Keep teaching this! Engaging Māori Studies students with digital cultural mapping tools

O. Ripeka Mercier, Bruce McFadgen & Arama Rata

Abstract

The Te Kawa a Māui Atlas (TeKaMA) project is a Victoria University of Wellington initiative that incorporates mapping assignments and activities into courses run by the School of Māori Studies. Digital mapping in particular engages our students in cutting-edge technologies, critical pedagogies of place, opportunities for peer sharing and contribution to a school-wide project. This paper gives an overview of the project and student responses to it. It then presents different mapping software that students have used to address critical questions in relation to contested places. Throughout, we comment upon how mapping supports activity in relation to community: whether that is a community of students and scholars, or a wider community to which the student belongs.

Engaging students with the Te Kawa a Māui Atlas

> *Keep teaching this! It's an amazing tool and a fantastic resource for future students. MAOR124 Student, 2014*
>
> *I feel like a test on concepts such as aroha and utu would have been more relevant to the course. MAOR123 Student, 2014*

Since 2010, the staff at Te Kawa a Māui (the School of Māori Studies) have introduced a large variety of mapping assignments across 10 of its 30-odd courses. These activities include reading and analysing oral, digital and paper maps; adding layers of information to paper and digital maps; and creating maps in oral, paper, 3-dimensional and digital forms. The project has invited staff and students alike to reflect on and explore how mapping can put 'our faces in our places' (Hoskins, 2008). It explores what a 'critical pedagogy of place' (Gruenewald, 2003; Manning, 2009) might look like in practice.

However, the initial motivation for introducing maps into our programme was primarily to enhance the learning and engagement of our students. Maps are a visual and colourful form of text. As well as representing physical space, they can also connect people to place, presenting human history and culture in a dynamic and colourful way. Maps, and by extension an Atlas, potentially exemplify a 'high-impact practice' (Kuh, 2008). High-impact practices are argued to engage students in numerous ways: for example, by involving students in actively contested questions, engaging them in research from the undergraduate level, connecting them with the research interests of academic staff and contributing to large-scale, meaningful projects beyond their assignment. The TeKaMA project did all of these things, and in addition, our 'Atlas' provided a papa or base upon which to layer the diverse disciplinary backgrounds of academic staff, and the research of our students. Depending on the course, mapping can contribute from 5% to 100% to a student's total

course grade. The following list outlines the aims of the mapping assignments. They:

1. diversify the learning experience of Māori studies students (Mercier & Rata, 2016);
2. teach critical reading of spatial representations (Mercier, 2013);
3. teach skills in digital mapping;
4. explore notions of boundedness and framing; and
5. explore how mapping can tell histories, share mātauranga Māori and Indigenous knowledge (Mercier et al., 2013).

Students have produced highly original work, promoting their own and others' engagement and learning, as well as pushing the boundaries of what can be considered Māori studies. In response to the quality and variety of work students produced, we set up and posted selected research in the online version of the Te Kawa a Māui Atlas (www.atlas.maori.nz). Students have formally evaluated the mapping activity and we have analysed and published this in previous works.

> Feedback has indicated that the cultural mapping ecosystem at Te Kawa a Māui fosters student engagement on several levels: it encourages self-directed learning, uses a culturally-relevant pedagogy, takes for granted the validity of Indigenous knowledge, teaches transferable skills in digital technologies and communication, provides the option of relating scholastic projects to communities and areas familiar to students, gives an outlet for primary resource material and gives students agency in their research while providing inclusive learner-to-learner experiences. The quality and diversity of map-based projects is itself an indication of how cultural mapping can engage students. (Mercier et al., 2013, p. 147)

Qualitative feedback from student evaluations has been largely positive. Most negative feedback related to poor communication of assignment purpose and how to complete tasks; aspects that we can improve upon. The second quote at the beginning of this section reveals another theme in the negative feedback, students considering work not relevant because it did not resemble traditional forms of assessment. Furthermore, one of the key lessons learned was that:

> spatial mapping needs to be integral and meaningful to the assignment's purpose and alongside that, the technology needs to support the aims of cultural mapping. While our students demonstrated readiness to overcome technical challenges and pride in their accomplishments when they do, they and our staff need to see the relevance of the digital to the assignment and be given adequate training. Also, if spatial and technological aspects do not support wider efforts in the recovery and maintenance of Māori and Indigenous knowledge, they can disengage students. (Mercier et al., 2013, p. 147)

A mapping assignment that contributes up to 10% of a course mark is enough to raise awareness of the physical spaces students occupy, diversify the learning experience and demonstrate the relevance of mapping to Māori studies, while not detracting from traditional forms of assessment (Mercier & Rata, 2016).

Assignments, digital mapping tools and community

Detailed descriptions of our mapping activities, which include how students collaboratively built map databases, can be found in previous publications. For instance, in the 'Māori society and culture' course, students writing about the history behind 'colonial monuments' used the pins and narrative box functions in the Google Maps Engine to locate and describe the landmark of their choice. Using Picasa, students of 'Māori science' located, photographed and uploaded geotagged images of different rākau (plants) on campus (Mercier & Rata, 2016). The latter project also made use of previous student research published online. In each of these projects, work for the databases contributed to knowledge sharing amongst the students, by the build-up of information in a centrally accessible database, at the same time building a community of scholars.

