CLIMATE FOR CHANGING LENSES:

Reconciliation through site-specific, media arts-based environmental education on the water and climate change nexus in South Africa and Canada

Illustration by Sarah Van Borek (2021)

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ABSTRACT

This study took place in the context of a growing racialised global water crisis and increasing demands worldwide for transforming higher education at institutions of ongoing settler colonialism. It presents a conceptualisation of what education, research and activism can look like and unfolded inside a doctoral research project that expands what doctoral education can look like. Using a media arts-based praxis process, I developed a relational model of university curriculum – site-specific, media arts-based, environmental education – with potential to cultivate relations (human and nonhuman) towards reconciliation while contributing to justice at the water-climate change nexus. My aim as a settler-ally was to expand my teaching and curriculum practices, thereby also offering curriculum transformation inspiration to others. My research was rooted in my concept of reconciliation as *a practice towards thriving together*, where the 'together' was inclusive of both humans and nonhumans. The curriculum engaged students in de/re/constructing water narratives through making site-specific videos focused on local water bodies. Decolonising artistic approaches known as *slow media* and *soundscape recording* were strategically incorporated into audio/video mapping assignments where students observed water aesthetics in ways that shifted their perceptions about water and entities entangled with it. Students met with Knowledge Keepers (Indigenous and non-Indigenous people from outside the academy with existing relationships to water bodies). A photovoice methodology was used in these meetings with Knowledge Keepers to reconfigure traditional film director-subject power relations. Guest lecturers from non-traditional backgrounds contributed diverse perspectives. Ecomotricity was incorporated, whereby students were in deliberate movement in/with water bodies through canoeing together. The curriculum culminated in a public screening/education event where resulting videos, interspersed with educational games facilitated by students, surfaced emotions, knowledge co-production and new synergies amongst the event's temporary community.

Through two iterations of the curriculum, where I co-designed and taught a course called *Making Waveforms*, one in Vancouver, Canada and one in Cape Town, South Africa, I explored the primary research question: How can a relational site specific, media arts-based university environmental education curriculum cultivate students' relational sensibilities and abilities oriented towards reconciliation of diverse peoples and ecosystems in South Africa and Canada? Iterating the curriculumacross these two contexts allowed me to assess which

aspect(s) of the curriculum may have been applicable across these and other contexts. By using mixed methods of data collection and sharing *throughout* the research journey, I explored the sub-questions: a) How is reconciliation understood currently by university students in South Africa and Canada? and b) How can a relational site-specific, media arts-based university environmental education curriculum and my PhD methodologies (PhD-by-publication, website, and participatory approaches to podcasting, video making, and song creation), contribute to decolonising higher education, and thereby further contribute to reconciliation of diverse peoples and ecosystems in South Africa and Canada?

Integral to my praxis process, I undertook a PhD-by-publication that involved writing four academic journal articles, with each paper presenting a key stage in the process. The papers, all of which have been submitted to peer-reviewed academic journals, form part of this thesis and can be found in the Appendices. The course was originally developed around Donati's (2011) relational sociology and Gergen's (2009) relational education theory. Throughout my praxis process, I expanded my theoretical influences as called for by the research and teaching practice.

The journey behind my first PhD paper, *(Towards) Sound research practice*: *Podcast-building as modeling relational sensibilities at the water-climate change nexus in Cape Town*, began when I officially started my doctoral studies in early 2018. The paper was co-authored with a fellow PhD scholar from Rhodes University's Environmental Learning Research Centre (ELRC), Anna James. It presents an experimental arts-based methodology we co-developed for doing contextual profiling by building a socially-engaged podcast series, called *DayOne,* to explore the lived experiences of the Cape Town water crisis of 2018. It includes my initial tool of analysis for exploring how the curriculum might cultivate relational sensibilities and abilities towards reconciliation. The podcast pedagogy offered opportunities to develop some relational learning processes. The analytical tool was developed from cross-referencing reconciliation and relational educational theories. This paper also incorporated theories in relational solidarity and social movement learning. The podcast episodes included personal narratives that, in turn, revealed diverse ideologies and polarisations in the water situation. Working with the audio medium highlighted possibilities for creating and shifting affective relations. Recording and editing soundscapes of water bodies began explorations of the agential qualities of water. These were foundational dynamics to explore in building the reconciliation curriculum. The paper is published in the *International Journal of New Media, Technology, and the Arts* (2019, Volume 14, Issue 1).

My second PhD paper, *A media arts-based praxis process of building towards a relational model of curriculum oriented towards reconciliation through water justice,* presents my methodology for and analysis of a pilot course I co-designed and taught at the Emily Carr University of Art + Design (ECUAD) in Vancouver, Canada in 2018. This course served as contextual profiling around the water situation in Vancouver. The course was offered in partnership with a science-based environmental non-profit called the David Suzuki Foundation and an Indigenous-led post-secondary school called the Native Education College. The course's public event was hosted at the Beaty Biodiversity Museum. At this stage, I was introduced to Cree/Métis filmmaker, Gregory Coyes, and his Indigenous cinematic narrative approach known as *Slow Media.* Integrating slow media into video mapping assignments presented exciting possibilities for shifting views and valuing of water. This was the stage at which my concept of reconciliation expanded to explicitly include nonhumans. I applied my initial analytical tool to the curriculum here, which revealed the three most prominent relational sensibilities and abilities towards reconciliation cultivated by students through the course: (1) knowledge ecologies; (2) a hopeful social imaginary; and (3) embodied ways of knowing. I began to make connections between the curriculum and Mi'kmaq elder Albert Marshall's concept of 'Two-Eyed-Seeing', and expanded the notion to 'Three-Eyed-Seeing' to include artistic approaches. Deeply inspired by Bekerman and Zembylas's (2012) *Teaching Contested Narratives*, I began to see the growing importance of the narrative aspects of reconciliation education. The paper is published in the University of Pretoria's *Journal of Decolonising Disciplines* (2021, Volume 1, Issue 2).

My third PhD paper, *Water as artist-collaborator: Posthumanism and reconciliation in relational media arts-based education,* presents a 2019 iteration of the curriculum at ECUAD in Vancouver, and illustrates my shift to include posthuman theories in my analysis. This course was offered in affiliation with the David Suzuki Foundation, and in collaboration with the Native Education College. The culminating public event was hosted by the Beaty Biodiversity Museum. Decentring the human in this data analysis better supported my research and curricular aims. The strong technoculture of the media arts-based curriculum fits well with many posthuman concepts. This posthuman reading of the course and data enabled me to see what changes were emerging through student-water-technology intra-actions, and how these supported relations towards reconciliation as well as water justice. Most notable of these changes was the emergence of water's agential qualities, specifically of water as becoming collaborator in artistic/knowledge co-production, where students think *with* water. I

argued this contributes to reconciliation by decentring the human, enabling relations in which power is more equal, and where there are greater possibilities for mutual responsibility between related entities. This is where I developed the concept of audio/video as *relational texts*, supporting the creating and shifting of affective relations more than the monumentalised verbal/written knowledge of traditional universities. This is also where I realised that relational work towards reconciliation would require engaging with the hidden curriculum of institutions. The paper is published in the journal *Reconceptualizing Educational Research Methodology* (2021, Volume 12, Issue 1), as part of a special issue on *Posthuman Conceptions of Change in Empirical Educational Research*.

My fourth PhD paper, originally entitled *Making waveforms: Implicit knowledge representation through video water narratives as decolonising practice towards reconciliation in South Africa's higher education,* presents an analysis of the 2019 iteration of the curriculum in South Africa. I co-designed and led a course called *Making Waveforms* at the University of Cape Town's Future Water Institute (FWI) in collaboration with Rhodes University. The course was co-designed/facilitated with FWI's Research Fellow Amber Abrams, who also co-authored this paper. The course's public event was hosted by a non-profit organisation called the Tshisimani Centre for Activist Education. This paper explored the ways that non-verbalisable, implicit learning – understood as part of many non-Euro/Western ways of knowing – takes place in the *Making Waveforms* course and how this influenced water-specific climate behaviours while contributing to decolonised reconciliation practice for higher education institutions. Drawing on theories of implicit and explicit knowledge, we first showed how implicit learning primarily took place through: 1) site-specific audio/video mapping of water bodies; 2) meetings with Knowledge Keepers; and 3) an interactive public screening event. We highlighted how this non-verbalisable learning produced feelings of empathy for diverse peoples and waterways, as well as aesthetic appreciation of water, and how this can contribute to more response-able water behaviours. This, we argued, supported the valuing of implicit knowledge within a traditional educational setting, thereby pluralising knowledge, and was key to reconciliation/decolonisation in higher education. Iterating the curriculum for the South African context emphasised the importance of context-specificity of the course overall, and also of the relational work embedded in the curriculum. This paper is under review by the University of Toronto's journal *Curriculum Inquiry* (CI). Following receipt of CI's internal review process, the title of the paper has since

been updated to *Non-verbalisable, implicit knowledge through cellphilms as decolonised reconciliation practice towards response-able water behaviours in South Africa.*

Through reflective analysis of my four papers, I developed a concept for an *Anatomy of Decoloniz/sed Curriculum* consisting of five key parts: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum. Four metareflections have been included in this thesis, each corresponding with one of the four papers, and presented chronologically according to the stage of the praxis process with which they correspond. In these metareflections, I applied Kolb's (1984) Experiential Learning Cycle model for reflective writing, based on the premise that through experiences we can expand our understanding, and included four key stages: 1) concrete experience; 2) reflective observation; 3) abstract conceptualisation; and 4) active experimentation. For the concrete experience, I provided a thick description of my process in writing the paper, as well as aspects of the phase in my praxis process that was the focus of the paper, not included in but relevant to the paper. For the reflective observation, I identified any aspects of the experience that were new to me and which therefore presented opportunities for me to learn. For the abstract conceptualisation, I critically analysed my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of Decoloniz/sed Curriculum* that I outline in my introduction relate to this phase of my PhD praxis process. For the active experimentation, I made conclusions about the extent to which this phase of my PhD embraced decoloniality in practice, and built on this new understanding to make recommendations for myself and others committed to the decolonial project as part of my contribution to knowledge. These metareflections also invite readers to follow my personal narrative of becoming-with water, meaning my transformation from being water illiterate to embracing a 'watershed mind' (Wong, 2011).

Multimodality, which I propose as a key part of an *Anatomy of Decoloniz/sed Curriculum*, is embedded in the representational aspects of this thesis. The courses I co-designed and taught as part of this project resulted in the creation of **20 short student films**. My contextual profiling involved a podcast methodology that was ongoing throughout my study, as a model of decolonised research-communication-education-action at the water-climate change nexus. This methodology resulted in the creation of **four *DayOne* podcast episodes**, co-produced with a PhD colleague, Anna James. Some of these episodes are available in all three main languages of Cape Town (Xhosa, Afrikaans, and English). I evolved the podcast methodology in a later stage of my praxis process as a form of member checking with

contributors involved in various stages and aspects of the research. Once the four papers were written, I created a series of **four short videos called *In the Flow***, with each video representing a translation of one of the four papers. I invited various contributors of the research project to either watch one or more of the *In the Flow* videos and/or read one or more of the academic papers, and then to respond in a Zoom call with me. The responses were then shared publicly in **a series of seven *Climate for Changing Lenses* podcast episodes**. Parts of these are included in **a final song/music video called *Please Don't Blow It***. A ***Climate for Changing Lenses* website** was created to host all of this multimedia content that forms part of this thesis. A link to this website is provided in the *Introduction* section of this thesis.

My research contributes to the advancement of knowledge in the areas of relational and reconciliation pedagogy, decolonising higher education, arts-based teaching, learning and research methodologies and the water-climate change nexus. My praxis process provided a relational model of reconciliation curriculum that has been tried and tested in two international contexts: Canada and South Africa.

ACKNOWLEDGEMENTS

To my family, with love.

Thank you to my family in Canada and Brazil for supporting me from across the miles while I was mostly based in South Africa to do this work, even when they did not necessarily understand what I was doing or why. Thank you to my loving partner, Mapumba Cilombo, for holding the space of family in our home in South Africa throughout this epic adventure known as a PhD. That space of deep spiritual nourishment from family, both near and far, has been so important to me finding the courage to insert myself in so many new experiences, throughout this process. Learning would be inevitable.

I want to make a special acknowledgement for my late, great Auntie Elizabeth Frank. She was the longest living relative to have survived the Holocaust in Auschwitz, having outlived both my paternal grandparents who were also survivors. Her passing, which took place just as I was ending this PhD in late 2020, makes me wonder if her spirit, in some tiny way, might have stuck around to be sure that I saw this work through to the end. She remains my real-life heroine, and one of my greatest inspirations. After surviving traumas beyond what I dare to imagine, she went on to become a human rights advocate and messenger for peace. From her stories about her experiences in the concentration camps, she taught me the greatest thing I have ever learned (even after this PhD), which is that there are only two ways to live: with fear or with love.

Thank you to my PhD supervisor, Distinguished Professor Heila Lotz-Sisitka, whose careful guidance and openness to my creative modalities enabled the deep, generative nature of this work. Thank you to the staff at Rhodes University's Environmental Learning Research Centre for their ongoing support through this process, and to Kim Ward for her careful eye in professionally proofreading this thesis.

There were many beings who contributed to co-creating this knowledge and practice at various stages of this PhD. This list is not exhaustive but touches on some of those who participated directly in one or more aspects of multiple modes and moving parts.

With regards to the *DayOne* podcast (presented in Paper 1), I would like to acknowledge the generosity of spirit, energy, time, and talent from our team and contributors without whom this podcast would not be possible. The team included: Anna James (podcast co-producer/founder, and paper 1 co-author), Busisiwe Mtabane (isiXhosa host and translator), Tamzin Williams (Afrikaans host and translator), Nella Etkind (English host, episodes 2–4), and Fran-Rico Lucas (English host, episode 1). Contributors included: (episode one) the Cape Town Water Crisis Coalition, the Western Cape Water Caucus, Hannerie Visser, Mapumba Cilombo, Daniel Eppel; (episode two), Thabo Lusithi, Imraan Samuels, CareOneLove, Firos Khan, Poppy Mhlanga; (episode three) Thando Mcunu, Derek Whitfield, Nazeer Sonday, Conway Lotter, Carrie Pretorius, Simbi Nkula; (episode four) Jo Barnes, Taryn Pereira, the Children's Movement, and the Long Shots Improvised Comedy Troupe. Special thanks to Tana Paddock for editorial feedback on this article. Much appreciation to Edible Audio's Daniel Eppel for the in-kind support of a live room for recording.

When it comes to the 2018 Vancouver pilot course *Making Wave[form]s* (presented in Paper 2*)*, I would like to acknowledge the generous support of various individuals and organisations without whom this pilot programme would not have been possible. Thanks to all the students who participated in this learning journey. Thank you to the Knowledge Keepers – Randall W Lewis, Julie Porter, Eric Balke, Tarah Stafford, and Dave Scott – whose wisdom helped to bring depth and meaning to the learning journey. Thank you to the diverse guest lecturers and guides who contributed to a rich learning experience: Jim Brown, Jason LaRochelle, Alaya Boisvert, Theresa Beer, Emily Fister, Gregory Coyes, the Squamish Ocean Canoe Family, Alroy Baker, Molly O'Ray, and the community at Camp Cloud and the Watch House (pipeline protest camps). I would like to acknowledge the generous support from the David Suzuki Foundation (DSF), the Emily Carr University of Art + Design (ECUAD), the Native Education College (NEC) and the Beaty Biodiversity Museum that made this programme possible. Special thanks to: Alaya Boisvert, DSF's former Public Engagement Manager, for co- designing this pilot programme; ECUAD's Cissie Fu, Dean of the Faculty of Culture and Community, for her support in hosting this course at ECUAD; and Dan Guinan, NEC's former President, and Jason LaRochelle, NEC's former Dean of Academics, for their generous hospitality in hosting our field trip and for their input on class planning. Thanks to my colleagues and friends, Anna James and Suzanna Harvey, for their editorial feedback on a draftof this article. Thanks to my friend, Sandra Semchuk, for encouraging conversations that brought my attention to local water

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[1] Some additional students may have participated in the course but their names do not appear here because they requested to remain anonymous.

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With regard to the *Climate for Changing Lenses* podcast and *Please Don't Blow It* song, I would like to thank those who generously participated in recorded conversations with me to discuss their responses to the research papers and/or *In the Flow* videos: Siobhan McHugh, Jaymie Johnson, Ryanne Bergler, Fatima Holliday, Isaac Crowster, Gregory Coyes, and Dan Guinan. Thanks to singers, Russell Wallace and Zanele Mbizo, for their talented performances in the song and music video. Thanks to David Bridgen and Duane Woods for filming/recording in Canada. Thanks to Simbi Nkula for sponsoring filming facilities at his Low Key Studio in Cape Town. Heartfelt thanks to my loving partner (in life and spreading joy in the world), Mapumba Cilombo, for generously contributing his original song *Please Don't Blow It* to this reconciliation project, and for sharing his incredible music composing and producing skills to help create this study's special version of the song.

This project is my offering to the world, with a combination of practical, theoretical and methodological tools that have been shown to be meaningful across contexts and may be useful to your community, especially as we continue to strive to live peacefully within a diversity of species, both human and more-than. As this thesis and its many modalities go out in the world, I trust that where, how and with whom this work may live on, in whole or in part, will unfold as it may.

"It matters what stories make worlds,
what worlds make stories." (Haraway, 2016, p. 12)

"The grass is greener
Where you water the ground"
(Adekunle Gold, song *Ire*, 2018)

ORIENTATION TO WEBSITE

Multimedia thesis
This study includes a living archive in the form of a website where multimedia artifacts from this research project are housed. This multimedia is integral to the study and includes academic papers, podcasts, videos, and sample curriculum.

***While* reading this thesis, it is essential to refer to this website:**

bit.ly/svanborekphd

Navigating the website
On the Home page of the website, there are menu items in the top right (e.g. Papers, Podcasts, Videos, Curriculum). Click on the drop-down arrow of a menu item to reveal a drop-down menu with a list of options under that item. Click on the desired item, in the drop-down menu, to view that item in detail.

(Screenshot of the home page of the *Climate for Changing Lenses* website)

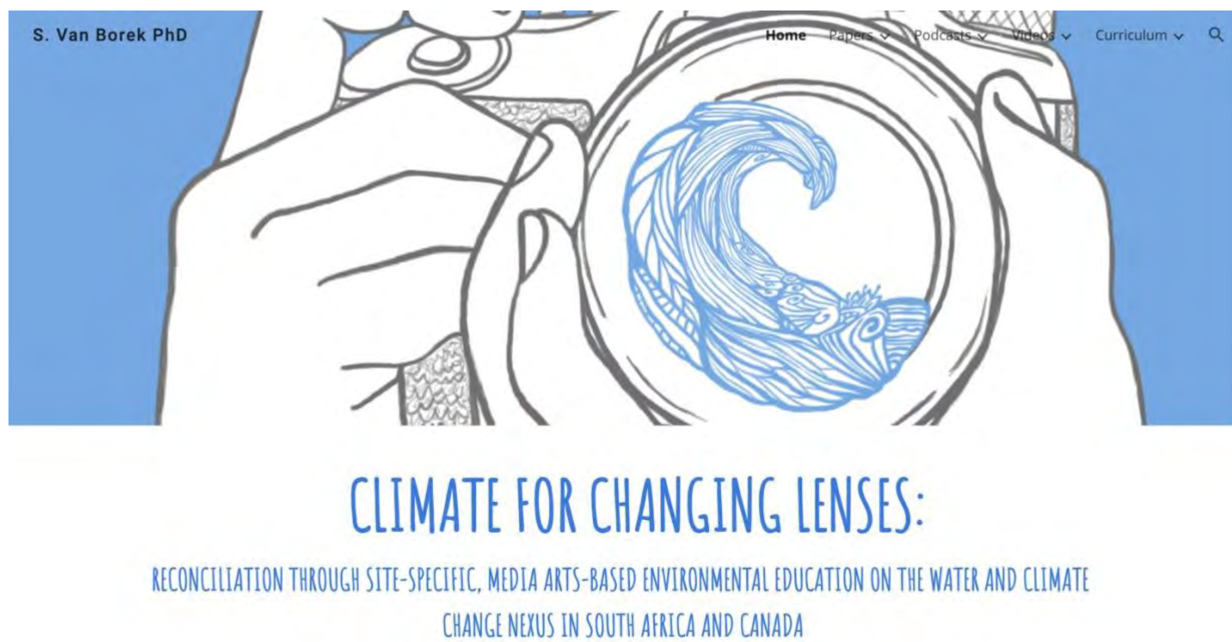

TABLE OF CONTENTS

Abstract ii
Acknowledgements viii
Orientation to Website xiii
List of Tables xviii
List of Figures xviii

