JCOM

COMMUNICATING SCIENCE ACROSS CULTURES, COMMENTARIES FROM SESSIONS AT PCST2018

Challenges of cross-cultural communication in production of a collaborative exhibition: Wai ora, Mauri ora

Nancy Longnecker and Craig Scott

Abstract

This case study of the development of a cross-cultural museum exhibition illustrates value and difficulties of cross-cultural collaboration. University researchers worked with a class of postgraduate science communication students and designers from the Otago Museum to produce a museum exhibition. *Wai ora, Mauri ora (Healthy environments, Healthy people)* provided visibility and public access to information about Māori work. The exhibition assignment provided an authentic assessment of student work, with a professional output. Working on the exhibition involved cross-cultural communication between Māori and pakehā (non-Māori) and between students and museum professionals. This provided a rich learning experience that took many of the players outside of their comfort zone.

Keywords

Public understanding of science and technology; Representations of science and technology; Science centres and museums

DOI

https://doi.org/10.22323/2.17040305

Whiria te tāngata — ka puta he oranga
Weave the people together to nurture well-being.

Introduction

This commentary describes development of a cross-cultural museum exhibition by a class of science communication postgraduate students in Aoteoroa New Zealand. Museums have an important and reputable role in providing life-long learning opportunities [Falk and Dierking, 2012]. Yet the role of the museum in providing stories of indigenous knowledge is not without controversy [Conn, 2006; Gondwe and Longnecker, 2015a], especially given mechanisms of collection of many cultural objects displayed in museums which may then be presented out of context or in a way that implies the culture itself is a relic [Cruikshank, 1995]. There is a lack of consensus on the meanings and representations of western science and indigenous knowledge or the relationships between them [Gondwe and Longnecker, 2015a; Gondwe and Longnecker, 2015b]. This exhibition explored

collaborative research projects that incorporate both indigenous and western scientific perspectives.

Compared to many countries around the world, there is a relatively respectful relationship between Aoteoroa New Zealand's government and its indigenous people. There is legislative recognition of the right of Māori to self-determination in the Treaty of Waitangi, signed in 1840, and a resurgence of te Reo, one of Aoteoroa New Zealand's official languages. The ambitious mission statement of Aoteoroa New Zealand's Ministry of Business, Innovation and Employment is that Vision Mātauranga 'unlocks the science and innovation potential of Māori knowledge, resources and people.' [Ministry of Business Innovation and Employment, 2018]. The Vision Mātauranga policy recognises the potential of mātauranga Māori (Māori knowledge) and its value to current research projects.

> "…mātauranga Māori includes knowledge generated using techniques consistent with the scientific method, but explained according to a Māori world view. Acknowledging this extends the history of scientific endeavour back to when Māori arrived in Aotearoa and Te Wai Pounamu, many centuries ago."
>
> [Hikuroa, 2017, p. 5]

While New Zealanders are positive about science, many have low awareness about mātauranga Māori and its scientific value. In a nationwide survey by Nielsen [2014], 91% of respondents agreed that 'science is important for improving human health', 87% that 'science is important for the preservation of New Zealand's environment' and 82% that 'science is important for addressing key challenges affecting our society'. Yet only 39% of respondents agreed that 'mātauranga Māori has a role in science' and 25% disagreed with that statement. This is a problem since people's values and attitudes affect how they receive new information [Longnecker, 2016].

One aim of the *Wai ora, Mauri ora* (Healthy environments, Healthy people) exhibition at the Otago Museum was to increase public awareness of the value of mātauranga Māori in explaining the world we live in. Another aim was to provide an authentic assessment and valuable learning opportunity for postgraduate students at the Centre for Science Communication. Semi-structured interviews were conducted with participating students, researchers and the Museum exhibition design team months after the exhibition closed. These were recorded and transcribed. The research was approved by the University of Otago Ethics Office (D18/079). Here, we describe the exhibition and some lessons learned from the perspectives of different collaborators.

The Wai ora, Mauri ora (Healthy environments, Healthy people) exhibition

In 2017 and 2018, a class of postgraduate students at the University of Otago's Centre for Science Communication, the University's Te Koronga Māori Science Research Theme and the Otago Museum collaborated to plan, create and display the *Wai ora, Mauri ora* exhibition.

