual species and the overall ecology of the island is enhanced:

> Public participation in research on Tiritiri Matangi is the result of increased ecological literacy and a willingness by managers and researchers to accept non-specialised contributions to research. Collaboration between experienced researchers and non-specialised volunteers is recognised as a mechanism to assure the accuracy and reliability of the field data collected. (Galbraith, 2013, P. 269)



Source: Galbraith (2013).

Figure 2. *Conceptual model of the 'evolution' of public participation in the ecological restoration of Tiritiri Matangi project showing benefits to the project and to volunteer participants*

Volunteers play a vital role in the conservation of many PAs in New Zealand. Many began their environmental stewardship activities through leisure activities. At SoTM, being a participant on a guided tour is often a significant milestone in the free-choice learning career in conservation for many of its volunteers. Through the work of its volunteer members, SOTM plays a pivotal role in the ecological restoration of the island. Public recreational opportunities such as birdwatching and guided wildlife tours in New Zealand Protected Areas were often the first activities that volunteers at a PA did before becoming involved in activities as diverse as guiding, planting, scientific monitoring, and the translocation of rare species from donor sites (Butler et al., 2014; Galbraith, 2013; Campbell-Hunt, 2013; Rimmer, 2008).

Limitations

Feasibility issues meant that the study of guide-visitor interaction in relation to the learning process of individual participants was limited to two research sites, and the data collected reduced to case studies to five guided tours from each site. Riessman (2008) in evaluating the strengths and weaknesses of utilising thematic analysis in relation to other methods with narrative inquiry noted its limitations in the areas of uniformity and the role of the researcher: "The investigators' role in constructing the narratives they can analyze tends to remain obscure" (Riessman, 2008, p. 76).

An important limitation was the potential bias in respect to language, culture, ethnicity and politics. The ability to communicate through a shared language may mask subtle cultural differences in respect to phenomena such as learning, curiosity and affect. English was a second language for some of the visitors and guides observed and interviewed during the field research. Of the five case studies selected all participants cited English as their first language.

Conclusion

The idiosyncratic nature of a free-choice learning career makes it difficult to assess learning outcomes from short duration activities such as wildlife tours. The individual circumstances of each visitor make it challenging to devise a universal framework through which to schematise the potential circumstances of all visitors when it comes to free-choice learning. A person's free-choice learning involves an ad-hoc collection of venues such as guided tours, museums, libraries and other venues. It is possible to learn from the experiences of volunteers whose involvement in the places they care for often started through a guided tour and then progressed into a role of stewardship (Galbraith, 2013). The concept of a free-choice learning career can aid in researching learning and behavioural change for guided tour participants if it is combined with research about specific sites such as Tiritiri Matangi and overall subject matter such as conservation or indigenous wildlife.

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