CHAPTER 1: INTRODUCTION 1

1.0 Changing lenses 1
1.1 The context of the study 2
1.2 My ancestry and positionality 5
1.3 The intent of the study 7
1.4 The notion and (im)possibility of reconciliation 8
1.5 The notion of decoloniz/sing education 13
1.6 The notion of curriculum 15
1.7 Methodology 19
1.7.1 Praxis process 19
1.7.2 Iterative course design 19
1.7.3 Writing academic papers 21
1.7.4 Podcast praxis 21
1.7.5 Observation 23
1.7.6 Participatory video 23
1.7.7 Questionnaires and interviews 23
1.7.8 Document analysis 23
1.7.9 Methodologies for data analysis 24
1.8 Ethics 29
1.8.1 Ethical approval 29
1.8.2 Obtaining informed consent 31
1.8.3 Minimising the risk of harm and bias 33
1.8.4 Privacy, anonymity and confidentiality of data 34
1.8.5 Fair participant selection 34
1.8.6 Use of ethical principles 36
1.8.7 Benefits of the research 36
1.8.8 Validity 37
1.9 Anatomy of decoloniz/sed curriculum 37
1.9.1 Relationality 38
1.9.2 Narratives/Counter-narratives 39
1.9.3 Multimodality 42

1.9.4 Context-specificity 44
1.9.5 Unhidden curriculum 45

CHAPTER 2: METAREFLECTIONS FOR PAPER 1 48

2.1 Concrete experience and reflective observation 50
2.1.1 Context of the paper 50
2.1.2 Personal learning 51
2.1.3 Social learning 51
2.1.5 Academic learning 55
2.1.6 Transforming limitations into possibilities: Thinking and acting off the page 57
2.1.7 Writing the paper 59
2.1.8 Preparing the paper for publication 61

2.2 Abstract conceptualisation 65
2.2.1 Relationality 65
2.2.2 Multimodality 67
2.2.3 Narratives/Counter-narratives 69
2.2.4 Context-specificity 69
2.2.5 Unhidden curriculum 70

2.3 Active experimentation 71
2.3.1 Practising decoloniality 71
2.3.2 Recommendations 73

CHAPTER 3: METAREFLECTIONS FOR PAPER 2 74

3.1 Concrete experience and reflective observation 74
3.1.1 Context of the paper 74
3.1.2 Building relationships to weave into the course 75
3.1.3 Selecting water bodies and Knowledge Keepers 77
3.1.4 Recruiting guest lecturers with Indigenous and/or diverse perspectives 78
3.1.5 Local water literacy 79
3.1.6 Field trip to develop our relationship with water 81
3.1.7 Pilot course iterations from teaching practice 83
3.1.8 Disrupting narrative power 85
3.1.9 Paper iterations through peer inputs 87
3.1.10 Paper iterations through reviewer inputs 88
3.1.11 Developing writing in conversation with reviewers 89
3.1.12 Relational sensibilities and abilities towards reconciliation 93
3.1.13 Narrative analysis of students' videos 93
3.1.14 The challenge with identifying traditional territories 93

3.2 Abstract conceptualisation 97
3.2.1 Relationality 97
3.2.2 Multimodality 97

3.2.3 Narratives/Counter-narratives 98
3.2.4 Context-specificity 98
3.2.5 Unhidden curriculum 99
3.3 Active experimentation 100
3.3.1 Recommendations for practising decoloniality 100
CHAPTER 4: METAREFLECTIONS FOR PAPER 3 102
4.1 Concrete experience and reflective observation 102
4.1.1 Context of the paper 102
4.1.2 Building on existing partnerships 104
4.1.3 Selecting water bodies and Knowledge Keepers 106
4.1.4 Including guests and the challenges to reciprocity 110
4.1.5 Unpacking water narratives and aesthetics 111
4.1.6 Living legends of Vancouver: Public education event 114
4.1.7 Paper iterations through reviewer inputs 115
4.2 Abstract conceptualisation 127
4.2.1 Relationality 128
4.2.2 Multimodality 128
4.2.3 Narratives/counter-narratives 129
4.2.4 Context-specificity 129
4.2.5 Unhidden curriculum 130
4.3 Active experimentation 130
4.3.1 Recommendations for practising decoloniality 130
CHAPTER 5: METAREFLECTIONS FOR PAPER 4 132
5.1 Concrete experience and reflective observation 132
5.1.1 Context of the paper 132
5.1.2 Building relationships to weave into the course 133
5.1.3 Selecting water bodies and Knowledge Keepers 136
5.1.4 Recruiting guest lecturers with Indigenous and/or diverse perspectives 138
5.1.5 Selecting a venue for our public event 142
5.1.6 Mapping relationships with water 145
5.1.7 Field trip to develop our relationship with water 147
5.1.8 Smartphone filmmaking 149
5.1.9 Narrative power of Indigenous legends 149
5.1.10 Safety considerations 151
5.1.11 Engaging with empathy 153
5.1.12 The challenge of land acknowledgements 153
5.1.13 Paper iterations 154
5.1.14 Paper iterations through reviewer inputs 156
5.2 Abstract conceptualisation 158

5.2.1 Relationality 158
5.2.2 Multimodality 159
5.2.3 Narratives/counter-narratives 160
5.2.4 Context-specificity 160
5.2.5 Unhidden curriculum 161
5.3 Active experimentation 161
5.3.1 Recommendations for practising decoloniality 161

CHAPTER 6: MULTIMEDIA METAREFLECTION 163
6.1 Reasoning for multimodalities of PhD representation 163
6.2 Methods 163
6.3 Multimedia results 165
6.4 Reflections 171

CHAPTER 7: SUMMARY OF CONTRIBUTIONS TOKNOWLEDGE 172
7.1 Relational model of curriculum towards reconciliation 172
7.2 Podcast as contextual profiling methodology 174
7.3 Anatomy of decoloniz/sed curriculum 175
7.4 Decoloniz/sing my own PhD process 177
7.5 Theoretical and methodological developments 180

REFERENCES 183

APPENDICES 198

Paper 1. (Toward) Sound Research Practice: Podcast-Building as Modelling Relational Sensibilities at the Water-Climate Change Nexus in in Cape Town

Paper 2. A Media Arts-Based Praxis Process of Building Towards a Relational Model of Curriculum Oriented Towards Reconciliation through Water Justice

Paper 3. Water as Artist-Collaborator: Posthumanism and Reconciliation in Relational Media Arts-Based Education

Paper 4. Non-Verbalisable, Implicit Knowledge through Cellphilms as Decolonised Reconciliation Practice Towards Response-able Water Behaviours in South Africa (at time of first submitting to journal entitled *Making Waveforms: Implicit KnowledgeRepresentation through Video Water Narratives as Decolonizing Practice Towards Reconciliation in South Africa's Higher Education*)

LIST OF TABLES

Table 1.1: Relational sensibilities and abilities related to reconciliation – informing curriculum analysis 25

Table 1.2: Tool of analysis for posthuman reading 28

Table 2.1: Co-author responsibilities 60

Table 4.1: What and how changes are taking place in the course 117

Table 4.2: Who is changing in the course and how? 118

Table 4.3: Tool of analysis for posthuman re-reading 127

Table 6.1: *Please Don't Blow It* (2021) song lyrics 168

LIST OF FIGURES

Figure 1. City of Vancouver mobile drinking fountain indicating the Capilano, Seymour, and Coquitlam watersheds where the City's water comes from. 80

Figure 2. Ocean canoe trip on Salish Sea with Indigenous family from Squamish Nation. 83

Figure 3. Watch House on Burnaby Mountain as part of protest against expansion of Kinder Morgan oil pipeline. 84

Figure 4. Flotilla, or floating protest, in Burrard Inlet against expansion of Kinder Morgan pipeline. 85

Figure 5. Ocean canoe ride along Burrard Inlet led by 'Whonoak' Dennis Thomas of Takaya Tours. 105

Figure 6. Sarah Van Borek visits the childhood home of E. Pauline Johnson, now *Chiefswood National Historic Site,* Brantford, Ontario, Canada. 108

Figure 7. Train bridge crossing over the Grand River, Brantford, Ontario. 109

Figure 8: Narrative Power workshop class discussion from *Making Waveforms* ECUAD 2019 iteration. 112

Figure 9. Khayelitsha Wetlands in Cape Town. 137

Figure 10. *Making Waveforms* students facilitate 'game' with audience at the Tshisimani Centre for Activist Education in Cape Town. 145

CHAPTER 1: INTRODUCTION

To access multimedia mentioned in this thesis, visit
bit.ly/svanborekphd

1.0 Changing lenses

As a documentary filmmaker, when I prepare my kit for filming in the field, I pack my camera body and several different lenses. I can choose which lens to attach and use in each filming situation. Each lens allows me to perceive a subject in a uniquely different way. One lens will help me to see the fine details of a close up on the subject. One lens will enable me to see the full figure of a subject in relation to their surrounding environment. Sometimes when I add a lens, for example a wide angle lens, I discover things in the frame that I had not noticed in the scene in front of me. Conversely, there are times when I want to focus my audience's attention in a particular way and so I use a certain lens in order to crop some detail out of the frame. As I adjust my focus, I am also able to control what appears in the foreground and what appears in the background. In this way, changing lenses affords aspects of my subject to become more or less visible or invisible to me, and therefore to my audience. Thus, changing lenses is a process of changing subject positions. As a podcast producer, when I prepare my kit for recording in the field, I pack my recording device and several microphones. Similar to lenses with a camera, I can choose which microphone to attach and use in each recording situation. Each microphone allows me to perceive a subject in a particular way, allowing parts of my subject to become more or less audible or silent to me, and therefore to my audience.

In this research project, the concept of changing lenses has been applied, at times literally while at other times metaphorically, to illustrate the ways that shifts in perception can allow for making visible/audible or invisible/silent subjects in a range of spatial and temporal situations. At one point, the lens becomes a mirror, reflecting back on the filmmaker their embodied, embedded interconnection to the subject through their immersion in the filming activity. At another point, the lens evolves into a doorway, inviting the audience into the filmmaker's world and moving both actors beyond the constructed audience-artist binary. Throughout, I explored possibilities afforded by changing lenses – by including diverse perspectives, narratives, modalities and methodologies; by

developing a media arts-based curriculum with which to practise changing lenses; and even by changing my theoretical lens for this PhD mid-stream. These transpositions and transformations unfolded while I endeavoured to collaboratively address water inequalities as a reconciliation practice for higher education contexts in Canada and South Africa during this time of climate crisis.

1.1 The context of the study

This study spanned across two continents and multiple social and ecological crises. It began in Cape Town, South Africa, in early 2018, at a time when the city was experiencing a record-breaking drought with dangerously low dam levels and faced the threat of running out of water for its approximately four million residents (Enqvist & Ziervogel, 2019). Poor (predominantly racialised) communities with a history of insufficient water infrastructure were the most vulnerable (ibid.). The study then continued on the traditional and unceded territories of the xʷməθkʷəy̓ əm (Musqueam), Sḵwx̱ wú7mesh Úxwumixw (Squamish Nation) and səl̓ ilwətaʔɬ (Tsleil-Waututh), currently known as Vancouver, Canada, in mid-2018. This was when Vancouver's coastal health and First Nations' traditional territories were being threatened by the American company, Kinder Morgan's, Trans Mountain Pipeline expansion project, aimed at transporting oil from the neighbouring province of Alberta. Despite public protests, the pipeline project was purchased by Canada's federal government in 2018 for C$4.5 billion (Montgomery, 2020). The pipeline also threatened the endangered Southern Resident orca whale population, existing only on that coast and down to 75 members at that point in this study (Kines, 2019). Vancouver is situated in the province of British Columbia (B.C.). In May 2018, record flooding placed at least 23 communities under a local state of emergency (Simms & Brandes, 2019). In August 2018, the B.C. government declared a provincewide state of emergency due to a record 559 wildfires (Johnston, 2018). This contributed to a grave situation where, for a time, air pollution in some B.C. communities became some of the worst in the world (Cousins, 2018).

This research project continued through 2019. While B.C. wildfires were not as extreme as in 2018, there were still 825 wildfires as part of what is referred to by the provincial government as "wildfire season" (B.C. Government, 2019). In July 2019, three murder victims along a highway in Northern B.C. sparked a nationwide manhunt for the suspects (Boynton, 2019). All three victims were of Euro-western ancestry and this reminded me of the injustices that persist in terms of the level of legal action and urgency being less than is taken for the many murdered Indigenous women along B.C. Highway 16, known as the *Highway of Tears* (McDiarmid, 2019). Returning to South Africa in

August, the rape and murder of a first-year film and media studies student at University of Cape Town, Uyinene Mrwetyana, by a post office worker, sparked nationwide protests against gender-based violence (BBC, 2019). Around the same time, South Africa was seeing a resurgence of xenophobic violence (UNHCR, 2019), which I felt quite viscerally through the observed first occupation and then forced removal of refugees in Cape Town's city centre.

This project developed through to 2020. In early 2020, nationwide protests in Canada erupted in support of the Wet'suwet'en (Indigenous) land and water protectors whose traditional and unceded territory they were protecting in adherence with traditional law and natural law linked to responsibility to territory. They were in opposition with the construction of the Coastal Gas Link Pipeline, specifically, and all pipelines, more generally. The Wet'suwet'en had been experiencing forceful raids by Canadian police which were ramping up at that time (McIntosh, 2020). Meanwhile COVID-19 turned the world upside down in a global health pandemic. Cape Town, at least with dam levels near full again, along with the world and its growing water crisis (UNESCO, 2020), was being asked to wash hands for at least 20 seconds as part of good hygiene practices. Towards the end of 2020, while the Southern Resident orca population off Vancouver's coast had dipped to 73 members (Ocean Networks Canada, 2020), the Trans Mountain Pipeline operations were temporarily closed, although mainly due to COVID-19 protocol violations (Montgomery, 2020). Inside these challenging pandemic times, the shooting of George Floyd in the United States of America invigorated the visibility of, and alliances with, the Black Lives Matter social movement which the New York Times suggested may have been the largest social movement in American history to date (Buchanan, Bui & Patel, 2020). Post-secondary schools in Canada responded with an outpouring of talks, workshops, and related initiatives aimed to support people identifying as being part of the BIPOC (Black, Indigenous, People of Colour) community (Concordia University, n.d.; King, 2020; Vancouver Island University, n.d.). The American election campaigns that eventually ended Trump's reign ran throughout 2020, bringing out of the woods a myriad of sentiments and acts of violence that spoke to the complexities of living with difference (Bardall & Huish, 2021). Alongside all this, many cities around the world went into one or more lockdowns. There, amongst the quieted human activity and noise, as wildlife returned in droves to urban centres, nature offered a hopeful reminder of her regenerative capabilities when humans get out of the way (Arora, Bhaukhandi & Mishra, 2020).

Much of the inspiration for this study began in 2015, when Canada's Truth and Reconciliation Commission (TRC) released 94 *Calls to Action* which included calls for higher education to

"integrate Indigenous knowledge and teaching methods" (2015, p. 11). That same year in South Africa, a nationwide student-led movement known as *#FeesMustFall* demanded the decolonisation of higher education (Heleta, 2016). When I began this research project in 2018, there was limited scholarship on what reconciliation education looked like in practice (Hattam, 2012). Since then, the field has been expanding. For example, in the province of B.C., Canada, BCcampus[2] and the Ministry of Advanced Education, Skills and Training collaborated to oversee the production of a series of *Indigenization Guides* co-authored by Indigenous and ally writers from across the province. Land acknowledgements became a standard protocol for higher education institutions across Canada (Canadian Association of University Teachers, n.d.), expressed verbally at the start of events (and sometimes classes and meetings), articulated through text in staff and faculty email signatures, and at times appearing in students' projects in one form or another. In July 2019, eight South African universities partnered on a conference called *The Decolonial Turn and the Humanities Curriculum: Prospects, Practice and Interventions* hosted by the University of Pretoria. In 2019, the University of Pretoria published its first volume of the *Journal of Decolonising Disciplines.* Rhodes University (RU), where my PhD is registered, was based in the town of 'Grahamstown' at the start of my PhD. Since then, the town name has been legally changed to 'Makhanda' arguably as a kind of reconciliation practice. South Africa's Minister Mthethwa is quoted to have said "the Truth and Reconciliation Commission … recommended that the renaming of geographic features be a form of 'symbolic reparation' to address an unjust past" (Amner, 2019).

Across all these social and ecological crises, cultural contexts and epistemological shifts, there was a central tension that persisted: whose responsibility it was to do the work of reconciliation, decolonisation, and climate change education. On the one side, there was the desire to bring more traditionally under-represented voices into positions of leadership and decision-making, for example, peoples who self-identify as being part of BIPOC. On the other side, and drawing on my experience as an educator entangled with these discourses, there were the sentiments expressed from some BIPOC leaders who felt they were unfairly carrying the burden of the work. When looking to integrate Indigenous content and approaches into teaching and learning, there is a commonly shared statement meant to support ethical practices, borrowed from disability rights discourses, which states, "nothing about us without us" (Charlton, 2000). Charlton (2000) explained that she first heard the expression in South Africa in 1993 from Michael Masutha and William Rowland, leaders of

[2] BCcampus is an organisation funded by the Ministry of Advanced Education, Skills and Training to support post-secondary teachingand learning in the province of B.C.

Disabled Peoples of South Africa, who themselves had picked it up at a disability rights conference in Eastern Europe. However, there have been sentiments expressed by settler[3] educators that they lack information about how to go about involving or consulting with Indigenous persons from their community. Wilson (2020) of Kwakwaka'wakw Nation[4] acknowledged knowing people (referring to settler educators) who are fearful of doing this work: "They're afraid of making mistakes. They're afraid of offending" (p. 4). Furthermore, if taken to the extreme, does this not create barriers for settler educators to shift away from perpetuating Eurocentric content and/or confronting their own responsibilities in taking initiative to contribute to these transformation processes? When it comes to climate change, where the poor and marginalised are the most vulnerable to climate change impacts, yet the least likely contributors to climate change (Satgar, 2018), is it reasonable to ask or expect of them to carry equal levels of responsibility?

It is across these waterscapes of complex issues intersecting across the social, cultural, ecological, economic, and political, where this work took place to explore what possibilities might unfold if we make it our common goal to live peacefully with difference while working at it together from different perspectives.

1.2 My ancestry and positionality

I am a Canadian citizen who was born in traditional Blackfoot (Siksikaitsitapii) Confederacy territory currently known as Lethbridge, Alberta (University of Lethbridge, 2019). The nearest water body is the Oldman River which flows from the Rocky Mountains. I grew up mostly with my mother on the traditional territory of the Anishnawbe and Haudenosaunee peoples, in the city currently known as Brantford, Ontario. The Grand River stretches through Brantford. I also grew up part-time with my father on the traditional territories of T'sou-ke Nation, that is the coastal town currently known as Sooke, British Columbia. Sooke looks onto the Straight of Juan de Fuca (Pacific Ocean) and is interwoven by the Sooke River. My mother is a second generation immigrant from the Netherlands. My father is a first generation immigrant from Romania (ethnically Hungarian). My maternal grandparents were part of the Dutch Christian Reformed church (the religious ideology which supported South Africa's Apartheid). My paternal grandparents were Jewish and both survivors of the Holocaust in Auschwitz. My parents raised me non-denominational, with limited exposure to my cultural heritage. When I was seventeen years of age, I encountered the oral

[3] I use the concept 'settler' here to refer to people with non-Indigenous ancestral roots.
[4] Kwakwaka'wakw is a First Nations band.

traditions of Southern African marimba music. Thus began my passion for African cultures and peoples which led me to visit the continent of Africa at the age of twenty and, essentially, to start a journey of living and working between the two regions (including rural communities in South Africa, Uganda, Kenya, Tanzania, Mauritania and Mali). While African music became a big part of my life, I started my undergraduate studies in media arts at the Emily Carr University of Art +Design (ECUAD) in Vancouver, Canada, where I began explorations in participatory media practices. My ways of being and knowing developed through these inter-continental influences.

My passion for environmental education developed through five years (2012-2017) of post-secondary teaching at ECUAD. The David Suzuki Foundation (DSF) is a Canadian non-profit organisation recognised as a leader in advancing environmental research, education and sustainability that collaborated as a partner in curriculum design and delivery. These programmes included public education through screening and dialogue events hosted by museums (Gulf of Georgia Cannery, Museum of Vancouver, Maritime Museum, Courtenay and District Museum, and the Apartheid Museum). These courses involved collaborations with a wide range of local Knowledge Keepers[5] and organisations. In my teaching practice, meaningful collaborations enabled between Aboriginals and non-Aboriginals, combined with dynamic forms of knowledge co-production and sharing through lateral relationship-building, inspired me to expand on the potential I saw for a form of reconciliation education.

I have been deepening my understanding of the South African context since 2003, after having spent a total of approximately nine years living, working, teaching or studying in South Africa. In the first academic term of 2017, I was hosted as a guest lecturer at the University of Johannesburg (UJ) in South Africa to co-design and oversee a collaborative course I had initiated between UJ and ECUAD called *Shared Histories, Imagined Futures and the Culture of Possibility*. This programme followed a similar approach to the programmes I had been teaching in Canada. It was my first glimpse of how my teaching approach might work in the South African context, and introduced me to background on a student-led *#FeesMustFall* movement that has contributed to the current discourse on decolonising higher education in South Africa (CCWG,[6] 2018).

[5] I use the term 'Knowledge Keepers' throughout this thesis to refer to people from outside the university with deep knowledge (often through lived experience) of a particular water body.

[6] CCWG stands for the University of Cape Town's Curriculum Change Working Group.