Students were tasked with identifying a local research collaboration that involved both mātauranga Māori and a western science approach and planning one exhibit

that related to that research collaboration. Students pitched ideas for their exhibit orally to the class, a Te Koronga representative and Museum designers for feedback and discussion. After class sessions and discussion, the exhibition theme was refined, exhibits were agreed upon and each student was then responsible for research, planning and sourcing materials for their one exhibit in *Wai ora, Mauri ora* (Figure 1). Some of the eight exhibits produced by science communication students and staff are described below.

Mataatua is a carved wharenui (meeting house) built in the 1870s that was returned in 1996 to the Ngāti Awa tribe after being taken without permission and housed for many years in other locations. The exhibit about this taonga (treasure) told the story of Mataatua and described Sir Mason Durie's analogy of the four pillars of health in the four walls of a wharenui: physical health, family health, spiritual health and mental health. A video interview describing the significance of taonga enhanced this exhibit.

The Takaroa exhibit showcased the work of a local waka club, Hauteruruku ki Puketeraki, whose focus is on cultural connectedness and water safety. For this exhibit, a student contacted Te Koronga researchers who work alongside Hauteruruku ki Puketeraki and the researchers then contacted members of Hauteruruku ki Puketeraki to determine whether they were comfortable having their work shared in a public forum.

> *. . . the collaboration between ourselves, the club and whānau [family], the Science Communication crew and then the museum — it's just a really powerful way of displaying it to people that might not have had the opportunity otherwise.*
>
> (Researcher 2)

Te Tiaki Mahika Kai explored the concept of kaitiakitanga (guardianship) through the context of gathering kai (food) from local waters. Among other things, *Te Tiaki Mahikia Kai* is developing a holistic approach to water quality. This exhibit was the most interactive, with visitors invited to contribute their own stories of fishing and place a dot on a map of Aoteoroa New Zealand to show a fishing location that is significant to them (Figure 1).

> *. . . there was a lot of engagement especially with the interactive map and sharing their thoughts around kai.*
>
> (Museum Staff 1)

The Rongoā exhibit highlighted traditional uses of native plants, some of which are being studied to better understand their effects and potential applications. An interactive aspect of this exhibit included samples of perfume which includes taramea (*Aciphylla squarrosa*) and is commercially available.

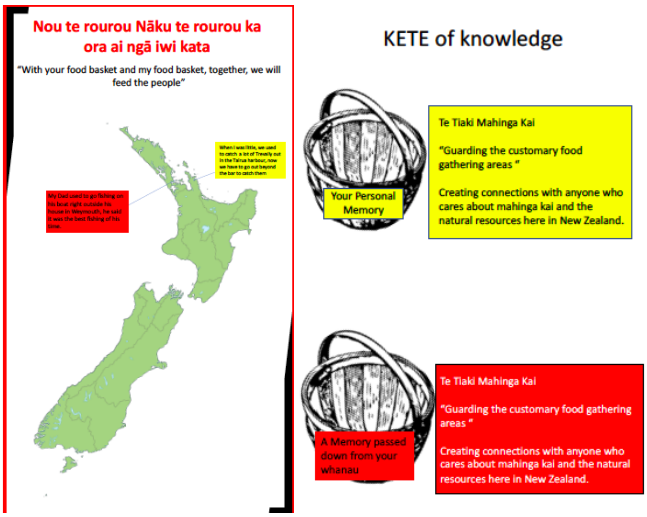

Figure 1. *Te Tiaki Mahika Kai* exhibit concept submitted by Student 1.

Figure 2. *Te Tiaki Mahika Kai* exhibit, as produced and displayed in the Museum, invited visitors to share locations and memories of fishing.

Lessons learned

Māori/ pakehā communication

Cross-cultural communication adds complexity to any project and requires mutual respect and time.

> *When you're coming at things from a Māori perspective, you're seeing things in the whole… whereas some of the initial stages of the exhibition were trying to put pieces together, rather than seeing it from a whole… So that's probably the core difference between western science, western ways of thinking or epistemologies and indigenous.*
>
> (Sponsor 1)

Similarly, there is generally low awareness in society of the value of indigenous knowledge. The waka pictured in the Takaroa exhibit raises awareness about the currency and relevance of mātauranga Māori.

Sometimes people talk about items and objects as though they are just relics of the past but the cool thing with Hauteruruku is that it's actually a living, breathing canoe that's out there doing it.