MAOR203, Mapping Whenua, "is a practical course which leads students to understand how mapping in Aotearoa New Zealand has impacted on Maori relationships with their lands. Field and workshop exercises … enable students to produce maps of their own" (Te Kawa a Māui, 2016). MAOR203 is 100% assessed by map-related assignments, taking different forms, such as written reports, presentations and assignment questions. Two major pieces of assessment include an archaeological site visit, and a 'cultural mapping' project of the students' choosing.

Mapping produces an abstraction of place that we try to mediate by taking students to actual places, where they visit sites and carry out various activities – thus refusing to "settle for the abstractions and simulations of classroom learning" (Gruenewald, 2003, p. 8). Students locate and visit archaeological sites, comment on their condition and assess any threats to the site. Prior to their field visit, they use the New Zealand Archaeological Association ArchSite database, to find the locations of, and other information about, the sites they will visit. Before the field visit, they plot the sites on a map using place-marks in Google Earth. A printout of their Google Earth map helps them to find the sites. After their field trip the students map the sites they visited using Quantum GIS (QGIS). In order to add further historical information to the maps, the students geo-reference and overlay other data, such as survey maps, on to a topographical base map in QGIS.

For their second project, students use a variety of digital programmes to complete their work. Since 2011, these have included Google Earth, QGIS, Google Maps Engine, Picasa, Word Clouds (Tagxedo and Wordle), websites, Prezi, infographics, videos, Voicethread, Powerpoint and GIS Story Map. In some cases students are guided towards particular software that the coordinator is aware might fit the kaupapa (for instance, Voicethread). In as many other cases, the students may select their own medium (for instance, Prezi) and teach themselves how to use it.

In our compulsory course for the Māori Resource Management major, MAOR301, one of the course learning objectives (CLOs) is to explore how spatial/map-based presentation of information contributes to the understanding and analysis of Māori resource management issues. To assess students against this CLO, a project worth 30% is set. The project consists of a presentation (5%), an essay (10%) and a map (15%). Students choose a topic, research it and present it in a visual and spatial way. Their essay presents their framing and critical reflections on the topic and the mapping of it. They are asked, for instance, 'how does visualising the resource contribute to managing it?'

As for MAOR203, students chose a diverse range of topics to explore. Furthermore, a diverse range of mapping media were also chosen. In 2016, the digital media used were Google Earth, Google Maps Engine, Word Clouds, Prezi and Piktochart. Students also submitted non-digital projects.

Student Tayla Cook used Google Earth to pinpoint the whakairo (carvings) within Te Tumu Herenga Waka. Her aim was to promote a sense of community and belonging for students both on campus and to their iwi.

> With the use of Te Tumu Herenga Waka Marae, a map was created to help not only create a first step for non-Māori to connect with their Māori identity, but to find a 'home away from home'. (source)

Tayla also reflected on the limitations of 'pinpointing' in Google Earth, particularly in relation to her migrating ancestor Kahungunu. This points out a general limitation of entry level skills in digital mapping. Placemarks require placements so precise as to render the broader connections to place meaningless.

Some students had done MAOR203 Cultural Mapping, or other courses in which they had received instruction on Google Earth, word salads and infographics. Sarah Mann's submission on mātaitai reserves, using infographic producer Piktochart, included a map, infographics and a word salad, revealing her previous experience with these.

Conclusion

Māori Studies is not a school of geography or cartography, instead traditions of oceanic and terrestrial navigation using cognitive maps, oral cartography and other navigational aids connect Māori to a cartographical whakapapa, justifying our use of maps in Te Kawa a Māui. Nonetheless, the ongoing success of such an ambitious and amorphous project relies on sustained effort and championing. The setup and maintenance of mapping assignments requires a unique set of teaching skills. Thus, although the learning and engagement benefits seem clear, map-based assessment is not likely to overthrow more traditional forms of assessment, such as tests, essay writing and seminars.

Nonetheless, teaching spatial literacies gives us all some basic skills and insights in how to tell our own stories with maps. As well as benefitting from working with their peers on map-based activities, anecdotal evidence suggests that students are sharing what they

learn with their whānau and other communities. The students are a conduit of information, but usually have limited resources, so it is vital that we teach and use free and easy to access mapping software, such as Google Earth and QGIS amongst others. We do not have to be experts to use many of the mapping tools and many of them cater sufficiently to community needs. Sometimes we provide instruction, at other times the student motivation is high enough, that they learn how to 'read and write map' themselves.

By offering students the mechanism by which they can learn and use digital cultural mapping to engage with places of significance, we at Te Kawa a Māui can open their eyes to ways they can support important community work. That work might raise their own understanding of history and context in relation to place, or present known information in a visual way, contributing to other communities' understanding. Whether those communities are of their own peers, or of their friend, whānau or hapū communities, mapping engages and enhances not just their learning experience, but also their ability to situate themselves in the context of place and people.

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