1.3 The intent of the study

The intent of this study was to build on my teaching practice in media arts-based education for social and ecological justice in order to develop a model of education for reconciliation that could be applicable across contexts. I describe the notion of reconciliation in section 1.4 of this Introduction. The focus was on water education as a way to address the intersecting social and ecological issues linked to racialised water inequalities. To do this, my aim was to use a praxis process to build a relational model of university curriculum with potential to cultivate students' relational sensibilities and abilities oriented towards reconciliation while contributing to justice at the water-climate change nexus. The curriculum would be tried and tested both in Vancouver, Canada and Cape Town, South Africa. Both courses would share key core elements of the curriculum with the details of each course customised to be contextually relevant, in order to assess which aspect(s) may or may not work across contexts (note, my interest was not a technicist form of comparative analysis, but rather an interest in surfacing dimensions from each context that could potentially inform curriculum in both practices). I explored the primary research question: How can a relational site specific, media arts-based university environmental education curriculum cultivate students' relational sensibilities and abilities oriented towards reconciliation of diverse peoples and ecosystems in South Africa and Canada? My aim was also to create ways to decolonise my own PhD process. By using mixed methods for data collection and for sharing the data *throughout* the research journey, sub-questions I explored in this study include: a) How is reconciliation understood currently by university students in South Africa and Canada? and b) How can a relational site specific, media arts-based university environmental education curriculum and my PhD research methodologies (PhD-by-publication, website, and participatory approaches to podcasting, video making, and song creation), contribute to decolonising higher education, and thereby further contribute to reconciliation of diverse peoples and ecosystems in South Africa and Canada?

For the study, I initially used a theoretical framework based on relationality. Applying this theory to studying a curriculum that aims to transform relations offered the advantage of "show[ing] not only the contribution made by the particular elements of the relation, considered in isolation, but also the contribution of the relation (interaction) viewed as an 'emergent effect'" (Donati, 2011, p. 15). By identifying "*mechanisms* within interaction, relations and networks" I could better "explain and understand events in the social world" (Crossley, 2011, p. 3), including enabling and constraining factors – which when addressed might have become pathways – to reconciliation. Relational sociology emphasises the need for social change to take place at the level of the "relational context" (Donati, 2016). In this way, it is a framework that could support my transformative goals within this

praxis-based research. As detailed in my third paper and metareflections, analysing the 2019 iteration of the curriculum in Canada inspired me to shift my ontological perspective towards Ceder's (2015) concept of *educational relationality* which draws on posthuman theories to consider the agential qualities of nonhumans in educational intra-actions. This shift allowed me to look more deeply at the relationality of the student-technology-water intra-actions (Barad, 2007) unfolding in the course. With this ontological shift, additional sub-questions I explored, and detailed in Paper 3, included: (1) How does a posthuman reading change the understanding of empirical material from understanding changes within individual entities, to understanding changes that emerge from entangled relations? (2) How might the use of mediated art-approaches in educational settings entangled with water be tools to change views on water away from water as inert other to water as entangled being with agential qualities?; (3) How might these media arts-based teaching methods decentre human-centric ways of being/doing/knowing, and how can this contribute to reconciliation of diverse peoples and ecosystems?

1.4 The notion and (im)possibility of reconciliation

The colonial project in Canada was laden with many similarities to South Africa's Apartheid when it comes to the treatment of Canada's Indigenous peoples, known as First Nations. This included: legislated racism through the creation of an Indian Act in Canada and South Africa's 1913 Natives' Land Act, forced relocation to designated areas known as 'reserves' in Canada and 'homelands' in South Africa, the exploitation of land and natural resources, and depriving children from their languages and cultures through a system of alienating Indian Residential Schools (IRS) in Canada and Bantu education in South Africa. Both Canada and South Africa adopted Truth and Reconciliation processes as part of transformation aims.

A Truth and Reconciliation Commission (TRC) of Canada was created as part of the Indian Residential Schools Settlement Agreement (Government of Canada, n.d.) in 2008. In June 2015, the TRC in Canada released *94 Calls to Action*. Within these calls, the Education for Reconciliation section 62.ii states, "provide the necessary funding to post-secondary institutions to educate teachers on how to integrate Indigenous knowledge and teaching methods into classrooms", while section 63 iii states, "building student capacity for intercultural understanding, empathy, and mutual respect" (p. 11). When I began my study, there were limited examples of what reconciliation education could look like in practice despite an increase in the prioritisation from higher education institutions to "Indigenise" education.

South Africa's Truth and Reconciliation Commission (TRC) was established in 1995, after the end of Apartheid, through the Promotion of National Unity and Reconciliation Act (Truth and Reconciliation Commission, 1998) of the democratically elected South African government "to bring to light and address the injustices and crimes committed under apartheid" (Horsthemke, 2005, p. 170). It involved mediated truth telling encounters between perpetrators of violence and families of the victims, with aims for emotional and spiritual healing, as well as conflict resolution, through forgiveness by individuals and the state. Tutu (1999) described what made South Africa's TRC process particularly unique as the granting of "amnesty to individuals in exchange for a full disclosure relating to the crime for which amnesty was being sought" (p. 34).

In 2015, when the Canadian TRC's directives concluded, the National Centre for Truth and Reconciliation (NCTR) opened at the University of Manitoba, in Canada (NCTR, 2021). It contains all materials from the Canadian TRC's work. Four reports resulting from Canada's TRC process are available on NCTR's website (https://nctr.ca/records/reports/). A non-profit organisation, envisioned by Gwawaenuk elder, Chief Dr Robert Joseph, was formed called Reconciliation Canada, which supports ongoing efforts towards reconciliation by engaging Canadians in dialogues and workshops (Reconciliation Canada, n.d). South Africa's TRC terminated in 2002 (United States Institute of Peace, n.d.) and resulted in a final report consisting of seven volumes, presented to South Africa's late President Mandela in October 1998 (ibid.) and available on South Africa's Truth and Reconciliation Commission (2021) website (https://www.justice.gov.za/trc/report/). In 2000, the Institute for Justice and Reconciliation (IJR) was created in South Africa as an evolution of South Africa's TRC (Potgieter, 2019). IJR has been conducting a nationwide public opinion survey since 2003 called the South African Reconciliation Barometer (SARB). In a 2019 publication of this study, which maps the meaning(s) of reconciliation for residents across South Africa, five of the highest-ranking areas which aligned with results from a similar study called *The National Narrative on Reconciliation Report* (2017) conducted by Reconciliation Canada, were: forgiveness; moving forward; respect; equality; and improving relationships (Potgieter, 2019, p. 24). It is this last one in particular which was central to the relational approach of this study, and which will be explained further in papers 2, 3 and 4, and their respective metareflections.

While both Canada and South Africa's TRC mandates have ended, the countries continue to grapple with ongoing settler colonialism. This becomes particularly apparent when looking at a growing global water crisis engulfed with waterscapes of environmental racism. For example, in 2020 there were Boil Water Advisories (meaning water is unsafe for drinking) in 57 First Nations communities

in Canada (Government of Canada, 2020); and poor, mainly Black and 'Coloured' communities in Cape Town continue to lack regular access to clean water (Enqvist & Ziervogel, 2018). Focusing on reconciliation as an educational approach for social and environmental justice creates particularly interesting openings to address intersectional social and environmental issues. In that sense, this study takes to heart Rita Wong's (2011, p. 85) suggestion that "one way to move forward together [towards reconciliation] is to cooperatively focus on the health of the water that gives us all life". This embraces a key recommendation from Canada's TRC to include nonhumans in reconciliation, stated as follows:

> Reconciliation between Aboriginal and non-Aboriginal Canadians, from an Aboriginal perspective, also requires reconciliation with the natural world. If human beings resolve problems between themselves but continue to destroy the natural world, then reconciliation remains incomplete. (TRC, 2015b, p. 18)

Working with the concept of reconciliation through this study has surfaced a kind of impossibility of reconciliation. By this, I mean that there are various ways the concepts of reconciliation within contexts of ongoing settler-colonialism have been problematised. A scholar of Indigenous (Wendat, Iroquois and Mi'kmaw) and European (French, German, Irish, English) ancestry based in Canada, Madden (2019) critiqued education for reconciliation for a variety of reasons. First, Madden pointed out that notions of reconciliation are rooted in Eurocentrism and Christianity, and that this reason for critiquing reconciliation has become the reason some people claim to avoid taking on the work of reconciliation. Madden also critiqued the ways that reconciliation is perceived as being only about teaching practice without considering the theoretical foundations required to do this substantively, versus symbolically (Madden, 2019). Symbolic actions from representatives of the Government of Canada, for example, former Prime Minister Harper's official apology to Indigenous peoples for the impacts of the Indian Residential Schools (IRS) in 2008, falsely suggest colonialism is a thing of the past (Madden, 2019). Madden (2019) also critiqued education for reconciliation that is positioned as a "rebranding of Indigenous education" (p. 285), and argued that this along with the notion of an "era of reconciliation" as "the current historical period in which Indigenous education is unfolding" (p. 285-286) belittles the potentialities of Indigenous leadership and education to what is contained within Euro/Western systems. Madden felt uncomfortable with people doing what has been popularised in Canada as "#reconciliACTION" which, Madden suggested, over-simplified reconciliation as a healing of relations through the actions of an individual. Gaudry (as cited in Stirling, 2017), highlighted how the Government of Canada had been enacting reconciliation on its

terms, which "revolves around reconciliation reinforcing Canada, as if the end goal is to make a stronger, more united Canada", and which is not necessarily what Indigenous peoples imagine. Contassel (2012) criticised the "compartmentalisation" of reconciliation, which focused on a healing of relations that was separated from the Canadian government's ongoing settler-colonialism which manifests in the form of systemic/environmental racism, for example, the government's purchasing of the Trans Mountain Pipeline project which directly violated agreements to consult with and seek permission from Indigenous peoples for such activities that would interfere with the health of their lands, waters and communities. I write in more detail about this pipeline project in Paper 2, found in the Appendices. Corntassel and Holder (2005) saw the discourse of reconciliation as a "politics of distraction" (p. 8) from the practical need for reconfiguring material realities. Tuck and Yang (2012) argued that reconciliation could be a settler's "move to innocence" (p. 9), or way of avoiding their accountability and responsibility in settler colonialism. They pointed to how "the desire to reconcile is just as relentless as the desire to disappear the Native; it is a desire to not have to deal with this (Indian) problem anymore" (Tuck & Yang, 2012, p. 9). Building on this, Madden pointed to scholars (Alfred & Corntassel, 2005; Hendersen & Wakeham, 2009) who called for "substantive, versus symbolic, restitution before any consideration of rebuilding relationships" (Madden, 2019, p. 300).

Flowers (2015) reprimanded the way reconciliation was framed to expect forgiveness from Indigenous peoples. This tied in with some of the critiques of the practice of land acknowledgements in Canada perceived by many institutions as key to reconciliation (Canadian Association of University Teachers, n.d.).

Journalist Marche (2017) observed how "the same little speech" was being made in ad hoc yet inconsistent ways across events nationwide which served more as a "purifying language ... purifying ourselves" than it served to redress systemic discrimination of Indigenous peoples. Stó:lō scholar Robinson implied that land acknowledgements lose meaning when made too generally: "to move beyond the mere spectacle of acknowledgement as a public performance of contrition, we must take into account acknowledgement's site and context specificity" (Robinson, Hill, Ruffo, Couture & Ravensbergen, 2019, p. 20). Mohawk scholar Kanonhsyonne Janice C. Hill argued that land acknowledgements could be problematic because identifying the peoples associated with particular traditional territories could be ambiguous due to the complexities of historical migrations. Hill stated, "our peoples roamed, hunted, settled, warred, and made treaty with each other at various times in history and at various locations" (ibid., 2019, p. 23). While territory acknowledgements have been an

Indigenous practice in fostering peaceful relations (De Finney, Kouri, Brockett & Anderson-Nathe, 2017), Kouri (2020) argued that settler-ally practices of land acknowledgements were a form of cultural appropriation.

The concept of 'reconciliation' as an educational approach did not land well in South Africa for this study. Despite Horsthemke's (2005) paper *Redress and Reconciliation in South African education: The case for a right-based approach*, indicating that there was a call for "a TRC for education specifically" (p. 170) at that time, reconciliation had been taken up minimally in education in South Africa and was not part of the current discourses of transforming higher education which are instead focused on the notion of decolonisation. It can be argued that this may be partly due to the weaknesses of the TRC approach in South Africa. Archbishop Desmond Tutu, who was appointed by Nelson Mandela as Chair of South Africa's Truth and Reconciliation Commission, shared his experiences of the TRC being fraught with incomplete expressions of regret and forgiveness, and which favoured the perpetrators (Tutu, 1999). Tutu described a major weakness as "that perpetrators have been granted amnesty as soon as their applications have been successful, whereas in the case of the victims, the Commission could only make recommendations" (1999, p. 57-58). That the TRC was welcomed by the majority of victims, while generally rejected by perpetrators (Grill, 2003, as cited by Horsthemke, 2005), also suggested a possible unwillingness or unreadiness from polarised positions to reconcile. Land acknowledgements, which are at the time of writing perceived by many Canadian universities as a key and first step to reconciliation, are not (yet) practised in South Africa (Coetser, 2020). Coetser (2020) argued that doing so might support South Africa's land reform process by "bringing awareness of land injustices to the wider community" (p. 122). It seems unlikely land acknowledgements would be applicable to the multiple, complex layers of the country's colonial history. For example, with the cultural genocide of Indigenous Khoisan peoples who were categorised as 'Coloured' by the Apartheid government, and therefore given certain advantages over Black South Africans but then where post-Apartheid they lost these advantages, and where the criteria for Coloured identities were questioned (Beston, 2013). While decolonisation was more prevalent in higher education discourses in South Africa, I decided to maintain a focus on reconciliation education because this work was less about a decentring of Euro-Western models, and more about a recentring of being-with a plurality of ways of knowing/being/doing.

While enacting this study, I needed to constantly ask myself: What does it mean to be aiming to enact reconciliation education while being a doctoral student and leading courses at institutions of

ongoing settler-colonialism? How might I disrupt without perpetuating colonial logics? How might I decolonise my own heart-mind in this process as part of my commitment to reconciliation?

1.5 The notion of decoloniz/sing education

Just as colonisation has taken many shapes and forms in different contexts across the globe, so too does the meaning of decolonisation particularly when it comes to higher education. This is evident even in the semantics of 'decolonization' being spelled with a 'z' in some places, such as Canada, and an 's' in other places, such as South Africa. This study adopts the notion of decolonisation in contexts of ongoing settler-colonialism, where people from elsewhere make their home on land inhabited by Indigenous peoples (Tuck, McKenzie & McCoy, 2014). While Canada and South Africa's colonialities may differ – different places, times, and cross-cultural encounters – what they do share are the ways these colonialisms damaged, and continue to damage, relations between humans and nonhumans (including lands and waters). Specifically, concepts of original inhabitants' *responsibilities to territory* shifted to settler entitlements to *ownership of property* (Temper, 2019); and legislation enacted cultural genocide through efforts "to kill the Indian in the child"[7] (Young, 2015, p. 5) in Canada, and, similarly, to kill the African in the child[8] in South Africa (Mzamane, n.d.).

In the Canada context, Tuck and Yang (2012) argued for a decolonisation that recognises and substantively addresses the mistreatment of Indigenous populations while they urged against misusing decolonisation as mere metaphor. For Tuck and Yang, the hard work of decolonisation requires "attending to what is irreconcilable within settler colonial relations and what is incommensurable between decolonizing projects and other social justice projects" (p. 4). According to Tuck and Yang (2012), substantive decolonisation requires repatriation of land (or power or privilege, e.g. settler sovereignty) because "the disruption of Indigenous relationships to land represents epistemic, ontological, cosmological violence" (2012, p. 5). Tuck and Yang (2012) acknowledged that curriculum can be created to strategically make visible settler colonialism.

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[7] The ethos of the Indian Residential Schools in Canada was "to kill the Indian in the child" (Young, 2015, p. 65). This was enacted through forcible removal of children from their families and communities, and prohibitions from "practicing their culture and speaking their languages" (Young, 2015, p. 65).

[8] Verwoerd, who conceived of Bantu education (inferior education for black South Africans), in speaking to an all-White Senate in 1954, stated, "There is no place for him [black African] in the European community above the level of certain forms of labour" (Mzamane, n.d., p. 7).

Mi'kmaw educator of the Potlotek First Nation, Battiste (2013) argued that decolonisation calls for "systemic change and trans-systemic reconciliations" (p. 14). As part of this change, Battiste insisted educators decolonise both the humanities and sciences by "nurtur[ing] Indigenous knowledge, its dignity, identity, and integrity by making a direct change in school philosophy, policy, pedagogy, and practice" (p. 99). This includes respecting Aboriginal languages and cultures.

In South Africa, Kumalo and Praeg (2019) argued that decolonisation was "epistemic justice for peoples of the Global South" (p. 2), while several scholars (Vorster & Quinn, 2017; Heleta, 2016; Le Grange, 2016) highlighted the need to enact decolonisation through curriculum reform. Cameroonian philosopher and faculty member at South Africa's University of the Witswatersrand, Mbembe (2016) argued that part of the problem with universities in South Africa was that they were based on a Eurocentric epistemological model that normalises coloniality, and he posited that several aspects of universities required decolonisation: access, buildings, management and organisational structures, values and priorities, assessment, syllabi, knowledge and "the university as an institution" (p. 33).

In the broader African context, Ghanian philosopher Wiredu (1998) proposed a "conceptual decolonization" for African peoples which he defined as "the elimination from our thought of modes of conceptualization that came to use through colonization and remain in our thinking owing to inertia rather than to our own reflective choices" (p. 56). He explained that this presented challenges when much of African philosophy occurred in Euro/Western languages, and he called for Africans to apply their mother tongues in knowledge production. Ngugi wa Thiong'o (1986) defined decolonising as an ongoing practice whereby we might "see ourselves clearly in relationship to ourselves and to other selves in the universe" (p. 87), where 'other selves' may include both humans and nonhumans.

In the broader global context, Puerto Rican sociologist Grosfoguel emphasised how decolonisation could not be reduced to eliminating colonial administration, as this would leave the "colonial power matrix" (p. 219) intact, shifting the world only insofar as moving from 'colonialism' to 'coloniality' (Grosfoguel, 2007). Grosfoguel (2007) argued for an alignment with peoples of the Global South towards a world of pluriversality that proposed "an alternative decolonial conceptualization of the world-system" (p. 212). Argentinian professor Mignolo (2009) proposed decolonisation as "epistemic disobedience" (p. 160) that disrupted what he described as the eurocentric illusion of a universal knowledge with universal knowers. He argued this was done by an "epistemic de-linking with all its historical, political and ethical consequences" (p. 160), and by acknowledging the epistemologies that had been silenced through colonial epistemic universalisms. Mignolo went on to

propose what he referred to as “decolonial options” (p. 161) which enact new value-positions, interwoven with these epistemological shifts, whereby “the *regeneration* of life shall prevail over primacy of the *production and reproduction* of goods at the cost of life” (p. 161). Many scholars (Battiste, 2017; Barrett & Wuetherick, 2012; Adjei, 2007; Kawagley, 2006; Atleo, 2005) across the world called for a greater diversity of ways of knowing in decolonisation. In Paper 4, Abrams and I wrote how we adopt Zembylas’s concept of decolonisation as the “pluralization of the knowledge field” (Barreiro, Vroegindeweji, Magali, Forte & Zembylas, 2020, p. 129) including “affectivity” (ibid., p. 130) as a way of knowing.

Taking into consideration this wide range of conceptions of decolonisation in the field of higher education, combined with the notions of reconciliation as outlined in section 1.3, this study enacted decolonisation in several different ways. Through reflective analysis of the four papers I wrote as part of this process and thesis, I identified what I refer to as an *Anatomy of decoloniz/sing curriculum* consisting of five key parts. The inclusion of both “z” and “s” is intentional and, I argue, suggests that these parts are applicable across Canadian and South African (and potentially broader) contexts, particularly because they are frameworks for context-specific co-knowing/being to occur. I propose this anatomy, detailed in section 1.9, as one option for consideration amongst many evolving possibilities in the global practices of decoloniality.

1.6 The notion of curriculum

“Curriculum creation and enactment cannot be imagined as independent of a given socio/political structure and/or project” (University of Cape Town, 2018, p. 17).

The Soweto uprisings of 1976 in South Africa are a stark reminder of the power of curriculum, both to harm and to heal. At that time, Black students protested an official order that schools were to teach in Afrikaans, the language of the oppressive Apartheid government. The peaceful protests were disrupted by police brutality resulting in the deaths of hundreds of school children (Mativo, 1982). The language of instruction is but one of a multitude of choices to be made in the development and enactment of curriculum which may enable ripple effects of potential outcomes, depending on one’s objectives. Since language is deeply entrenched in cultural identity and ways of knowing/being, choice of language(s) of instruction have broader implications than mere knowledge comprehension, for example, on identity and belonging. Further choices include various aspects traditionally

considered to be part of curriculum, broadly speaking: what (content) is taught (and assessed), how/when (pedagogy), including where (learning environment) and by whom (educator).

As Le Grange (2010) explained, a central question behind curriculum is: “What knowledge [is] worth learning most?” (p. 179). The main conceptualisation of curriculum worldwide is based on a model by Frank Taylor (1911) aimed to serve the needs of a growing era of industrialisation. Gough (2011, p. 3) described this and similar models:

> Taylor’s emphasis on designing industrial systems to achieve specified products is reproduced in the objectives-driven curriculum models of Franklin Bobbitt (1918, 1928) and Ralph Tyler (1949), and more recently manifested in outcomes-based approaches to ... education curriculum.