(Researcher 2)

One can argue that the essence of what science communicators do is to quickly get a handle on a complex topic and communicate about that to a wider public, generally with a deadline in mind. In previous years, classes similarly handled topics about which they had little understanding, ranging from seed science to Einstein's Theory of General Relativity. All of these previous exhibitions were created within a western paradigm and caused less apparent anxiety for the students involved. In those previous class exhibitions, sponsors provided a background briefing to the class. That briefing did not happen for the *Wai ora, Mauri ora* exhibition. Developing an exhibition that showcased mātauranga Māori by a class of international and pakehā (non-Māori) students within the constraints of one semester, especially given insufficient guidance relating to cross-cultural communication, caused considerably more angst among the students than previous class exhibits.

I found it very stressful… I was very worried about crossing lines or misunderstanding something.

(Student 2)

…in hindsight I think [cross-cultural communication] was both probably the biggest challenge and frustration but also the most rewarding part of it.

(Student 3)

…sometimes I felt a bit out of my depth and like I was stepping on people's toes.

(Student 5)

I don't think that the students were given enough input into a) what mātauranga Māori is and b) how to engage with the Māori world … in an appropriate kind of way.

(Sponsor 2)

The need for extensive communication and discussions around approval and ownership of the exhibit led to additional challenges.

…in working with Māori or indigenous groups, we value the relationship, and often that needs time for those things to develop. But then also moving forward it's around that custodianship or that guardianship of what it is that we're doing… so can I just write it myself? …They're the sorts of conversations that need to happen.

(Sponsor 1)

The constraint with a very public project such as this exhibit is that all parties involved must be consulted and respect given for their story and how they choose to tell it.

(Student 3 report)

Communication between Students and Museum Professionals

Another cross-cultural communication in production of this exhibition involved that between students and museum professionals. An exhibition done to a professional standard usually takes longer than a semester to plan carefully and execute. The time challenge of incorporating an exhibition design into one semester leads to frustration. In this instance, a project manager was hired to consolidate, supplement and edit the student assignments. This was particularly useful for this exhibition because of the extra need for consultation.

> *. . . it was good having [the project manager]. . . to create that overarching voice between them all. . . .to pull it all together into a consistent voice. . .*
>
> (Museum Staff 1)

While the quality of the exhibition was improved with the addition of a project manager, this provided an additional layer of editing and change that had not happened in previous exhibits.

> *. . . a complete challenge in my role was. . . honouring the students . . . that felt very awkward. A very awkward line to be balancing.*
>
> (Project Manager)

Additional material provided through consultation meant that one exhibit was changed significantly. While the exhibit was improved, the student was left out of the process and was understandably disappointed. It was a challenge to communicate with and include students in the development process after the semester finished.

> *So my exhibit got changed a lot in the development process from what I presented. . . So it didn't look anything like what I had presented and I wasn't informed about any of those changes so it was a total shock to me. . . When I look at the exhibit that they created I can completely understand why they made the changes they did. . . I just wish that I had been included in that process so that I could have . . . learned more. . . it no longer is a piece of my work, it feels like.*
>
> (Student 4)

A weakness of the exhibition was the paucity of interactivity. A number of factors led to less development of interactive elements than had occurred in previous exhibitions.

> *. . . there was so much potential in terms of the plans. . . The big one that I was particularly gutted about, that I tried to work on and work on and work on to make happpen . . . it was a fantastic idea because of the badges. To apply that badge concept over the entire exhibition — to have an interactive thing where kids come in and make badges using the tīti [sooty shearwater], using the Archey's frog, to bring it all together — it was such a cool concept.*
>
> (Project Manager)

After the exhibition was dismantled, the collaborators presented an overview of *Wai ora, Mauri ora* to the Te Koronga Research group. During discussion after the talk, the first author commented about how gracious and forgiving her Māori and New Zealand pakehā collaborators had been in helping her along a very steep learning curve about appropriate cross-cultural communication. This comment provided a dramatic punctuation when it was pointed out to her later how *inappropriate* it had been for her to be sitting on a table (taboo) while making that observation. The painfully embarrassing incident was funny in an ironic sense, illustrating both the patience and generosity of the audience and the pitfalls and challenges of cross-cultural communication. The *Wai ora, Mauri ora* exhibition represented one baby step in improved cross-cultural communication and awareness for both the developers and the public.

> *There are huge challenges in science in general to accept any element of mātauranga, so I think that the exhibition is a step toward opening the lens a little wider.*
>
> (Sponsor 1)

Involvement in the exhibition was an opportunity for deep learning on the part of the students.