In 2005, South Africa introduced outcomes-based education (OBE) into schools (Le Grange, 2010). According to Le Grange (2010, p. 190), referring to Mason (1999), this was intended to “redress the legacy of Apartheid by promoting the development of skills throughout the school-leaving population so as to prepare South Africa’s workforce for participation in an increasingly competitive global economy.” Allias (2007) argued that OBE was fueled by neo-liberalism and prioritised the economy. Without economic redress, this prioritised the still predominantly White upper class. One of the demands of the 2015/6 student-led protests across South Africa, known as #FeesMustFall, was for the decolonisation of university curriculum (CCWG, 2018). According to a report prepared by UCT’s Curriculum Change Working Group (CCWG), who engaged a wide range of individuals and groups across UCT in curriculum-reform related dialogues, key questions that emerged from curriculum dialogues were: “What knowledge? Whose knowledge? What/who gets privileged? Whose interests dominate?” (CCWG, 2018, p. 7); and “What is knowledge? Who owns knowledge? And how is it produced?” (ibid., p. 45). The CCWG posited, following their university-wide engagement process, that curriculum change must be “essentially about contesting power” (CCWG, 2018, p. 54).

In Canada, Ball and Pence (1999) developed an approach to curriculum creation and enactment called a ‘Generative Curriculum Model’ that allowed for, while building on, synergies between Indigenous and Euro-western cultures through collaboration and which did not have a predetermined outcome. For example, an accredited diploma programme in child and youth care, offered by the University of Victoria, ran in partnership with several First Nations communities and used this model for:

> … building an open curriculum to bridge the culture of the First Nations children and families being served and the Euro-western culture embodied in theory, research and practical approaches to early childhood education. (Ball & Pence, 2001, p. 2)

The process was embedded with co-learning and knowledge co-production, including "collaborative construction of concepts and curricula" (Ball & Pence, 2001, p. 2) with respect for situated knowledges through community-based enactment of the curriculum. As Ball and Pence (2001) pointed out, this model "evolved from a 'post-modernist' valuing of multiple voices and insistence upon situating alternative constructions of experiences with reference to the historical, cultural, political and personal contexts in which these constructions were generated" (p. 4). The Generative Curriculum Model held knowledge to be fluid and ever-changing:

> …useful knowledge exists only in interaction, or in praxis. Such knowledge is mutable rather than immutable; it takes its form from the environment in which it was created. More like water than block or stone, it is endlessly transforming. (Ball & Pence, 2001, p. 4).

While the Generative Curriculum Model typically allowed courses to be run *by* First Nations communities, and while this differs from the curriculum of this PhD project because it was run by me through universities and involved Indigenous peoples as well as peoples from diverse backgrounds, many of the related principles of this framework are still relevant.

Deleuze and Guattari (1987) introduced the concept of rhizomatic thinking which views knowledge as emerging from complex, interconnected networks. Le Grange and Beets (2005, p. 118) proposed learning outcomes as rhizomes:

> Viewing outcomes as rhizomes enable us to understand them as being in constant movement, that is, without fixity. They are always tentatively understood as moments that emerge during pedagogical episodes when teachers observe learners' performances. Inferences drawn about what is learned becomes an art of assembling momentary or emerging performances in a classroom. The inference gives meaning to the outcome and in a sense, tentatively 'defines' the outcome.

According to Le Grange, Pinar (2010) highlighted the Latin 'currere' meaning 'to run the course' as "the etymological root of curriculum" (Le Grange, 2016, p. 7). Canadian scholar Wallin (2010) drew out 'currere' as having both active and reactive qualities. Elaborating on this, Le Grange (2016) conceded that perceiving curriculum as an "active conceptual force means that the concept does not

have fixity or closeness" (p. 8) and therefore that "this notion of curriculum opens up multiple pathways for the becoming of pedagogical lives and therefore the basis for decolonisation – difference is valued for its intrinsic worth" (Le Grange, 2016, p. 8).

Eisner (1985) identified three types of curriculum: explicit, implicit and null. Explicit refers to what is provided for students, which Le Grange identified as "module frameworks, prescribed readings, assessment guidelines, etc." (2016, p. 7). Implicit, or what Le Grange (2016) called 'hidden', refers to the dominant institutional culture including its values. This relates back to what Donati (2011) referred to as the 'relational context' when we think about higher education. Null refers to what is absent from both teaching and learning, or that which is not yet there. As described in section 1.7 (Methodology) of this thesis, the model of curriculum developed through this study enacted explicit curricula which may traditionally be null curriculum in conventional universities (e.g. perspectives, knowledges, and educators silenced by institutions of ongoing settler-colonialism). In Paper 4, found in the Appendices, particular focus on the implicit curriculum surfaced in the paper's analysis. As described in section 1.9.5 of this Introduction, the concept of 'hidden curriculum' resonated for me with increasing relevance through the development of this study and curriculum, such that I argued for an *Anatomy of decoloniz/sed curriculum* to include what I refer to as 'unhidden curriculum'. The unhidden curriculum is a way of reversing the null curriculum. This is detailed in section 1.9.5 of this Introduction.

Building on the principles of explicit/hidden/null curriculum; the active qualities of 'currere'; rhizomatic thinking; the 'Generative Curriculum Model'; and 'contesting power' as synergistic elements in this guiding framework, this thesis details the emergence of a site-specific, media arts-based curriculum whereby the what, why, who and how of the curriculum evolved as the curriculum was created and iterated. This model of curriculum set up a framework of encounters through which learning experiences emerged. This model suggested a chronology for these encounters so that one predetermined outcome was the making of videos, however, the narrative(s) and approaches of these videos were not predetermined. This model borrowed a set of constructions that included: water bodies; Knowledge Keepers; guest lecturers; field trips; and a screening event; nevertheless each of these only become more clearly defined by the specific context in which the curriculum was enacted. In this way, 'matters of concern' and possibilities for new ways of relating towards reconciliation (and inter-related water equality) emerged specific to each context.

1.7 Methodology

1.7.1 Praxis process

To align with my goal of "reflection and action upon the world in order to transform it" (Freire, 2005, p. 51 as cited in Given, 2008, p.677), I used a praxis process to build a relational model of university curriculum with the aim of cultivating students' relational sensibilities and abilities oriented towards reconciliation while contributing to justice at the water-climate change nexus. Lather conceptualised research as praxis, in her (1986) article *Research as Praxis*, as "what it means to do empirical research in an unjust world" (p. 257) ... which is "the development of empowering approaches to generating knowledge" (ibid., p. 258) ... "whereby both researcher and researched become, in the words of feminist singer-poet Chris Williamson, 'the changer and the changed'" (ibid., p. 263). By praxis, I mean I used a generative research method, without necessarily pre-determined methodologies (for example, in the development of curriculum), so that there was an ongoing dialogue between curriculum development and teaching practice, reflection, theoretical analysis, and continued curriculum iterations. This praxis included both traditional academic forms of reflection and analysis, for example the writing of academic papers described in section 1.6.3, as well as artistic modes of expression, such as podcasts, as described in section 1.6.4. Engaging in research as praxis was one way of aligning with epistemologies of the South, in contrast to the epistemologies of the North which, according to Santos (2018), are "characterized by such distinctions as ... knower/known, mind/body, and theory/practice" (p. 54).

1.7.2 Iterative course design

I co-designed, taught, and reflexively monitored and reviewed two courses as iterations, one at ECUAD in Canada (in partnership with DSF, the Native Education College[9] and the Beaty Biodiversity Museum) and one at the University of Cape Town (UCT), South Africa, hosted by UCT's Future Water Institute (FWI) in collaboration with Rhodes University (RU)'s Environmental Learning Research Centre (ELRC) and the Tshisimani Centre for Activist Education. The curriculum was first enacted as a pilot course at ECUAD in Vancouver, Canada in 2018, then iterated at ECUAD in mid-2019, and finally further iterated at UCT in late 2019. Both courses shared key core elements of the curriculum, with the details of each course customised to be contextually relevant, in order to assess which aspect(s) may or may not offer insights that can inform curriculum practices that foster reconciliation across contexts. Core elements of the curriculum included: site-specific

[9] The Native Education College (NEC) is a Vancouver-based Indigenous-led post-secondary institution that has been educating Indigenous learners for more than 50 years (Native Education College).

creative work where the 'sites' were local water bodies; observation/documentation of water bodies through audio/video mapping assignments; strategic artistic approaches known as *slow media* and *soundscape recording* (to be detailed in Papers 1, 2 and 3); students producing videos –including water narratives – focused on local water bodies; students meeting with Knowledge Keepers (Indigenous and non-Indigenous peoples from outside the university with existing relationships with the local water bodies); diverse guest lecturers; canoeing field trips led by Indigenous peoples (or peoples from non-Euro/western ancestry); and a public screening/education event hosted as a literal and philosophical 'third space'[10] (typically a museum) in which students also facilitated educational games they created through the course.

Both 2019 courses presented an opportunity for students' videos to be published online as part of *The Cape Town Museum of Watery Relations and Uses.*[11]

At ECUAD, the course was offered as an undergraduate credit-bearing summer intensive (five-week or 14x 3-hour sessions) programme called 'Fieldworks in Environmental Ethics and Education' in the Faculty of Culture and Community. This course was offered as an elective to students from all disciplines and years in their undergraduate degree and the course credit counted towards a Minor in Social Practice and Community Engagement. In 2018, nine students participated in the course/research. In the 2019 iteration of the course, six students participated in the research. Both 2018 and 2019 iterations of the course took place in July and August.

At UCT, the course was offered as an elective short course available to several of the Masters programmes affiliated with UCT's Future Water Institute (FWI), for example, that of the Environmental and Geographical Sciences. The course was also open to the general public and was advertised on the FWI Water Forum without specifying that prospective students needed to be registered students. The course took place from 11 November - 12 December, 2019. Nine students

[10] 'Third space' is conceptualised by post-colonial theorist Homi Bhabha (1994) as a kind of cross-cultural meeting point centred on hybridity where identities and power relations can be temporarily reconfigured along with new knowledge produced from these new (even if temporary) boundaries. In our case, the 'third space' is also enacted by hosting an event in a space that is neither distinctly university nor community but somewhere in-between.

[11] *The Cape Town Museum of Watery Relations and Uses* is a project conceived and led by FWI's Research Fellow Amber Abrams which "engages citizens of South Africa (especially those in Cape Town) with the aim of *collaboratively* developing an online interactive map of the various water samples/stories submitted to begin to develop an understanding of local water usersand their perceptions of their water sources" (https://wsudsa.org/water-museum/).

participated in the course/research, six of whom were already registered in a degree programme at UCT, and three of whom were working professionals from a variety of disciplines.

1.7.3 Writing academic papers

I chose to do a PhD-by-publication, meaning that part of my thesis includes academic journal articles that I wrote about my research. As per the requirements of Rhodes University's Education Faculty, for my PhD-by-publication, I wrote four papers (see Appendices) and submitted all of them to peer-reviewed academic journals (one South African, and three international). Rhodes University requires that two of the papers be accepted for publication. At the time of writing this, the first, second, and third papers are published. The fourth paper has been invited to enter an external review process. The first and fourth papers, linked to research which took place in the South African context, are co-authored with South African collaborators. As per Rhodes University's requirements, I was the lead author on both of these articles and sole-authored at least one of these papers (two, in fact). I viewed the PhD-by-publication as an important part of my praxis process, where I wrote each paper at a particular stage in my research, and where the writing of each paper became a catalyst for me to bring theory and practice into dialogue and to think more deeply about what I was learning along the way. Peer-review feedback on articles, as well as responses to the presentation of papers at international conferences, were critical to assessing the relevance and quality of my research as it developed. The opportunity to share aspects of the research throughout the research project was something I considered to be an important part of decolonising my PhD process. I explain this in greater detail in Chapter 6. As per Rhodes University's Higher Degrees Guide, a PhD-by-publication requires additional, integrating materials to be submitted as part of the thesis:

> Where published papers and other materials are included in the thesis there should be integrating material of a nature that ensures that one coherent document is submitted for examination that meets all the requirements of the PhD (Rhodes University, Higher Degrees Guide, 2019, p. 6).

As integrative material, I wrote metareflections explaining the process of writing each paper and what I learned from this. The metareflections are found in chronological order, based on which paper they refer to, in Chapters 2-5 of this thesis.

1.7.4 Podcast praxis

I used a praxis process to undertake a form of contextual profiling throughout my study in the form of two podcast series. The first podcast, called *DayOne*, was co-produced with a fellow PhD student

in Environmental Education (Rhodes University), Anna James, as an audio-based pedagogy around the water-climate change nexus. Starting in early 2018, we documented stories of the lived experiences of the 2018 Cape Town water crisis across a range of demographics throughout the city. These stories were collaboratively analysed into themes and episodes, then shared as a catalyst for dialogue and creative responses through public engagement workshops. Aspects such as encouraging listening, the co-production of knowledge, highlighting place-based soundscapes, and the deconstruction and reconstruction of dominant narratives about the water crisis, allowed an exploration in potential ways of supporting relational sensibilities and abilities oriented towards reconciliation. This meant the podcast praxis was also a critical first step in building the relational model of curriculum that was central to this research project.

The second podcast, called *Climate for Changing Lenses*, was produced as part of my explorations in decolonised research representation, where I strategically involved research contributors in opportunities to give input on research outputs as they developed. To clarify, by 'contributors', I refer to people who represent the wide range of stakeholders in the curriculum's learning community: students, partner institutions, guest lecturers, Knowledge Keepers, research assistants, and scholars who had influenced my thinking around the curriculum. I considered this an important part of decolonising my PhD process. This will be detailed in Chapter 6 where I describe the methodology and motivation behind decolonising my PhD process, including the *Please Don't Blow It* song and music video which my praxis process culminated in. In December 2020, I engaged seven research contributors in conversations (which I recorded with their permission), where participants were invited to share their responses to my research outputs that I had created and made available to them by email in November 2020. These research outputs included four academic journal papers (which are included in the Appendices of this thesis), as well as a series of four short videos I titled *In the Flow* (available on my PhD website at bit.ly/sarahvanborekphd). These videos offered an alternative mode of representing each of the four papers. The process of creating these videos, the motivation behind this, and links to the four videos, can be found in Chapter 6. I then edited the recorded conversations into slightly more polished podcast episodes (which included my writing and recording of some basic narration), shared these back with contributors to confirm they felt comfortable with how they and the conversation was represented, and published these online to make them freely available for the public to listen to (see anchor.fm/sarahvanborek). These conversations took place as I was writing up the Introduction section and metareflections of this thesis, so that my own relational learning from these could be considered in any final recommendations for this project.

1.7.5 Observation

As a teacher-researcher in all iterations of the course, I recorded detailed observations in the form of journal reflections. This included aspects of the co-design of the curriculum (with course partners representing DSF and FWI), while enacting the courses, and at the end of each course.

1.7.6 Participatory video

Students' primary task in the course was creating a video project. The process to produce those videos and the influence of this on students' relational sensibilities and abilities oriented towards reconciliation were documented through student interviews/questionnaires, student reflective journals and my own observational journal reflections. Aspects of students' videos (i.e. narrative content and style, and representations through sound, image, text and editing techniques), contained important data that spoke further to the curriculum's influence on students.

1.7.7 Questionnaires and interviews

I gave the students the option to complete a questionnaire or interview before and after the course. Interviews/questionnaires were integrated into the curriculum so that they also provided important opportunities for reflexivity in students' learning journeys. To ensure all students had equal access to these learning opportunities, the interviews/questionnaires were required components of the course but only those done by students who consented to participate in the research were reviewed as data. Interviews were conducted by third party researchers to minimise researcher bias and encourage students to share experiences they might have held back from sharing if I had been the one interviewing them. The interviews were audio recorded, and later transcribed by me. I shared the transcripts with students as part of member-checking to ensure they were satisfied with how what they shared was represented. The questionnaires had open-ended questions carefully structured around the relational sensibilities and abilities towards reconciliation that I had identified through mypraxis process with the *DayOne* podcast (described in Paper 1). Interviews were semi-structured to allow for some focus and consistency across objects of study, as well as some flexibility for topics and themes to emerge from the data. A labelling system was used to ensure there was a way to track the before and end course questionnaires/interviews for each student.

1.7.8 Document analysis

Students were tasked with maintaining reflective journals throughout their learning journey in the courses, where they were asked to record their own observations, experiences, ideas and feelings with regard to various aspects of the curriculum. Students were made aware, at the start of the

course, that these journals would be analysed as a data set. Students' journals were collected at the end of the courses, enabling in-depth analysis of the content. Quotes from students' journals that appear in the research outputs were shared back with students for their permission to be included in research outputs. Document analysis was also part of developing an understanding of the current meaning of reconciliation in South Africa and Canada, by examining key documents such as the *South African Reconciliation Barometer Survey: 2019 Report* (Potgieter) and the Reconciliation Canada's *National Narrative on Reconciliation Report* (2017).

1.7.9 Methodologies for data analysis

The initial focus of my analysis was around understanding the influence of the curriculum on students' reconciliation and relational sensibilities and abilities in the course. To analyse data generated from student interviews/questionnaires, student reflective journals developed throughout the course, and my own observational journal reflections, I used qualitative methods of analysis. As a starting point, I developed a set of questions to be used as an analytical tool (see Table 1.1). These questions emerged from, first, drawing main lines of argument from theoretical research on reconciliation and relationality, then selectively combining lines of argument between reconciliation and relationality to arrive at a general theme that reflected the sensibilities and abilities related to reconciliation and relationality, and then more specific question(s). Working with course iterations in Canada and South Africa, I applied this tool of analysis first to each country. This tool was also used in the analysis of data in the form of podcast content from the *DayOne* podcast episodes, however, where 'students' appear in the questions, this was applied to all podcast participants. This list became more refined as my research process developed, and as the data also showed up further nuances via the analysis.

Table 1.1 Relational Sensibilities and Abilities related to Reconciliation – informing curriculum analysis

RECONCILIATION *(Main lines of argument from research)*	**RELATIONALITY** *(Main lines of argument from research)*	**QUESTIONS/ ANALYTICAL TOOL**
Connects Western and Indigenous systems of knowledge (TRC as cited in Siemens, 2017, p. 132) “Decolonizing praxis: challenge ethnocentrism and the pre-eminence of Western worldviews” (Adam & Tiffin, 1992, as cited in Ahluwalia et al., 2012, p. 16)	“developing and sustaining alternative knowledges through multi-racial alliances to solve emerging problems” (Houston, Martin & McLaren as cited in Ahluwalia et al., 2012, p. 132)	**Theme: Knowledge ecology** 1. How does the curriculum engage students with both Western and Indigenous/local knowledge, so that they a) recognise there are diverse knowledge systems; and b) view diverse knowledge systems as having equal importance? 2. To what extent does the curriculum challenge ethnocentrism, and in what ways does this manifest?
“Building Student Capacity for Intercultural Understanding” (TRC, 2015a, p. 11)	“Perception of…the interdependence between the many manifestations of life” (Lange, 2018, p. 283)	**Theme: Intercultural understanding** 1.To what extent does the curriculum build student capacity for intercultural understanding, and if so, how does it manifest? 2. How does the curriculum contribute to student awareness of the interdependence of life?
Empathy (TRC, 2015a, p. 7)	Relational empathy (Broome 1991, 1993, as cited in Ahluwalia et al., 2012)	**Theme: Empathy** 1.To what extent does the curriculum encourage students to express empathy, and if so, how does it manifest?

"Thinking stereoscopically about self and society" (Hattam and Matthews as cited in Ahluwalia et al., 2012, p. 14) "Integration of personal and social transformation" (Hattam & Matthews as cited in Ahluwalia et al., 2012, p. 25) "An ethics of responsibility…[that] requires continuing engagement with issues of the public sphere and civility" (Christie as cited in Ahluwalia et al., 2012, p.43)	"Valorizing 'free-giving' reciprocal relations" (Archer as cited in Donati, 2011, p. xii) "Recognizing the reciprocity between oneself and the…water they interact with" (Lange, 2018, p. 293)	**Theme: Reciprocity** 1. How does the curriculum encourage students to express reciprocity, either with people or the wider-than-human or both? 2. In what way(s) does the curriculum support students to engage in both personal and social transformation?
"Dialogue and listening" (Hattam & Matthews as cited in Ahluwalia et al., 2012, p. 14-15) "*Just* listening…simply and profoundly listening to each and every Other and their pain and suffering" (Zembylas as cited in Ahluwalia et al., 2012, p. 32) "Sites of dialogue in which cross-cultural understanding and discourses can be elaborated" (Hattam & Matthews as cited in Ahluwalia et al., 2012, p. 17)	"Embodied ways of knowing … addresses the whole person-body, mind, emotion, spirit, and will" (Lange, 2018, p. 292) (Re: decolonising education) "a multidimensional process and it require[s] knowing the visible (physical) and invisible (spiritual) aspects of oneself and of creation" (Ottmann & Pritchard, 2009, as cited in Battiste, 2013, p. 181)	**Theme: Embodied ways of knowing** 1. How does the curriculum foster critical dialogue, especially ones that support cross-cultural understanding? 2. How does the curriculum encourage listening, especially *just* and active listening? 3. How does the curriculum address a student's whole person?
"Provides resources for a utopian social imaginary…[that] here can be understood as a narrative of nationhood" (Hattam & Matthews, as cited in Ahluwalia et al., 2012, p. 13)	"An increased awareness of the reasons why social relations … can make society better or worse … just or unjust" (Donati, 2011, p. xvi)	**Theme: Hopeful social imaginary** 1. In what way(s) does the curriculum develop students' critical awareness of their surrounding social systems, seen through a lens of relations that can be shifted?

"… nurturing an imagination of hope" (Hattam & Matthews, as cited in Ahluwalia et al., 2012, p. 25) "Visioning skills … [to] think, dream and consider possibilities … free from the usual constraints imposed by the now" (Peters & Freeman-Moir, 2005, p. 4 as cited in Ahluwalia et al., 2012, p. 21). "Revisioning social relationships and community through inclusion rather than exclusion" (Hattam & Matthews as cited in Ahluwalia et al., 2012, p. 14) "Provide students with opportunities to explore the implications of being part of a shared public realm, and the necessity of ethical engagement with it" (Christie as cited in Ahluwalia et al., 2012, p.43) "Reconciliation in the South African context requires students to engage with the social and historical relations of power in which they are embedded and to confront their diverse histories and experiences" (Ferreira et al. as cited in Ahluwalia et al., 2012, p. 191)	"Opportunities for students to name the systems they are nested within, their positionality, the porous boundaries between systems, and to experience these connectivities" (Lange, 2018, p. 291)	2. How does the curriculum encourage students to explore, think, speak and/or act from a source of hope? 3. To what extent does the curriculum encourage students to "think, dream and consider [alternative] possibilities" for communities? (i.e. inclusive, harmonious, just, etc.)
	"Orientation to place is essential for understanding what it means to be related" (Pueblo Gregory Cajete, 1999 as cited in Lange, 2018, p. 292)	**Theme: [Re-] connection with place** 1. In what way(s) does the curriculum foster and/or expand students' connection to place?

Following the enactment of the 2019 iteration of the curriculum at ECUAD, my tool of analysis evolved (see Table 1.2) as my theoretical framework embraced Ceder's (2015) posthuman concept of *educational relationality*. The process of arriving at this theoretical and analytic shift is detailed in *Chapter 4: Paper Three Metareflection*, while the results of this analysis are described in Paper 3 which can be found in the appendices.

Table 1.2: Tool of analysis for posthuman reading

What/ who intra-acts?	At what stage of the process?	What happens?	What changes?	What might this allow?	How might this contribute to reconciliation?
[relata entangled in intra-action] e.g. student-water-camera	*[stage of process]* e.g. during observation	What is happening in transformations technical tools bring on? What is happening in transformations artistic approaches (e.g. slow media) bring on? What is happening affectively while intra-acting?	What boundaries, identities, subject-positions (and related attributes) emerge? How might the concept of intra-action change through the process? What are the agentic qualities of which emerging actors that were performed through the apparatus?	What does this render possible/ visible, enable or produce? What does this make humans entangled in the intra-action able to do/see/notice/ feel? Who renders whom capable of what?	How might it decentre Euro/human-centric ways of being/doing/ knowing? In what ways might it make visible and/or engage root causes of inequalities and/or divisive relations? How might it make relations of power more equal? How might this promote mutual responsibility?

The students' final videos resulting from the courses were important objects for analysis, containing narratives students constructed through the curriculum. To analyse these videos, I applied a

‘Narrative Analysis, Constructionist Approach’ to explore how narratives functioned discursively between the personal, social and cultural via relations (Squire, Corinne, Andrews, Molly & Tamboukou, 2008). This allowed me to also consider and examine power relations in stories (Phoenix, 2008) and how this revealed further insights into their relational/reconciliatory sensibilities and abilities. I was poised to uncover macro/meta/public narratives and then to explore how “the narrative reiterate[s] or counter[s] these macro/meta/public narratives” (Esin, Fathi & Squire, 2014, p. 212) which linked to historical and cultural contexts. As I examined the various elements of the videos (i.e. narrative content and style, and representations through sound, image, text and editing techniques), I gauged what these various elements revealed about the themes identified above in Table 1.1 as well as any other notable themes relevant to reconciliatory and relational sensibilities and abilities that arose from the data. When it came to the analysis for Paper 3 specifically, which involved working with posthuman theory, I adapted my narrative analytical approach to consider posthuman thinking. I describe this in detail in Paper 3 and the corresponding metareflection.

Throughout the research process, beginning with the negotiating of terms of the courses with host institutions, through the design and implementation of courses, I applied reflexivity which, according to May and Perry (2014, p. 109) “involves turning back on oneself in order that processes of knowledge production become the subject of investigation” to constantly reflect on how my involvement as both teacher and researcher might have influenced the data generation and analysis. Reflexive inquiry moves away from traditional subject/object, knower/known distinctions (May & Perry, 2014); therefore, I considered my own personal transformation through the teaching process, revealed through my observational reflective journal, against some of the same themes previously identified for analysing the influence of the curriculum on students.

1.8 Ethics

1.8.1 Ethical approval

The research proposal for this PhD project was reviewed and approved by the Rhodes University Ethical Standards Committee (RUESC) – Human Ethics (HE) sub-committee (May 16, 2019, #0253). My application to RUESC included External Collaborator signatures from Anna James, PhD candidate at the time from Rhodes University’s Environmental Learning Research Centre (ELRC), and from Amber Abrams, Postdoctoral Research Fellow at the time with the University of Cape Town’s Future Water Institute (FWI). James and I collaborated on the *DayOne* podcast and co-

authored Paper 1. Abrams and I co-designed/facilitated the Cape Town iteration of the *Making Waveforms* course and co-authored Paper 4.

Gatekeeper permissions were also obtained for partner institutions where courses, as part the research methodology, were hosted. The project had full ethics approval from the Emily Carr University Research Ethics Board (May 15, 2019, ECU-REB#100302) to support research which took place with students from the Emily Carr University of Art + Design. I received confirmation from UBC ethics staff that no further ethics approval was required from the University of British Columbia (UBC) to host a public screening event related to the course/research at UBC's Beaty Biodiversity Museum since they were merely hosting our final event, and the event was open to a broad public. The project had full ethics approval from the Faculty of Engineering and the Built Environment, University of Cape Town (April 1, 2019) to support research which took place with students from the University of Cape Town.

The ethics procedure for the *DayOne* podcast project was initially done as a branch of ethical clearance by Rhodes University (RU) for the co-engaged research programme of RU's SARCHI Chair: Global Change and Social Learning Systems (who happened to also be my PhD supervisor, Distinguished Professor Heila Lotz-Sisitka) called *Transformative Social Learning for Social-Ecological Sustainability in Times of Climate Change* or 'T-learning'. The T-learning research programme's purpose was "to develop practice, theory and methodology for transformative learning oriented towards sustainability and the resolution of nexus concerns ('matters of concern') in times of climate change" (Lotz-Sisitka, n.d.). T-learning was a contextual profiling platform for transformative, transgressive learning processes with a generative orientation through which I could develop and evolve this arts-based methodology as a form of generative research in which not all methodology and aims were pre-determined, and where explicitly open-ended and co-engaged learning processes meant that the co-creation of knowledge could surface research problems and approaches. The emphasis was on investigating the learning processes. The T-learning ethics clearance covered the overall programme, and research in South Africa being conducted by RU affiliated researchers (which meant my *DayOne* podcast research was covered). That said, additional ethics materials were provided in my RUESC ethics application to cover this additional action research project that fed into my main PhD project. As part of the project description, outlined in the informed consent form, *DayOne* podcast participants were informed of the combined aims of the podcast as research-communication-education-action, thereby offering both academic and practical value, with the practical, immediate benefits to the community of Cape Town being access to

emerging information about the evolving water crisis. Since the research was not pre-determined, new processes that were introduced were carefully negotiated (e.g. opportunities to host podcast listening/creation workshops, and to negotiate the timing and agenda of workshops). Permissions were sought from participating organisations where we hosted workshops which included: Iziko South African Museum, Edith Stephens Wetlands Park Environmental Education Centre, and UCT's Future Water Institute. Co-engaged, generative research requires reflexivity on the researcher's position. A practice of reflexivity was required in the editing of participant interviews into podcast episodes, including identifying emerging questions, topics and themes; and researching and writing narration scripts that wove these diverse perspectives (interviews) together. This reflexivity was done collaboratively with my *DayOne* podcast co-producer, Anna James. Participants' interviews, once edited, were shared back with them for their approval before being published as part of podcast episodes. Full podcast episodes were then shared back with participants by emailing them links to the podcasts published to a Soundcloud account (https://soundcloud.com/dayonewaterpodcast/) and linked into a dedicated free Wordpress website (https://dayonewater.wordpress.com/episodes/). While James and I co-wrote an academic paper about this process, we worked at citing directly from podcast episodes in the paper in order to include research participants' voices in the writing, and endeavoured to write in ways that promote social justice.

1.8.2 Obtaining informed consent

For the university courses, the course descriptions that were used to market courses to students clearly outlined how the courses were part of a research project and that students would have the option of participating in this research (or not). This was reiterated in a welcome email to students who registered for the courses. For students participating in the university courses, consent was negotiated and obtained during our first class, after they had received and read through an informed consent form, and had had a chance for us to discuss the meaning of the forms and giving consent. The consent form included: a description of the research project including the aims of the research; a summary of the research methodology; benefits and risks of participating in the research; how the researcher would use the research materials; the intended research outputs; and the researcher's name and contact information. Students were given the option of consenting to participate in the research, and/or to being photo/video documented as part of the research process. Students were given the option to indicate if they preferred to first see the photographs and video materials or to hear the audio materials before they were published. Students were advised that, with their consent, some of their course assignments (e.g. video project and reflective journal) would be reviewed as data. Knowledge Keepers who agreed to participate in the courses were provided with an informed

consent form prior to the commencement of the course, when I first contacted them to discuss their potential involvement. This was done by email, and sometimes discussed in more detail by phone and/or an in-person meeting. They had an opportunity to discuss the details and ask any questions with me at that time. Knowledge Keepers were given the option to consent to: a) participating in the course/research; and b) being filmed by students for use in their video projects. Knowledge Keepers could consent to option (a) without consenting to option (b). For participants in the *Climate for Changing Lenses* podcast conversations, I invited them to give their consent (or not) by stating their consent aloud and for this to be documented in video and audio through a Zoom call/recording. Podcast content was shared, privately, with *Climate for Changing Lenses* podcast participants to preview and approve of how they were represented before these media products were shared publicly. With the process of creating the song *Please Don't Blow It*, I invited *Climate for Changing Lenses* podcast participants to offer a verbal statement as a lyric towards the song. Participants were invited to say this statement aloud in a Zoom call/recording, and consented (either verbally or by email) to have their voice and face included in the song (and related music video). Some participants opted to have me select a statement from our conversation to include in the song. I shared these statements with participants by email, first, for their consent to include these statements in the song. *DayOne* podcast participants whom we contacted in advance of meeting to inquire about the possibility of them being interviewed for the podcast, were provided with an informed consent form at that first point of contact. This either took the form of an email or a phone call. We had an in-person meeting with school groups we knew in advance would be joining us at the Edith Stephens Wetlands Park workshop, so that the consent form could be shared with parents/guardians for obtaining consent on behalf of their children/dependents. Prospective podcast participants had an opportunity to discuss the details and ask any questions with us at that time. For any podcast participants who attended a workshop, and whom we were not in contact with prior to the workshop, a copy of the consent from was provided to them (via their teachers or adult chaperones) to share with parents/guardians for obtaining consent on behalf of their children/dependents. We struggled to get parent/guardian signatures consenting to including youth in podcasts. This was because of several intermediaries (i.e. staff at Edith Stephens Wetlands park or Iziko South African Museum and youth coordinators/teachers) between parent/guardians and us. To address this issue, we did not include responses from youth without consent in any podcast episodes. We worked in three languages (Xhosa, Afrikaans, and English) in producing the *DayOne* podcast. The dominant language of education was English in both contexts and all participants and Knowledge Keepers demonstrated an ability to understand and speak English. Some Knowledge Keepers and guest lecturers in the courses shared parts of their offerings to students in languages other than English. Students participating in

the courses were encouraged to consider how any additional languages might become part of their video projects. All participants were advised, through the consent forms and our discussions, of their right to withdraw their participation in the research at any stage. Participants were advised that this could be communicated to me in person during a workshop or class, or by phone or email at any time. There were separate consent forms for the *DayOne* podcast project and for the university *Making Waveforms* courses. The podcast consent form used simple language, and outlined what kind of podcast distribution was likely. The consent forms for the university course participants were also slightly modified between those for the course in Canada, and those for the course in South Africa, to be contextually relevant.

1.8.3 Minimising the risk of harm and bias

Although the risk was small, it was possible that participants might experience negative reactions from friends and family who listened to the podcasts that are part of this research project. My first step to preventing this risk was applying sensitivity in editing the podcasts to ensure that the content, while maintaining the integrity of interviewees/participants' voices as much as possible, did not present content that would clearly put any participants in obvious risk. My second step in this process of sensitivity involved sharing edited podcasts with those participants represented in the podcast, for their approval, before the podcast was published online and/or presented to a public audience. I was willing to engage sensitively and carefully with participants should any difficulties arise in the podcast process (i.e. negative reactions from friends and family who listen to the podcasts), although this has not occurred to date. If needed, in future, a participant's contribution (in whole or part) can be removed from a podcast and the podcast re-published without it.

A potential risk was that my roles as both teacher and researcher might have come into conflict. For example, students might have held back on sharing certain ideas or experiences in their reflective journals or interviews because they knew this writing would be analysed. To ensure this did not have significant impact on the research findings, I looked more to the other research methods (i.e. video projects and my own observational journal reflections) to verify research findings. I committed to adopting a regular practice of reflexivity around my role as teacher/researcher, continuously reflecting on how my position may have been impacting the teaching, learning and research processes. I worked with third party research assistants to conduct interviews with students in order to minimise researcher bias. As exemplified by my praxis process to develop a relational model of curriculum with potential to cultivate students' relational sensibilities and abilities oriented towards reconciliation, I had a strong transformative interest. That interest was one based on inclusivity and

pluralism, meaning that I was committed to focusing on transformations that could help to foster relationships based on empathy and mutual respect across diverse orientations. I applied regular reflective processes (including checking in with research participants, course partners and my PhD supervisor), as well as sharing research outputs of work in progress, such as academic papers and short videos, throughout my research process to ensure I steered clear of bias wherever possible.

1.8.4 Privacy, anonymity and confidentiality of data

Student interviews were conducted in a private location (i.e. secure office on campus) or over Skype while the interviewer was based in a secure office and the interviewee in a private space at home. These interviews were conducted and audio recorded by a third party researcher who signed a confidentiality agreement. I transcribed student interviews and did the editing of the *Climate for Changing Lenses* podcast, and *Please Don't Blow It* song and music video. Interview audio recordings and transcriptions, as well as other data (i.e. questionnaires, reflective journals, student videos, audio/video documentation of course activities, etc.) have been and will be kept on a secure hard drive (with double authentication) dedicated to the research project. Participants had the option to maintain anonymity or, on the informed consent form, to consent to their name being used in the research. I did not include names in the research of those who did not consent. With the *DayOne* podcast, sometimes interviews were conducted in a setting where there were other people around because the interview related directly to that event (i.e. public art event). In that case, participants were fully informed of the project and had provided their consent to be interviewed prior to conducting the interview. When appropriate and possible, the interview was conducted in a private location (i.e. secure studio). Anna James, my podcast co-producer, and I were the only people involved in transcribing interviews and listening to raw interview clips. Participants had the option to maintain anonymity. The stored data was only used for the purposes of my doctoral study as herein described.

1.8.5 Fair participant selection

The research centred primarily around two university courses, one at the Emily Carr University of Art + Design (ECUAD, in Vancouver, Canada), and one hosted by the University of Cape Town (UCT) in collaboration with Rhodes University (RU). The goal was to find a suitable teaching platform that aligned with academic activities related to public engagement and environmental communication, within institutions that a) I, as the researcher, had access to through prior teaching/learning engagements and, b) had an institutional interest in reconciliation and/or decolonising curriculum. Both ECUAD and UCT fit into this criteria. Establishing the framework to

run these courses involved a strategic process of negotiation with relevant university authorities. The students that registered for these courses, therefore, became the primary research participants. Participants in the course in Canada needed to be students registered at the host institution (ECUAD). The course in South Africa was promoted primarily to graduate students registered at UCT, however, it was open to the general public as well and attracted the participation of a few working professionals. The students at ECUAD needed to meet the basic prerequisites (i.e. successful completion of first year) to register for the course and be able to pay the course fees, as the course was offered as a for-credit undergraduate degree programme course. The UCT course was offered for free (certificate-earning) rather than a for-credit course so there was more flexibility for students to enroll. Students were required to be able to do field trips and site visits to outdoor locations, and to have access to a smartphone and laptop (since we did not have institutional support in the form of access to computers and video cameras). All students in both these courses were required to be over the age of 18.

The secondary research participants (i.e. course partners, institution staff, community members and event audience members), were all closely affiliated with the courses. Each course culminated in a free, public screening/education event. These events were marketed by the host venues, myself, and students using social media and personal communications. The 2019 event in Canada hosted approximately 40 people at one time across a range of demographics. The 2019 event in South Africa hosted approximately 70 people at one time across a range of demographics. The audiences consisted mainly of adults, although the events were open to all ages. As described in section 1.6.4 *Podcast praxis*, the *Climate for Changing Lenses* podcast involved some of the wide range of stakeholders that formed part of the curriculum's learning community since the start of my PhD process: students, partner institutions, guest lecturers, Knowledge Keepers, a research assistant, and scholars who had influenced my thinking around the curriculum. With the *DayOne* podcast, specific individuals were invited to participate after we did research and determined that someone might have something to contribute on a specific topic or who came from a demographic not yet included. Participants sometimes came through a referral from other participants or by voluntarily contacting us to participate. Podcast workshop participants were recruited through networks of organisations that we partnered with to co-host workshops, for example, the Iziko South African Museum (approximately 100 youth); Edith Stephens Wetlands Park (approximately 30 youth), and the University of Cape Town's Future Water Institute (approximately 20 adult academics). It was important to involve as wide a range of worldviews, perspectives and demographics as possible across the city of Cape Town, while keeping the scope realistic for the aims of the project.

1.8.6 Use of ethical principles

With regard to the case studies/courses that form part of my main PhD project, public observation mainly took place during the public screening/education events that took place at the end of each course. I, as the teacher-researcher, observed how the public reacted to students' interactive presentations, students' videos and to the dialogue that followed the presentation of student work. I documented my observations through reflexive journaling after each of these events. The events were video documented for my personal study, and the video files remain protected on a secure hard drive.

This study drew on relationality as a theoretical framework and applied a praxis-based approach because I was committed to research as social action and I was interested in exploring what Donati (2016) suggested, that "social change can only truly be possible when we change the 'relational context'". With this in mind, I held with the highest sense of responsibility the importance of how I treated my relationship as researcher with my research participants in this study. On the one side, this was part of my commitment to my students to lead by example. On the other, I was sensitive to how this could influence both the curriculum and the research. I carefully designed the research, including the particular content and timing of student questionnaires/interviews, so that the research process became an integral part of students' learning experiences and contributed to pedagogical goals. I framed my researcher-participant relationship as one that was highly collaborative, researching the influence of the curriculum not only on the students but also on myself, through regular reflexive practices, and inviting research participants to take up the role of co-investigators/co-teachers in terms of co-creating knowledge, sharing knowledge, contributing to learning experiences of their classmates and broader communities, and offering input at various stages to which I committed to being responsive. Every aspect of the university courses and podcast workshops that were part of this research was delivered with an ethics of care.

1.8.7 Benefits of the research

Society at large may have benefited from some contributions to social and ecological change through the research (i.e. public education through student projects and a public engagement event at the end of courses). Students who participated in the courses, in addition to technical and conceptual skills in audio and video production and community engagement, had a hands-on experience in contributing to public education as well as social and ecological change (potentially). Host universities of the courses benefitted from having a chance to pilot this curriculum on their campuses with the option of incorporating some or all of it into their curriculum offerings in the future. They may have also

benefitted from having their institution's profile raised. With regard to the limitations of reconciliation and land acknowledgement practices, as described in section 1.4, this research dealt with these ethically by taking on the work of reconciliation (and approaching it as a collaborative process based on voluntary participation of collaborators); considering the theoretical aspects alongside the teaching practice through a commitment to praxis; and moving away from symbolic actions towards substantive actions, based on the view of colonialism as an ongoing influence in present challenges, by carefully considering respectful ways to integrate non-traditional (non-academic) knowers and ways of knowing in the curriculum. Knowledge Keepers who participated in the research had an opportunity to share their knowledge and experiences, and to be acknowledged for this contribution by the students and host institution, as well as the public attending the course-end event. Provided they gave consent, they were also featured in student video projects and, in that way, shared their stories and knowledge with a broader audience. Knowledge Keepers were offered an honorarium to acknowledge their time and travel. The amount of this honorarium was consistent across Knowledge Keepers for the Canadian context, and for the South African context, although the amounts varied between Canada and South Africa, and were adjusted to fit recommendations from educator colleagues for each context.