> *I found it very challenging… in saying that, it was a good challenge to overcome. I was a little bit sceptical about it, but now that I've finished it, and seen the whole work, yeah — it's worked out really well.… I'm glad that I went because it exceeded my expectations, which was nice. (laughter) A little bit proud, I guess… And exciting.*
>
> (Student 1)

Changes implemented

Since the subsequent class' exhibition also involved mātauranga Māori, the first author organised provision of an overview of research in a Māori context for all students and staff at the Centre for Science Communication. This class was also given more briefings earlier in the semester. While students in this class still exhibited uncertainty, at the time of writing, they seemed more confident about their plans and the potential exhibition. For the upcoming exhibition, more time has been allowed for cultural consultation and development of interactive elements after the students submit their exhibit assignments and before the exhibition launch.

Acknowledgments

This commentary was developed after presentation at PCST-2018. We acknowledge contributions to planning and production of the exhibition by Sierra Adler, Ashleigh Beales, Lucy Coyle, Guy Frederick, Aaron Heimann, Rachel Leeson, Gini Letham, Jess McLean and Alysha Painter. Research and project participants who shared their knowledge and experience included Phil Bishop, Corey Bragg, Javiera Cisternas, Brendan Flack, Anne-Marie Jackson, Ngahuia Mita, Ranui Ngarimu, Catherine Smith and Jeanette Wikaira. Te Koronga Māori Science Research Theme provided financial support for the exhibition. Thanks to Andrea Liberatore and Daniel Solis who helped with research activities.

References

Conn, S. (2006). 'Science museums and the culture wars'. In: *A companion to museum studies*. Ed. by S. Macdonald. Oxford, U.K.: Blackwell Publishing Ltd, pp. 494–508. https://doi.org/10.1002/9780470996836.ch30.

Cruikshank, J. (1995). 'Imperfect translations: rethinking objects of ethnographic collections'. *Museum Anthropology* 19 (1), pp. 25–38. https://doi.org/10.1525/mua.1995.19.1.25.

Falk, J. H. and Dierking, L. D. (2012). The Museum Experience Revisited. Walnut Creek, CA, U.S.A.: Left Coast Press.

Gondwe, M. and Longnecker, N. (2015a). 'Objects as stimuli for exploring young people's views about cultural and scientific knowledge'. *Science, Technology, & Human Values* 40 (5), pp. 766–792. https://doi.org/10.1177/0162243915577452.

— (2015b). 'Scientific and cultural knowledge in intercultural science education: student perceptions of common ground'. *Research in Science Education* 45 (1), pp. 117–147. https://doi.org/10.1007/s11165-014-9416-z.

Hikuroa, D. (2017). 'Mātauranga Māori — the ūkaipō of knowledge in New Zealand'. *Journal of the Royal Society of New Zealand* 47 (1), pp. 5–10. https://doi.org/10.1080/03036758.2016.1252407.

Longnecker, N. (2016). 'An integrated model of science communication — More than providing evidence'. *JCOM* 15 (05), Y01. URL: https://jcom.sissa.it/archive/15/05/JCOM_1505_2016_Y01.

Ministry of Business Innovation and Employment (2018). *Vision Mātauranga policy of ministry of business, innovation and employment*. URL: https://www.mbie.govt.nz/info-services/science-innovation/agencies-policies-budget-initiatives/vision-matauranga-policy (visited on 6th November 2018).

Nielsen (2014). *Public attitudes towards science and technology*. Full report for Ministry of Business, Innovation and Employment. Wellington, New Zealand.

Authors

Nancy Longnecker is Professor of Science Communication at the University of Otago in Dunedin, New Zealand. She is interested in factors that affect peoples' attitudes about science-related issues and about different sources of knowledge. E-mail: nancy.longnecker@otago.ac.nz.

Craig Scott is Head of Exhibitions and Creative Services at the Otago Museum in Dunedin, New Zealand. Under his leadership, exhibitions at the Otago Museum have been nominated for international awards and been recognised nationally. E-mail: Craig.Scott@otagomuseum.nz.

How to cite

Longnecker, N. and Scott, C. (2018). 'Challenges of cross-cultural communication in production of a collaborative exhibition: Wai ora, Mauri ora'. *JCOM* 17 (04), C05. https://doi.org/10.22323/2.17040305.

ISSN 1824-2049. Published by SISSA Medialab. jcom.sissa.it