1.8.8 Validity

To support the validity of my argument, I applied triangulation through mixed methods (observation, questionnaires, interviews, journals, etc.). I also did member checking of interview transcripts. In addition, the four academic journal articles that were produced and a series of four short videos summarising the academic papers, were shared with some research contributors to provide feedback. Transcripts were shared with all students who participated in the research. The papers and videos were shared with a cross-section of students during the writing of this thesis because the dialogic aspect of that part of my methodology was time-intensive and would not allow for all students to participate in that aspect. This was meant to model a methodology which could be applied to all students who participated in the research in future. I describe this in Chapter 6. The papers and videos will be shared with all students eventually.

1.9 Anatomy of decoloniz/sed curriculum

Through reflective analysis of the four papers I wrote as part of this process and thesis, I identified what I refer to as an *Anatomy of decoloniz/sing curriculum* consisting of five key parts. The inclusion of both 'z' and 's' is intentional and argues that these parts are applicable across Canadian and South African (and potentially broader) contexts, particularly because they are frameworks for context-

specific knowing/being to occur. I offer this *Anatomy* as one option for consideration amongst many evolving possibilities in the emergent global practices of decoloniality. This anatomy includes five parts: (1) relationality; (2) narratives/counter-narratives; (3) multimodality; (4) context-specificity; and (5) unhidden curriculum. I explain each of these in more detail in the sections to follow.

1.9.1 Relationality

A relational curriculum places the building and/or shifting of relationships as the primary course objective. This disrupts the normativity of Euro-western universities which design and enact curriculum to uphold existing positions of power and related neo-liberal values that prioritise the economy. Relations of power can be constructed anew since "subjects are made in and through relationships" (Gaztambide-Fernández, 2012, 52). Change in a situation of ongoing relationality, such as universities, requires change to be engaged with and through relations. This links to Donati's (2016) concept of social change through transformations to the 'relational context'. This allows for collaborative, non-hierarchical knowledge co-creation, where knowledge is produced through relations (including between humans and nonhumans). A relational curriculum is one way to potentially bring ways of knowing and being beyond Eurocentrism into higher education. As Shawn Wilson (2008) explained, "Indigenous epistemology and ontology are based upon relationality" (p. 11). Battiste (2013) further emphasised this stating, "Indigenous knowledge is inherently tied to the people's mutual relationship with their place and with each other over time" (p. 95). As I mentioned in Paper 2, quoting Potgieter in the South African Reconciliation Barometer Survey Report (2019), "more just and equitable power relations [in South Africa] would create a more fertile environment for reconciliation" (p. 55; as cited in Van Borek, 2021a, p. 13). As I wrote in Paper 2, a relational approach to education has '*un*expected learning outcomes' instead of expected learning outcomes, since every relation and encounter is unique. This is exciting grounds for new possibilities. This is why, instead of anticipated skills or competencies, I proposed in Paper 2 that a relational approach can foster relational *sensibilities and abilities*.

A relational curriculum creates opportunities for building and/or shifting affective relations through affective learning. Shephard (2008) explained that affective learning "relates to values, attitudes and behaviours and involves the learner emotionally" (p. 88). Affective relations can influence our values and behaviours when it comes to climate change response (Adams, 2016; Shephard, 2008), and when it comes to processes of reconciliation (Hutchinson & Bleiker, 2008). For example, we might see a polluted river and feel disgust towards it. We might then, through relational work with that river,

learn that it has been neglected and abused over generations through complex processes. We might then shift to feeling sadness and empathy towards the river. This links to narrative/counter-narratives because de/re/constructing narratives can change our affective relation to a particular memory, which can have implications for how we self-identify. For example, if we are called names as a child by someone of a race different from our own, we might grow up feeling anger and resentment towards people of that race. We may be carrying a narrative that that race bullies. However, we may later de/reconstruct the narrative to understand how that race was reacting from being bullied, and this may change our feelings into empathy for that person/race. This may also then change how we self-identify, from being a victim (or a bully ourselves), towards being an empathetic person. As Hutchinson and Bleiker (2008) explained, since "affective reactions can spread and generate collective emotions, thus producing new forms of antagonism" (p. 385), "a thorough understanding of the powerful but often neglected role of emotions is essential to move from conflict-prone patterns towards the possibility of establishing a culture of healing and reconciliation" (ibid., p. 386).

A relational approach, where we engage in a practice that affirms how we are always already entangled, can highlight the need for shared, while differentiated, responsibilities in social-ecological processes such as reconciliation and climate change. A city experiencing water shortages can be seen as a relational problem, expressed through differences in material realities of city residents. With climate change related challenges that evolve quickly, such as the case in a water crisis, a relational approach can allow co-learning through material-discursive practices as the situation evolves and new issues and possible solutions emerge. In this way, we might build more resilient communities of collaboration through this process.

In the *Making Waveforms* curriculum, relationality was enacted primarily through the building and shifting of relationships being the focus of the course. This started by establishing and building relationships and partnerships in the planning of the course. The curriculum was then enacted as a series of relational processes, for example, student-water-technology engagements; student-Knowledge Keeper interactions; instructor-student-guest lecturer interplays; instructor-student-guide canoeing activities; instructor-student-public exchanges at public events; films-audience engagements, etc.

1.9.2 Narratives/Counter-narratives

Any serious decolonisation project must address the narratives that colonisation so deeply entrenched in social constructions and that continue to dominate our lives. As I wrote in Paper 2, "through

colonisation, distinct narratives were constructed and ceaselessly proliferated – then and ever since – about who/what is valuable and who/what is disposable (Chamberlain, 2003)" (Van Borek, 2021a, p. 10). These include narratives about land being 'property' and being available for purchase and ownership, and narratives about the original inhabitants of the land being non-existent except as to serve settlers' needs. The narrative of colonialism itself must be scrutinised. As Alfred and Corntassel (2005, p. 206) pointed out, "colonialism is a narrative in which Settler's power is the fundamental reference and assumption, inherently limiting Indigenous freedom and imposing a view of the world that is but an outcome or perspective on that power." Working with narratives means working with counter-narratives, that is, narratives which challenge dominant narratives. The terms 'counter-stories' and 'counter-storytelling' came from Solórzano and Yosso's (2002) critical race methodology, which built on that of critical race theorist Delgado (1989). 'Counter-storytelling' as defined by Solórzano and Yosso (2002), was, "a method of telling the stories of those people whose experiences are not often told (i.e. those on the margins of society) and a tool for exposing, analyzing, and challenging the majoritarian stories of racial privilege" (p. 32). Madden (2019) proposed counter-stories as part of her de/colonised theory of truth and reconciliation education and argued that they "oppose colonial ways of being in relationship" (p. 296). Narratives link back to relationality since there can be narratives about what knowledge is, who owns knowledge, and what knowledge is worth knowing; and through relational practices we can shift these narratives. The converse is also true-by working with narratives, we can come to see the importance of relational work in knowledge production.

Narratives can also exist as affective relations, for example, I could carry a narrative that rainy days make me feel sad. In that case, I most likely have a memory associated with rainy days which links to the feeling of sadness, for example, not being allowed to play outside with friends on rainy days when I was a child. However, I could learn about a drought and shift the narrative that rainy days make me feel grateful. This could further influence my sense of identity, for example, if I reside in a place with frequent rainfall. In the first case, I might start to identify as being a sad person. In the second case, I might identify as being a grateful person. Memory and identity are constructs that arise through narratives we develop and retain (consciously or subconsciously, individually or collectively) from interactions we engage in. Bekerman and Zembylas (2012) viewed identities as "products and constitutive of social relations" (p. 51), and memory as an "intentional communicative discursive dimension, as well as a particular outcome of specific communicative action situated in socio-historical contexts" (ibid., p. 53). While memory viewed in this way is relational, it can produce differentiated affectivity for each person (Bekerman & Zembylas, 2012). How we remember

a happening, and the feelings we associate with it, can change as we move through life, as we learn and unlearn things that shift the context of that happening. In this way, historical narrative can be transformed. Mbembe (2016) clarified that “history is not the same thing as memory. Memory is the way in which we put history to rest, especially histories of suffering, trauma and victimization” (p. 30). According to Burke (1989), “neither memories nor histories seem objective any longer. In both cases we are learning to take account of conscious or unconscious selection, interpretation, and distortion” (p. 98). When we change how we feel about a particular happening, we create openings for changing the ways we relate with those around us who we perceive to be (directly or indirectly) linked to that happening. As I write in Paper 1, the press can often present climate change narratives as straightforward stories of scarcity (which can create feelings of fear). If we engage with processes to unpack narratives, like I did with the *DayOne* podcast which I write about in Paper 1 and its corresponding metareflection, we can start to unravel the intersecting issues (which can create feelings of empathy). This can inhibit or encourage action (Adams, 2016). Lehman et al. (2019) argued that any pedagogical engagement with the climate crisis must centre emotion. As Adams (2016) posited, narratives are essential “in shaping how we come to know about the ecological crisisas a crisis (or not), as well as how (and if) we should and could respond to this knowledge” (p. 177).

In the *Making Waveforms* course, water narratives were de/re/constructed through students’ processes of making videos focused on specific water bodies. This process began with a narrative power workshop, where students were introduced to water narratives embedded in films made by others. Students were asked to identify dominant narratives from the films, and then to brainstorm alternative narratives. This equipped students with a toolkit for narrative de/re/construction, with which they continued through the course. Each learning situation in the course presented students with an opportunity to identify new narratives, and to carefully consider how these might influence what narrative they felt inspired to bring forth through their videos. Often these narratives challenged dominant narratives students may not have realised they had been stewarding subconsciously. For example, students might have uncovered that their city’s water supply was not unlimited, or was not well managed and therefore somewhat unsafe to drink. Students might have been exposed to narratives about water inequality that called their own water access into question. By the end of the course, students were asked to write an ‘artist statement’ describing their video. This presented an opportunity for them to articulate the narrative of their film explicitly, which may be implicit within the story of the film itself.

1.9.3 Multimodality

Where Euro-Western colonial education, according to Santos (2018), monumentalises written/academic language, decoloniz/sed curricula liberate new ways of being/doing/knowing through multimodality. According to Santos (2018, p. 55), written knowledge is monumentalised because:

> writing [is] the condition for it to be considered rigorous and monumental. It is rigorous because it offers a univocal version, the one written in the text, and written in a given language that fixes its matrix; it is monumental because, like monuments, writing lasts and thus stands at a distance from daily practices.

Multimodality embraces a notion of knowledge as beyond cognitivism and linguistics alone, and opens to being inclusive of spirituality, emotions, intuition, and other ways of knowing that have traditionally been discounted by modern universities. Multimodality aligns with what Tisdell (2013, in Battiste, 2013, p. 184) referred to as 'spirited epistemology' and "when one engages the cognitive, affective, and the symbolic domains of learning, learning becomes more holistic, thereby increasing the chance for learning to be transformative" (Tisdell, 2013, in Battiste, 2013, p. 184). This links back to relationality, because of the particular affective power of mediums such as audio and video, and therefore the ability to shift affective relations by engaging with them. Along these lines, multimodality recognises that knowledge occurs inside and outside a diversity of languages, and invites knowing in multiple languages (including non-verbal ones expressed by nonhumans). Mbembe (2016) stated that "colonialism rhymes with monolingualism" (p. 36), while Ngugi wa Thong'o (1981) argued that a decolonised African university must be multilingual. By working with different languages and knowledge, multimodality creates space for knowledge co-production. This contrasts with Western anthropology traditions, which are "a process of knowing about Others – but a process that never fully acknowledges these Others as thinking and knowledge producing subjects" (Mbembe, 2016, p. 36). Multimodality recognises and values diverse ways of knowing and being, for example the way that local knowledge is not necessarily expressible or accessible through textbooks. As I wrote in Paper 2, "Brush (1996, in Fischer, 2000, p.195) defines local knowledge as 'the systematic information that remains in the informal sector, usually unwritten and preserved in oral traditions rather than texts'" (Van Borek, 2021a, p. 12). Such knowledge can be (and might only be) accessed through storytelling, or a tool that can transmit orality such as audio and/or video. Multimodality also creates openings for knowledge which is silent or implicit, and which does not necessarily exist outside of one's self. Where Battiste (2013) pointed to Indigenous Knowledge's (IK) importance of the inner space for "discovery of the spiritual connections to all things" (p. 160),

multimodality offers innovative ways to connect with that inner space. Multimodality rhymes with interdisciplinarity, and supports a moving beyond the constructed silos of different academic 'fields'. This also allows us to move away from the colonial university model which segregates ways of thinking/doing into siloed fields and disciplines, which can help us to unpack the intersectionality of issues better.

The *Making Waveforms* course activated a variety of modes of learning/teaching, with each allowing for things to happen that simply would not have been possible with academic reading/writing alone. As I outlined in Paper 2, where I first described the pilot course, we used video and sound observation/documentation tools and semi-structured mapping assignments, which rendered it possible for students to see water in new ways, and to see themselves in new ways in relation to water – both of which were more conducive to a water-sensitive future. Strategic artistic approaches of slow media and soundscape recording were used. While I described these in detail in Paper 3, what is important to note is that each approach allowed an enhancement of students' attention to and perception of their environment, which created conditions for aforementioned shifts in seeing and becoming. In Paper 2, I wrote about 'three-eyed seeing' as a synergy between Indigenous knowledge, Western science and artistic modes of being which enabled one to see in ways not possible by approaching something from one of these perspectives alone. A methodology known as *photovoice* was incorporated into student-Knowledge Keeper meetings to shift traditional documentary director-subject positions and power relations. As I noted in Paper 2, with photovoice, "participants create, analyze, and discuss photos that represent their community" (Strega & Brown, 2015, p. 29). Field trips, such as canoeing, allowed the activation of all the senses and linked to context-specificity because they enabled affective relations, through all our senses, in relation to a specific time-space-place. The videos students developed through the course contained images, sounds, text, and narratives, which rendered it possible for students to express diverse aspects of themselves while fostering affective relations with their audiences. Some of these videos also included languages other than English paired with subtitles to expand comprehension. Students developed educational games linked to their videos, which they facilitated with the public at our event to deconstruct false artist-audience binaries, develop community and inspire dialogue. The public event, which included these games and screenings of films, created affective relations between student-audience, amongst the audience, and between water bodies (via films) and the audience.

1.9.4 Context-specificity

Various scholars (Tuck & Yang, 2012; Fanon, 1963) of decolonisation emphasised how it is specific to time and place. This contrasts with Western epistemic traditions. Grosfoguel (2009) problematised the Western myth of the "disembodied and unlocated neutrality and objectivity of the ego-politics of knowledge" (p. 214). For example, the geo-political positionality of the author is not typically factored into the analysis (Grosfoguel, 2009). This is problematic because of the way it conceives of a universality to knowledge that is stripped of context. As Mbembe (2016) explained, "the knowing subject is thus able to know the world without being a part of that world and he or she is by all accounts able to produce knowledge that is supposed to be universal and independent of context" (p. 33). The perceived universality of knowledge supports ongoing settler-colonialism by normalising the imposition of one knowledge on others while silencing or making invisible other ways of knowing and knowers. Disrupting this epistemic injustice requires an education that is context-specific in its processes of knowledge production, and presentation of these. Santos (2018) suggested that aligning with the epistemologies of the South, as a move towards decolonisation, meant, "the social, political, and cultural context of decolonization will determine the specificities of the curriculum" (p. 276). Haraway (1988) argued that all knowledge is situated knowledge.

In the *Making Waveforms* curriculum developed through this study, context-specificity was anchored in the main task of the curriculum-the making of a video-being site-specific. In this case, the specific 'sites' were water bodies within the watershed of the university hosting the course. The context-specificity was then further developed by the curriculum being adapted for the context in which it was enacted. This happened by bringing in context-specific relata (e.g. water bodies, Knowledge Keepers, guest lecturers, field trips, etc.) into the relational work of the course. As I wrote in Paper 3, student-water-technology intra-actions (with these specific water bodies) allowed artistic/knowledge co-production to emerge from these relations and contexts. The public event, which the course culminated in, showcased these local water bodies on the big screen as a platform to draw public attention to local situations. The videos students produced, which de/re/constructed water narratives (see Papers 2-4 for more details), were influenced by the particular geographical, historical, economic, and political contexts inside which they unfolded. The encounters and experiences that unfolded while students built their videos took place across diverse learning environments (e.g. water bodies, ocean/wetland canoes, art galleries, museums, pipeline protest camps, etc.). Relations shifted from one environment to the next, with knowledge unique to each environment produced from each encounter. Diverse learning environments linked to multimodality in terms of expanding what kinds of learning-with became possible (including with nonhumans); and linked to the *unhidden*

curriculum (in section 1.9.5 to follow) by showing how knowledge which is valuable also comes from outside the university.

1.9.5 Unhidden curriculum

By *unhidden curriculum*, I propose that decoloniz/sing curriculum requires making visible the hidden curriculum, and strategically enacting an unhidden curriculum which supports decoloniz/sing aims. Through a process of emergence, previously absent elements of the curriculum, known as the null curriculum, are addressed. In this way, the unhidden curriculum helps to respond to the null curriculum. In section 1.5 *The notion of curriculum,* I pointed to how Eisner (1985) identified three types of curriculum: explicit, implicit and null; and how the implicit, or what Le Grange (2016) called 'hidden', referred to the dominant institutional culture including its values. When looking to understand the hidden curriculum, some initial questions we might ask include: who gets to teach? who gets to learn? who gets to participate in assessment? what ways of teaching are embraced? what roles(s) does the teacher have? where does teaching/learning take place? who does the learning serve? Some deeper questions we might ask are: how does the learning environment make us feel? what culture(s) are included in the learning spaces and processes both inside and outside of structured learning? who is welcomed? who belongs? This reframes access as more than passing entrance exams or getting access to funding for tuition. As Mbembe (2016) explained, "When we say access, we are also saying the possibility to inhabit a space to the extent that one can say, 'This is my home. I am not a foreigner. I belong here'" (p. 30). Mbembe further elaborated on this by arguing that even an institution's buildings must be decolonised, and stated, "Apartheid architecture – which prevails in most of our higher learning institutions – is not conducive to breathing" (ibid., p. 30). In Paper 2, I pointed to the tragic story of the "University of Cape Town (UCT)'s late Professor of Cardiology and Health Sciences Dean Bongani Mayosi who, in 2018, 'had been battling depression for … two years, and ended his own life' (Isaacs, 2018)" (Van Borek, 2021a, p. 34). Based on information available in press reports relating to this devastating event, I inferred that UCT's institutional culture, which seemed to be unsupportive of Mayosi's complex position as a Black academic during a time of nationwide student protests, contributed to this. I shared this to underscore the seriousness with which I caution anyone wishing to take up the project of decoloniz/sation in education – I urge that the hidden curriculum must be treated with the greatest of care. To deliver reconciliation curriculum without attention afforded to the hidden curriculum would be like apologising to someone without realising you are still standing on their foot (continuing to cause them harm while also preventing them from moving forward). Giving careful attention to the

hidden curriculum means taking into consideration the relational context which, as mentioned earlier, Donati(2016) asserts to be essential to social change.

With the *Making Waveforms* curriculum, there were many ways that we made the hidden curriculum visible (thereby surfacing the null curriculum), and crafted the unhidden curriculum to align with decoloniz/sing aims (thereby reversing the null curriculum). For example, using the term 'Knowledge Keepers' for peoples outside the university with existing relationships to water bodies, and integrating them into the course in a meaningful way, made explicit our acknowledging and valuing of what these people bring as knowledge, and them as knowers. Using the term 'Guest Lecturer' for peoples outside the university who joined our class on campus in a way that I, as instructor, might have occupied the learning environment, was also intended to show the potential fluidity of roles and hierarchies. Including this diversity of perspectives presented the valuing of what Santos (2018) referred to as a 'pluriversity' (Santos, 2018). As I wrote in Paper 3, paraphrasing one student, assignments where students spent time with water bodies observing/documenting them suggested there was something worthwhile in doing so. In Paper 2, I described a field trip where ECUAD students visited the Native Education College, an Indigenous-led post-secondary institution whose very architecture, which is a traditional longhouse with a welcome pole made of traditional carvings, is based on Indigenous culture. This, combined with other details of our field trip, including traditional drumming and a welcome song inside a room with seating in the round, and eating traditional bannock bread from the college canteen, were part of our introduction to the school's institutional culture. Direct experience with this Indigenous institutional culture made visible what was present and absent at ECUAD in terms of being culturally welcoming to Indigenous faculty, staff and students. For example, ECUAD has a dedicated Aboriginal Gathering Place (AGP) that is a resource and support centre specifically for Indigenous students, and which welcomes people from all backgrounds to learn more about Indigenous cultures. The AGP at ECUAD, however, is a centre inside a larger institution with its own architecture, room names, aesthetics, and institutional culture. As I wrote in Paper 3, the encounters curated to enable artistic/knowledge co-creation with water and other nonhumans showed institutional values of reinvigorating life rather than prioritising an economy dependent on the destruction of it. Including work-in-progress critiques (focused on constructive feedback) suggested a collaborative scholarship and artistic/knowledge co-creation. Showcasing students' videos in a public event made explicit to students and the wider community the students' agential qualities in public education and socio-ecological transformation. This also presented the course as serving both the registered students and the wider community (including nonhumans), by engaging a broad public in a learning experience at the screening event. This was taken one step further when the students' videos moved online and in social media as public education tools beyond the events. Inviting a broad public to the events

showed the valuing of a ‘third space’ where we could come together beyond binaries and disciplinary boundaries. In Paper 2, I pointed to Zembylas (2012, p. 59) who suggested how this “opens possibilities for re-imagining the sense of community and identity”. Keeping these events free and accessible also supported what Santos (2018) referred to as a ‘demercantilizing’ (p. 275) of university, which he argued must also bepart of decolonising higher education.

As with an anatomy, these five parts described above are embedded and interdependent, for example, multimodality affords relationality and narratives/counter-narratives; site/context-specificity allows for relationality and narratives/counter-narratives; unhidden curriculum affects and is affected by relationality; and all the first four parts create the foundation for unhidden curriculum.

CHAPTER 2: METAREFLECTIONS FOR PAPER 1

By applying Kolb's (1984) Experiential Learning Cycle model for reflective writing, based on the premise that through experiences we can expand our understanding, this metareflection on my first PhD paper (found in the Appendices) includes four key stages: 1) concrete experience; 2) reflective observation; 3) abstract conceptualisation; and 4) active experimentation. For the concrete experience, I provide a thick description of my process in writing the paper, as well as aspects of the phase in my praxis process that is the focus of the paper, not included in but relevant to the paper. For the reflective observation, I identify any aspects of the experience that were new to me and which therefore presented opportunities for me to learn. For the abstract conceptualisation, I critically analyse my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* outlined in the introduction section of this thesis relate to this phase of my PhD praxis process: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum. For the active experimentation, I make conclusions about the extent to which this phase of my PhD embraced decoloniality in practice, and build on this new understanding to make recommendations for myself and others committed to the decolonial project as part of my contribution to knowledge.

Summary of the *DayOne* podcast

The *DayOne* podcast was an experiment in using participatory podcasting (storytelling through sound) as a methodology for research-education-communication-action surrounding the Cape Town water crisis of 2018. The podcast was co-conceived and co-produced by Sarah Van Borek and Anna James, both PhD scholars in Environmental Education at Rhodes University at the time. The podcast-building process involved recording conversations with diverse peoples across the city of Cape Town about their lived experiences of the drought, as the situation evolved. This process surfaced themes and matters of concern, which were then developed into a series of four episodes: (1) introduction to the drought; (2) water privatisation; (3) augmentation; and (4) health in drought. Narrations scripts, co-written by Van Borek and James, wove together diverse voices in each episode (including sounds of local water bodies). A team of radio/performance professionals volunteered to host the episodes, which were, wherever possible, made available in the three main languages of Cape Town: Xhosa, Afrikaans, and English. The Xhosa and Afrikaans hosts also translated the narration scripts, adapting them as needed to be culturally appropriate. Van Borek edited the audio files into episodes, with James providing input. The episodes were published online. Van Borek and

James experimented with incorporating listening to the episodes into arts-based workshops around water education. Approximately 185 people participated in this project: 4 podcast hosts; 32 voices/stories in the podcast; and approximately 150 participants of listening/creation workshops hosted (to be detailed later in this metareflection).

Podcast partners included: Busisiwe Mtabane (isiXhosa host and translator), Tamzin Williams (Afrikaans host and translator), Nella Etkind (English host, episodes 2–4), and Fran-Rico Lucas (English host, episode 1). Contributors included: Episode one – the Cape Town Water Crisis Coalition, the Western Cape Water Caucus, Hannerie Visser (founder of culinary design Studio H), Mapumba Cilombo (composer/producer/musician), Daniel Eppel (composer/producer); Episode two – Thabo Lusithi (Environmental Monitoring Group), Imraan Samuels (permaculturalist from Guerilla House), CareOneLove (mural artist), Firos Khan, Poppy Mhlanga; Episode three – Thando Mcunu (UCT Masters student in Environmental Humanities), Derek Whitfield (geologist whose company IDRS dug boreholes for the city of Cape Town), Nazeer Sonday (farmer in the Philippi Horticultural Area), Conway Lotter (natural builder with StopResetGo), Carrie Pretorius (natural builder with heARTh eARTh ART), Simbi Nkula (co-founder of the Black Filmmakers Film Festival); Episode four – Jo Barnes (retired Senior Lecturer in Community Health at Stellenbosch University), Taryn Pereira (researcher with the Environmental Monitoring Group), youth leaders from the Children's Movement, and The Long Shots Improvised Comedy Troupe. We were able to record the Khayelitsha wetlands while paddling thanks to the Khayelitsha Canoe Club. Much appreciation to Edible Audio's Daniel Eppel for the in-kind support of a live room for recording.

Listen to the DayOne podcast:

https://soundcloud.com/dayonewaterpodcast (select episodes, free account limitations)
http://bit.ly/DayOnePodcast (all episodes on YouTube)
https://dayonewater.wordpress.com/episodes/ (links to all episodes)

2.1 Concrete experience and reflective observation

2.1.1 Context of the paper

The journey behind my first PhD paper, *(Towards) Sound research practice*: *Podcast-building as modeling relational sensibilities at the water-climate change nexus in Cape Town*, co-authored with a fellow PhD scholar from Rhodes University's Environmental Learning Research Centre (ELRC), Anna James, began when I officially started my doctoral studies in early 2018. I was looking to do contextual profiling around water in Cape Town and found myself in the socio-historical context of Cape Town's 2018 water crisis. I was also beginning my PhD praxis process of developing a curriculum towards reconciliation. When I decided to move back to South Africa from Canada – a country with some of the greatest amount of freshwater per capita – in late 2017, I did not yet know that the environmental/material focus of my doctoral studies would be water, nor had it occurred to me to check on the availability of freshwater in the city I was relocating to. As I attempted to settle into my new PhD life in the Global South, friends and media started speaking of increasingly low dam levels that provided the city's municipal water and the possibility that we might be heading for trouble. Because I was interested in doing a comparative study between South African and Canadian contexts, I had consulted with two professors at Rhodes University (RU) – including Professor Heila Lotz-Sisitka, my PhD supervisor – for advice on which area of environmental concern they felt was significant and might benefit from my media arts-based approach to environmental education. They had both suggested that the water sector could benefit from meaningful public engagement using arts-based approaches. I consulted separately with my course partner in Canada, Alaya Boisvert, Public Engagement Manager (at the time) of the David Suzuki Foundation (DSF). With consideration for my reconciliation aims, she had suggested I focus on water because of the extreme situation of environmental racism in Canada related to Boil Water Advisories (BWAs) in more than 100 First Nations communities (in 2018), and the work that DSF had been doing to track the government's commitments to eradicating these BWAs. I had carefully considered these recommendations and decided that a focus on water felt like a good fit. At that point, I consider myself to have been quite water illiterate. I did not know much about watersheds, and was far from having what Rita Wong calls a 'watershed mind' (2011, p. 86), where one centres water in the way one views and relates with the world around one. My learning for my contextual profiling took shape across various modes: personal, social, academic, and arts activism praxis-based.

2.1.2 Personal learning

On a personal level, I was doing my best to learn how to reduce my own water usage through an experiential process. I would follow tips from friends and guidelines I came across on social media and in public venues (especially public toilet stalls): using buckets to catch my shower water for flushing my toilet; letting things 'mellow when it's yellow'; reducing my frequency and duration of showers; reusing grey water for plants; using hand sanitiser instead of letting the tap run for washing hands; using a cup of water for tooth brushing; and, though not easily something I could do without access to a vehicle, collecting water from one of the designated spring water collection stations to minimise my burden on municipal (tapped) water services. Although I had been coming to Cape Town on and off since 1999, I had not known where my tap water came from. I started to understand how it came from dams which relied largely on rainfall and that in recent years it had not been raining enough. I wanted to do my part to save water.

2.1.3 Social learning

On a social level, I was experiencing a growing intensity of panic and fear, particularly in light of the City's 'Day Zero' messaging/campaign harnessing fear as a strategy for water saving behaviour change. Newspaper headlines plastered to lamp posts and digital billboards along highways effectively reinforced this undertone of panic. Online communities like *Water Shedding Western Cape* popped up where members could share information around the latest updates and water saving strategies. News stories detailed preparations for involving the military (Watts, 2018; Mail & Guardian, 2018) to mitigate potential violence that might erupt around the growing tensions in an already divided city. At the same time, I was also at the very beginning stages of establishing relationships and partnerships with individuals and organisations that, on the one hand, might help me to understand Cape Town's water situation, and on the other hand, might be interested in participating in the relational curriculum I was developing for the Cape Town context. Relationship-building, in my experience, is like building a web where one connection builds a strand to the next connection, and so on. I had a contact from Canada who had done doctoral studies in Cape Town's water sector, and she had suggested I connect with the Environmental Monitoring Group (EMG). So, I booked a meeting with an EMG staff member at the time who had been working on water-based issues. The meeting was a general discussion about the water situation in Cape Town, particularly at that time of the crisis. One of my main takeaways from the meeting was that government-led communications were inadequate to support the kind of public response the water crisis demanded: the communications were top-down and did not necessarily consider the diverse lived experiences of the crisis across different communities; the communications were mostly in print and there were high

levels of illiteracy in some areas; the communications were mostly in English despite the majority of Xhosa and Afrikaans speakers across the city; the communications were lagging behind the various changes in a quickly evolving crisis setting; and the communications were confusing, with conflicting messages and information gaps. I was also sensitive to the potential consequences of environmental communications with a doom-and-gloom narrative versus one of hope. The urgency of the situation was obvious, and I wanted to be part of the solution.

Soon after the meeting with EMG I happened to meet with a fellow PhD scholar in Environmental Education from Rhodes University, and could not have anticipated the incredible learning and creative synergy that would come from this new connection. The RU Higher Degrees Guide outlined how a requirement for earning a doctoral degree was to produce original knowledge (Rhodes University, 2019). Evidence pointed to the isolation and mental health challenges experienced by PhD students who find themselves working alone under pressure for extensive periods of time (Evans, Bira, Gastelum, Veiss & Vanderford, 2018). There are, by contrast, other examples of scholarly collaboration and support, notably the 'PhD Weeks' organised by Rhodes University's Faculty of Education three times per year to build community, collegiality and support for its graduate students. I had chosen to be based in Cape Town, despite my host university being based in Makhanda, Eastern Cape (the next province over). I had an existing relationship with the University of Cape Town, having studied there previously, and was familiar with certain aspects of the city of Cape Town after having lived there on and off several times. I had not fully considered how this choice would further isolate me from opportunities to meet with PhD colleagues in the already somewhat isolating nature of PhD studies. When I learned that one of my PhD colleagues from the same research centre, with the same PhD supervisor, also using arts-based approaches, and also with a focus on water, was in Cape Town, I was only too thrilled for us to meet. That historic day, with the threat of 'Day Zero' on the horizon, straight after my meeting with EMG, I met my water/arts/education counterpart: Anna James.

2.1.4 Arts activism praxis-based learning

Anna and I shared the scholactivist (Farnum, 2016) spirit, that is, a desire to do something that would contribute positively to efforts around the Cape Town water situation through "a democratic way of engaging with the world" (Huq & Best, 2015-17, p. 294). I had shared with Anna what had stood out for me from my meeting at EMG, that there had been a gap in drought communications. I was keen to balance some of my scholarly isolation by collaborating and engaging with the world. The idea of creating a podcast surfaced. While I had studied film and television production, and had worked with

sound in documentary production professionally for over 15 years, I had never made a podcast before, though I did have a growing interest in the genre. We agreed that it would be a great way to learn about the context of the water situation while supporting public awareness and education around important information. In that conversation, there was a slip of the tongue where we accidentally said 'DayOne' when we were referring to the 'Day Zero' campaign, and agreed that *DayOne* was a much more hope-inspiring, solutions-oriented framing. We also agreed that we wanted to inspire dialogue about long-term solutions and what the first day after Day Zero might look like. Hence the *DayOne* podcast was born. We had agreed that we would learn to make podcasts as we went, and would embrace our imperfections in the name of responsiveness to the urgency of the situation. Thus, our social learning through creative collaboration began.

Our podcast content centred around conversations we recorded with diverse people across the city, sharing stories and perspectives about their lived experiences of the drought. We used shared Google documents to co-develop concepts and scripts for podcast episodes. Sourcing people to record conversations with came about partly through our online researching around various ideas and themes, then reaching out to these people by email and/or phone to invite them to participate; and partly through referrals either from podcast participants or other people in our personal and academic networks. Anna and I would usually record conversations with people together, using my simple yet high quality Zoom H5 field recorder and Shure SM58 microphone. We mostly had Anna asking the questions because I had felt my Canadian accent would be out of place for listeners. That is an interesting detail to reflect on critically at this later stage. In some episodes, my voice does sneak in. For example, towards the end of Episode two, my voice can be heard asking two young girls about a mural they painted while they are in line to collect water from the station at South African Breweries in the Newlands neighbourhood. Many times, we would leave a conversation we had just recorded with someone from the community only to launch into dialogue with each other around the points that stood out for us, the questions that arose for us, the themes that emerged, and ideas for next perspectives we might aim to source and document. We would split up the task of transcribing interviews. We did additional literature-based research to develop our understanding of themes that were surfacing. We co-wrote narration into scripts, selecting excerpts from transcripts to include into these. Rather than hosting the episodes ourselves, we worked with hosts to bring our narration scripts to life. We worked with radio personalities with the aim of making more impactful media. The hosts we worked with were sourced through our personal and professional networks. We had decided to aim to make our episodes available in all three main languages in Cape Town (Xhosa, Afrikaans, and English), so we needed hosts who could also assist with translation, adapting the scripts for meaning

but also to be culturally relevant in their language(s). The recording facilities we used were made available to us through existing relationships in our personal networks. We recorded at Edible Audio Studios in Woodstock, owned by Daniel Eppel, a friend of mine. He sponsored us with access to the studio live room. I then did the editing of audio files using Adobe software in my home studio, as these were resources I had available to me, and were technical and aesthetic processes (including sound design, pacing, and sound mixing) that were familiar to me. This streamlined our production process, and supported us in achieving the highest production value possible. Anna gave ongoing input into this process. I set up a free website using Wordpress so that we could have an online home for the project, to direct our prospective participants and listeners to. I also set up a Soundcloud account where the actual podcast's audio files were initially hosted. Links were then embedded in the Wordpress website, and could be shared across other social media platforms. I have since uploaded audio files to a YouTube account, since the free Soundcloud account limits us from posting all the episodes we created. A free YouTube account, without these restrictions on amount of content, allows for the episodes to be available online in the long-term. Additional social media platforms could have helped in our outreach efforts; however, I had initially decided at the time against creating additional platforms because of our limited capacity in terms of time to effectively manage the conversational aspect of such platforms. In 2019 we shifted into a research mobilisation phase of our methodology.

The prospect of engaging with locals in our learning of the water context aligned with the knowledge co-creation aspect of the T-Learning transformative knowledge network (TKN) project based at the research centre hosting our PhD studies, the Environmental Learning Research Centre (ELRC) at Rhodes University. This enabled us to situate our work within that project, through the support of our PhD supervisor, building on tools like informed consent forms to utilise in our project. As mentioned in the section 1.8 Ethics in the Introduction of this thesis, the ethics procedure for the *DayOne* podcast project was initially done as a branch of ethical clearance by Rhodes University (RU) for a co-engaged research programme of RU's SARCHI Chair: Global Change and Social Learning Systems (who happened to also be my PhD supervisor, distinguished professor Heila Lotz-Sisitka) called *Transformative Social Learning for Social-Ecological Sustainability in Times of Climate Change* or 'T-learning'. The T-learning research programme's purpose was "to develop practice, theory and methodology for transformative learning oriented towards sustainability and the resolution of nexus concerns ('matters of concern') in times of climate change" (Lotz-Sisitka, n.d.). The T-learning ethics clearance covered the overall programme, and research in South Africa being conducted by RU affiliated researchers (which meant my *DayOne* podcast research was covered).

That said, additional ethics materials were provided in the RUESC ethics application to cover this additional action research project that fed into my main PhD project. As part of the project description, outlined in the informed consent form, *DayOne* podcast participants were informed of the combined aims of the podcast as research-communication-education-action, thereby offering both academic and practical value, with the practical, immediate benefits to the community of Cape Town being access to emerging information about the evolving water crisis. Since the research was not pre-determined, new processes that were introduced were carefully negotiated (e.g. opportunities to host podcast listening/creation workshops, and to negotiate the timing and agenda of workshops). Permissions were sought from participating organisations where we hosted workshops which included: Iziko South African Museum, Edith Stephens Wetlands Park Environmental Education Centre, and UCT's Future Water Institute. Co-engaged, generative research requires reflexivity on the researcher's position. A practice of reflexivity was required in the editing of participant interviews into podcast episodes, including identifying emerging questions, topics and themes; and researching and writing narration scripts that wove these diverse perspectives (interviews) together. This reflexivity was done collaboratively with my *DayOne* podcast co-producer, Anna James. Participants' interviews, once edited, were shared back with them for their approval before being published as part of podcast episodes. Full podcast episodes were then shared back with participants by emailing them links to the podcasts published to a Soundcloud account (https://soundcloud.com/dayonewaterpodcast/) and linked into a dedicated *DayOne* free Wordpress website (https://dayonewater.wordpress.com/episodes/). While Anna and I co-wrote an academic paper (Paper 1) about this process, we worked at citing directly from podcast episodes in the paper in order to include research participants' voices in the writing, and endeavoured to write in ways that promote social justice.

2.1.5 Academic learning

While Anna and I began to connect with different people around the city and document their water stories, I continued my academic reading. I reflected carefully on what I felt was at the heart of my teaching approach using video, and decided it was relationships. This inspired me to explore relational educational theories. Early on, I was influenced by Donati's (2016) thinking around the 'relational context' which emphasised the idea of focusing social change efforts towards relations within systems rather than individuals. I was also reading various scholars' thoughts around relational (Lange, 2018; Wortham & Jackson, 2012; Donati, 2011; Broome, 1993) and reconciliation (Potgieter, 2019; 2017; Siemens, 2017; Reconciliation Canada, 2017; Ahluwalia et al., 2012; Cajete, 1999) education theories, and was cross-referencing the relational and reconciliation ideas to hone in

on a set of *sensibilities and abilities towards reconciliation* that I was aiming to cultivate in students through my curriculum. My PhD supervisor helped me to arrive at this terminology of 'sensibilities and abilities' as a way of describing a kind of 'learning objectives,' since, with my relational approach, I sought to disrupt traditional educational practices focused on developing particular skills or competencies. Anna and I shared resources and introduced one another to different yet connected paths, for example, Anna introduced me to theories in relational solidarity (Gaztambide-Fernandez, 2012) and social movement learning (Choudry, 2015; Chovanec, Lange & Ellis, 2008).

The journey of this paper extends from my contextual profiling process through the writing, and eventual approval, of my PhD proposal, ethics application approval and several conference presentations. This is important to understand, because it meant that I was evolving my ideas about the curriculum I was developing. The analysis tool I had initially developed, as a table, had first appeared in my PhD proposal in relation to my video-based teaching practice. After clarifying these ideas in the writing of the proposal, I was then able to apply this tool to analyse our podcast-building process, to identify and articulate the ways that the podcast methodology allowed for some of the same sensibilities and abilities towards reconciliation to potentially be cultivated. Details of this can be found on page 17 of Paper 1.

As part of ongoing academic reading, I was researching the podcast genre. It was interesting to find that, while podcasting had been around since the early 2000s, and had gained renewed traction in 2014, academic reporting on the genre, and in particular its application to education and research, was limited. Identifying this gap sparked desire to further experiment with the medium. Later in this reflective writing I detail how I applied podcasting in community engagement as part of my ongoing contextual profiling in the second year of my PhD; and how I again integrated it into some of the final research outputs of my doctoral studies. While I was able to source information about the history and development of the genre from various scholars like Perks and Turner (2018), Drew (2017), Bottomley (2015), and Klaus and Zobl (2012) – all referenced in Paper 1, the majority of critical theory around the podcast genre pointed to Professor Siobhan McHugh, an internationally recognised podcast producer and critic, Honorary Associate Professor in Journalism at Wollongong University in Australia, and my guru when it comes to all things podcast. She is also the Founding Editor of *RadioDoc Review*, a journal "that brings together scholars, practitioners and industry figures to develop in-depth critical analysis of the audio documentary/feature form, now disseminated as podcast" (University of Wollongong, n.d.). She was clearly a world leader in podcast scholarship. In August 2018, I decided to email her to inquire about any potential synergies between

our work. To my delight, she replied and, after having listened to our seminal episode, provided rigorous feedback and advice on how to strengthen the impact of our approach. On several levels of podcast aesthetics, we had 'failed,' in the sense that we had not done what makes most podcasts impactful. This had to do with our scripting, our narration/host performances, our editing decisions, and our limited efforts in building listenership – all essentials to strong podcasting. My primary takeaways from McHugh's feedback were: 1) how the host builds affective intimacy with listeners through 'speaking [conversationally] to ONE listener, one person at a time' (McHugh, personal communication, 31 August 2018); 2) how we needed to treat audio as its own unique medium complete with strengths and weaknesses; 3) and how we needed to listen to good examples of other podcasts to better understand the practice. I had listened to podcasts, but admittedly at the point that we started the *DayOne* podcast I had had limited exposure to other podcasts and had not yet developed a podcast listening practice. McHugh acknowledged that our podcast aims of building community around an evolving issue presented novel challenges with the medium.

2.1.6 Transforming limitations into possibilities: Thinking and acting off the page

Towards the conclusion of our paper, as is reflected in the 'podcast-building' aspect of the title of our paper, we acknowledged that our main efforts went towards building the podcast with limited efforts in building our listenership initially. In hindsight, this strikes me as a major oversight, since we were aiming to create a dialogue with the public and not a monologue. That said, the cause was primarily due to limitations in our capacity, since we were doing all podcast activities voluntarily as part of our own studies and in addition to our other school and life responsibilities, all while living through the personal and social impacts of the water crisis. Through academic reading, we had come across a concept referred to as 'radio listening clubs' (Mhagama, 2015), where essentially groups were convened to listen collectively to radio shows as catalysts for conversation. The conversations could be recorded and built into further episodes. In some cases, this approach was also used with government staff, to help bridge dialogue between them and their citizen constituencies.

In early 2019, Day Zero had been taken off the calendar by the City. With both the 'crisis' sentiment and our first four episodes behind us, we started off the year by strategising how we might mobilise our research and leverage the *DayOne* podcast as a cultural archive to remind people that the lessons learned from the drought needed to be applied in the long-term. We were imagining how this kind of community engagement process could help to build more audio content for the next round of podcast episodes. We thought about themes or topics that might make sense to frame the episodes. We started off by looking at dates dedicated to water in some way, for example, World Wetlands Day

(February 2) and World Water Day (March 22), and thought we might be able to frame episodes under the broad themes of various water bodies (for example, wetlands, rivers, ocean, etc.). With World Wetlands Day being the first on the calendar, we agreed to start building an episode around wetlands.

We reached out to the Environmental Education Centre at the Edith Stephens Wetlands Park in Cape Town. We inquired about the possibility of hosting an event around World Wetlands Day, engaging youth in a series of arts-based activities that included: listening to curated excerpts from the *DayOne* podcast, sound-related activities exploring the wetlands park; creatively responding to the excerpts from the *DayOne* podcast (which, with permission, would be recorded for the *DayOne* podcast), and co-curating a small 'museum' exhibit in the education centre of water samples youth would be asked to bring to the event as part of the *Cape Town Museum of Watery Relations and Uses*. This water museum was a project of Amber Abrams, Post-Doctoral Research Fellow (at the time) with the University of Cape Town (UCT)'s Future Water Institute (FWI). I had met Amber in late 2018, through a referral by another UCT professor. When I finally met Amber, the synergy was obvious and we agreed to collaborate. After introducing her to Anna, the three of us clicked in our passions and approaches. Thus, our self-titled *WaterArtsEd* collective was born.

Our World Wetlands Day event at Edith Stephens Wetlands Park was our inaugural collaboration. The workshop was successful, in that we engaged approximately 20 youth in learning about and sharing their experiences of water and wetlands. One of the challenges we faced from this experience, in terms of podcast-building, was that we struggled to get parent/guardian signatures consenting to including youth in podcasts and consequently did not use youth contributions in the podcast. This was because of several intermediaries (i.e. staff at Edith Stephens Wetlands park and youth coordinators/teachers) between parent/guardians and us. In preparation for this event, we recorded a conversation with 'Auntie Dale', a long-term volunteer with Edith Stephens Wetlands Park. We edited an inaugural 2019 podcast episode, which we framed as a kind of summary retrospective of our first four episodes, plus Auntie Dale's perspective included to ground us to the Edith Stephens place, and highlighted various ideas related to wetlands.

In March 2019, both our paper and podcast became tools for research mobilisation and public engagement. We facilitated a seminar with UCT's Future Water Seminar. By then we had written and published our paper, and so our seminar invitation included a chance to discuss the paper and participate in sound-based responses that we would record and build into a *DayOne* podcast episode.

Initially, we were uncertain how much response we would receive. We were pleasantly surprised to find a full room with approximately 20 participants. These were scholars at varying levels, from Masters to Professors. In the spirit of 'radio listening clubs,' we played our curated excerpts from *DayOne's* season 1, spoke about key points from our paper and podcast-building experience, then invited participants to prepare creative sound-based responses in small groups, which we audio recorded. These took various forms, from poetry to vocalised sound effects. There was considerable enthusiasm for and active participation in our activities.

In March 2019, in honour of both World Water Day (March 22) and South Africa's Human Rights Day (March 21), our *WaterArtsEd* collective negotiated a collaboration with the Iziko South African Museum in Cape Town, in connection with an H20 exhibit they were hosting at the time. For a full day, we engaged approximately 100 youth in a similar way to how we had done at the Edith Stephens Wetlands Park – they listened collectively to our first *DayOne* podcast of 2019 (the summary of 2018 podcasts) and then responded creatively to this through sound, which we recorded to include potentially in future episodes. We had a youth marimba band on the scene collaborating (who had given permission to be included in podcasts), and lively responses included rap, sketches and dance. Unfortunately, we again struggled to get parent/guardian signatures to include youth contributions in podcasts and consequently did not include these.

2.1.7 Writing the paper

I was particularly driven to write this paper for publication at an early stage in my praxis process, having been invited to present about the podcast methodology at the *Thirteenth International Conference on the Arts in Society* (27-29 June, 2018), organised by Common Ground Research Networks, with a special focus on *How Arts Makes Things Happen – Situating Social Practice in Research, Practice, and Action.* Presenting in this conference included an opportunity to submit a manuscript for publication in one of their peer-reviewed academic journals. The initial idea and incentive to first put these ideas and experiences into paper format came from both Anna and I, when Anna and I applied to co-present a paper about this work at the *Environmental Education Association of Southern Africa's* conference (17-21 September 2018) in Livingstone, Zambia. Anna and I co-wrote that initial paper and planned the presentation together. While I traveled to Zambia with the aim of bringing Anna into the presentation virtually, circumstances at the venue required me to present individually. Conference participants asked about empirical evidence of the impact of the podcast, which revealed to me that there were expectations that this project had been conducted in a traditional interventionist approach of intervening, monitoring, and data analysis. It showed me that

we were using a more generative methodology, which was experimental, adaptive, and iterative, and could perhaps be likened more to a phase of reflexive concept building towards a potential larger study. The reflexive aspect of this was essential to the praxis. As Capous-Desyllas and Morgaine (2018) argued, "while both anti-oppressive and arts-based research have the potential to disrupt entrenched power relations, actualizing this potential requires critical self-reflection, self-awareness, and a willingness to deeply examine how and why we do the research that we do" (p. 1). We were evolving a reflexive arts-based methodology, in alignment with the T-Learning programme, where our generative research process focused on the learning process. With the T-learning project, as with our podcast, not all methodology and aims were pre-determined, but were instead explicitly open-ended and part of co-engaged learning processes. I felt extra inspired that we had something unique to contribute to the educational research community. I proposed that we evolve that initial paper for EEASA 2018 into a more detailed paper to submit to a Common Ground Research Networks journal, eventually accepted for publication in Common Ground Research Network's *International Journal of New Media, Technology and the Arts.* As we prepared the paper for submission to Common Ground, we established that I would be the lead author, with the intention of including this paper in my PhD-by-publication. Our overall contributions and responsibilities are outlined in Table 2.1 below, and detailed thereafter.

Table 2.1 Co-author responsibilities[12]

Responsibility	Sarah Van Borek	Anna James
Initial idea	55%	45%
Logic of reasoning	55%	45%
Data collection/material generation	55%	45%
Analysis	55%	45%
Manuscript production	70%	30%

Similar to what we had done with co-writing our podcast narration scripts, we used Google documents to each build on the development of the paper. I led a literature review on the podcast genre, which included reaching out to podcast producer/critic and Associate Professor Siobhan McHugh (as mentioned previously), and wrote up the bulk of the podcast section. Anna contributed

[12] This breakdown of responsibilities applies specifically to the paper published in the *International Journal of New Media, Technology and the Arts* – see Paper 1 in the appendices. For the EEASA paper, which was foundational to the development of this paper, responsibilities were shared by co-authors.

key perspectives on podcasting from South Africa, while providing input on the section overall. I applied an analytical lens whereby I was looking at the theoretical framework and analytical framework exploring sensibilities and abilities, developed in my PhD proposal, and seeing if and how any of these were emerging in the podcast-building process. I found that indeed they were, and these are detailed on page 17 of Paper 1. Anna brought in the key concept of social movement learning, and led the writing of the section on an arts-based method of inquiry. Anna had suggested that we could build our paper on the tensions between the podcast aesthetics and our podcast research-action-communication-education aims, allowing our 'failures' to become tools for critical reflection and learning. This is how the tensions section, found on pages 18-21 of our paper, was inspired. Thinking carefully and deeply through these tensions, I believe, allowed us to strengthen our podcasting methodology. This can be experienced by listening to all four of our podcast episodes, as I feel the impact of our podcasts grows incrementally, moving from the first episode to the fourth. I handled all communications with the journal's editorial team, led the writing of revisions, and took responsibility for all journal-specific formatting requirements. The original paper included a section on the concept of reconciliation, mainly because of its centrality to my PhD project. This was a bit problematic, as the relationality aspect had been a shared concept across both my and Anna James' PhD projects and therefore was a strong thread in our podcast-building, but the reconciliation focus was unique to me. It was important to find a way to bring reconciliation into this paper, for which I was lead author and as I was aiming to include this as a paper towards my PhD thesis. It was equally important to be sure that how this came into the paper clearly attached it to me and my study, in terms of how the podcast related to my research aims, and not to suggest that it was a central focus of the podcast for both of us. I addressed this by including the section on *Cultivating Relational Sensibilities for Social-Ecological Justice,* which included an analysis of the podcast-building process using the analytical framework I had developed for my PhD, and describing how that analytical section related specifically to my PhD study – see Paper 1 pages 15-17. The introduction to that section included some inputs from Anna.

2.1.8 Preparing the paper for publication

The preparing of this manuscript for publication marked the start of my praxis process in writing and publishing journal articles from my PhD-by-publication. In looking back, I feel the process became clearer and more streamlined as I moved through the four papers, and I also believe that my academic journal writing strengthened cumulatively from the first paper to the third.[13] As the first paper, there were a number of revisions requested after the initial submission. The majority of my communications with Common Ground Research Networks happened through email with their

Editorial Assistant, based at the University of Illinois Research Park, Champaign, Illinois, USA. Below is a timeline of our interactions:

On January 22nd, 2019, I received notice that our article was 'ACCEPTED IF REVISED' for publication in the *International Journal of New Media, Technology and the Arts.*

The reviewers felt the article was interesting and well-written overall, and that the topic was important and significant. The structure and organisation of our paper was a strength, with appropriately selected main categories and concepts. The main areas needing work, according to reviewers, were elements essential to substantiating the manuscript as a research paper: providing sufficient background/context, outlining the methodology, identifying the research tools, including more literature of relevant research (minimising the number of times we cited the same author), meaningfully connecting our findings to this literature, a discussion section, and identifying the limitations of the study. This makes considerable sense to me now because, having approached the podcast as a method for background research to a larger study, and having initially written this paper as a description of the process, our initial paper was written more like a 'think piece' than a research paper.

It was suggested that the focus of the article seemed to balance between a structural focus, exploring the investigative potential of the podcast genre by emphasising its ability to create human connection, and an attempt to apply that potential by reflecting on some of the episode content. However, it was suggested that it did not go far enough in either direction. We were advised that the article had a speculative feel and needed more grounding in actual data (podcast content) to demonstrate the effectiveness of the podcast in addressing issues of socioecological inequities in the context of Cape Town's water crisis. It was pointed out that this would help to address the tension of writing about a medium that we were describing as being most valuable for its ability to be heard and

[13] The third paper appears third in terms of the chronology of the research it represents (e.g. ECUAD 2019 iteration of the *Making Waveforms* course, however, the reviewer/editing process continued up until the submission of this thesis (after submitting Paper 4 to a journal, and halting further edits at that stage), so technically, Paper 3 represents my final writing efforts in the paper-writing process).

experienced rather than read about. It was confirmed that our tension section started to do this and exemplified how this might be expanded in other sections of the paper.

There was a comment about how the absence of feedback from the podcast listenership made it difficult to determine whether the claims made about the podcasts' ability to create change were accurate. This helped us to recognise that we had focused on the building of the podcast and less on the listenership of the podcasts. This meant it would not be possible for us to test the full potential of the audio/podcast genre which the professor at Wollongong University in Australia, McHugh (mentioned above), had highlighted for us: host-listener intimacy and the affective power of the audio medium. Both of these would require listeners. Reflecting on this process now, I feel this was a major oversight because we intended for the podcast to appeal to our audience and could have explored more ways to reach and engage with listeners. As we wrote in the paper, we were quite stretched in our capacity time and resource-wise, so our efforts went mainly into the podcast-building in 2018. With this growing understanding of the importance of building a relationship with our audience (through host-listener intimacy and harnessing the affective power of the audio medium) as the podcast series develops, we made that more of a focus in 2019 through a public engagement process. Described in more detail above, this process involved coordinating and facilitating listening/creation workshops at the Edith Stephens Wetlands Park, the Iziko South African Museum, and the University of Cape Town's Future Water Seminar. There was an indication that we needed more thorough explanation of how relationality and reconciliation sensibilities were defined in our context.

On 25 January 2019, I signed and submitted the publication agreement. That same day, I was invited to submit a final, revised version, and was advised that this version needed to adhere to the journal's 'Final Submission Requirements' which included following the Chicago Manual of Style 17th Edition formatting and *Common Ground*'s journal article template. A change note indicating what revisions we had made had to be included with the final submission.

On 22 February 2019, I submitted our final revisions and change note. The same day I received notice that it had passed inspection and was queued for copy editing.

We made many revisions in response to reviewers' feedback. A robust background section was added to the introduction, providing more context and examples of social responses to the Cape Town water crisis. We reworked connections between our main points and theory. This included

some restructuring of the paper overall, and adding new theoretical references. We clarified the explanatory logic by specifically articulating this as a 'podcast-building' process, acknowledging that the broadcasting/distribution was minimal and therefore a limit within our project. By focusing on 'podcast-building', we were also able to draw on examples from the podcast-building process and content from the podcast episodes to support this argument. Although podcast for education and/or social change was still relatively new and therefore there was not much theory available to compare our work with, we did outline our method and methodology in comparison with other forms of arts-based inquiry. We applied thematic analysis to content from the podcast episodes and included more examples of this at various stages of the paper. For example, in the introduction we showed how the podcast content revealed personal narratives that, in turn, revealed diverse ideologies and polarisations in the water situation. This related closely to the study's overall focus on relational education for reconciliation because it revealed a foundational dynamic in a relational context which could be explored in reconciliation pedagogy. This dynamic included the ways that personal narratives, when placed alongside one another, can reveal the relationality of the people behind the narratives in a given situation. This provided grounds to begin working with the relationality and relational context. The ideologies made visible through the narratives started to shed light on the affective character of relations. Questions that stemmed from this dynamic included: Where does the power lie? How might this be shifted towards more equal power relations?

We expanded our explanations, and supporting examples, for both the structural/technical aspects of the podcast genre and the content of the podcast episodes. A much more detailed explanation of relationality and its application to this study was added. We greatly restructured the article to include more clearly the various sections that one would expect from a research article including tools/method and methodology, and better identified the background information (context/introduction). The 'discussion' section of the paper was framed within the final section about three tensions.

On 26 February 2019 I was asked to make some specific copy edits.

On 5 March 2019 further minor copy edits were requested.

On 10 March 2019 I submitted additional copy edits.

On 11 March 2019 I received a typeset proof of the article for inspection.

On 13 March 2019 I requested a few corrections to the typesetting. That same day I received noticed that the article would be published shortly. The article, included in this thesis as an appendix, can now be accessed online here: https://cgscholar.com/bookstore/works/toward-sound-research-practice

2.2 Abstract conceptualisation

To what extent have I been able to embrace decoloniality within this phase of my PhD praxis process? To answer this question, I critically analyse my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* I outlined in my introduction relate to this phase of my PhD praxis process:
1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum.

2.2.1 Relationality

I established relationships in the podcast-building process with people and water bodies in Cape Town that I was able to carry forward into the course I co-developed and facilitated in late 2019 as part of my doctoral research. For example, the start of episode one features the sounds of water from the Khayelitsha wetlands splashing against a paddle. This took place while one of the guides from the Khayelitsha Canoe Club paddled me around the wetland on World Wetlands Day 2018. Anna and I had attended a public event there that day to kickstart our podcast idea. It had been a chance encounter with the canoeing guide, and my introduction to the fact that there was a canoe club in Khayelitsha. I would later learn it was the only canoe club inside a township in South Africa. I would also later go on to meet the canoe club's co-founder, Siyanda Sopangisa, who would become one of the Knowledge Keepers for our Cape Town *Making Waveforms* university curriculum. Knowledge Keepers, as mentioned in section 1.6.2 *Iterative course design* (under Methodology) of the Introduction of this thesis, and detailed in Papers 1, 2 and 3, are used in this study to refer to Indigenous and non-Indigenous peoples who have long-standing relationships with the local water bodies in the *Making Waveforms* courses. Knowledge Keepers met with students during the course to share their stories and experiences in relation to the particular water body they had a relationship with. Siyanda would later take students from the 2019 course paddling on the wetlands in Khayelitsha as one of our field trips. Nella Etkind, our host for English episodes two, three and four, and the Deputy Content Director for Gingko agency, would later become a guest lecturer (in the *Making Waveforms* course) on the topic of social impact storytelling through videos. Further description of this work can be found in Paper 4 and its corresponding metareflection. Relationship-

building with the Iziko South African Museum began in 2018 as we negotiated a podcast-listening/building workshop that we went on to facilitate in 2019. Initially, I had hoped the museum would become a venue to host the public event that is a key culminating feature of the curriculum in my PhD study. Although it did not ultimately work out this way, the museum still became an important site for a field trip in the course. Recording the sounds of various water bodies to kick off podcast episodes made me think about different forms of water bodies (i.e. rivers, wetlands, oceans, etc.) to include in the curriculum, and introduced me to several in Cape Town. The Liesbeek River, which intersects with the Black River featured at the start of episode three, became one of four water bodies selected for inclusion in the Cape Town curriculum that is part of my PhD. Working with Amber Abrams from UCT's Future Water Institute (FWI) on podcast public engagement workshops established our collaborative relationship in preparation for us to co-design and co-facilitate the *Making Waveforms* course that was later hosted by FWI. This is first discussed in the metareflections for Paper 4, and then more substantively in Paper 4 (in the Appendices). All these relationships were established by tapping into networks of people, including those involved in the podcast as they joined the project.

I was learning from and with everyone we engaged with. As described above, this included conversations Anna and I recorded with diverse people across the city, as part of building content for podcast episodes. This included conversations with Anna both in person after we recorded conversations and asynchronously as we collaboratively built our podcast scripts. This included learning from our volunteer podcast hosts as they translated scripts, adapting them on their terms to be more culturally relevant, and performing the narration for us to record and add to podcasts. This also included learning from the various workshop participants, as described above, who listened and responded to podcasts. I was learning, as well, from and with the various water bodies that we were recording to feature at the start of each episode. I write about thinking-with water in greater detail in Paper 3.

It was a powerful experience to engage in an email exchange with podcast producer/critic and scholar Siobhan McHugh, as briefly described above. Instead of simply citing her work in our academic paper (a monologue), I was able to learn from her in conversation with her (a dialogue). This shifted both the mode of learning, and the relationship of power whereby a seeming unembodied academic voice in publications became a living being who I could interact with, and who I could be accountable to.

The relationships developed through email exchanges with Common Ground Research Networks' editorial team supported me in deepening my understanding of the work. Reviewers' feedback was very encouraging in supporting me to see that this had the potential to become a research paper and that our process was not simply background research but could be viewed as a research project in itself (albeit a research project inside my doctoral research project).

2.2.2 Multimodality

Having had three experiences of engaging various organisations in the *DayOne* podcast (Edith Stephens Wetlands Park, UCT's Future Water Seminar, and the Iziko South African Museum), as described above, I feel this can be a potent device for arts-based education, research and research dissemination. While some similar issues, themes and concepts related to water appear both in the podcast and in the academic paper about this podcast methodology, it is clear that the paper would not have been appropriate to share with the various youth we engaged. In that sense, working with the alternative education/research communication modes of sound, storytelling and podcasting, opened up new possibilities for engaging a broader public in the research, as well as in knowledge co-creation through the creative responses to the podcasts. The intersectional issues that were surfaced through podcast-building, such as water privatisation; the government's fiscal reliance on water tariffs; the health risks associated with unsafe grey water use; the lack of effective water infrastructure for informal settlements, etc., also suggest the medium's potential as a form of scholar-activism.

At the same time, the academic paper is certainly one important mode within the sphere of multimodality for communicating and disseminating research. The writing of this paper has been an important part of my praxis process of developing a relational model of curriculum. It provided an opportunity to start exploring pedagogical processes and how they might allow for the emergence of the relational sensibilities and abilities towards reconciliation I was aiming to cultivate. It highlighted the importance of working with narratives, including the juxtaposition of dominant narratives with personal narratives, to unpack power relations and the affective character of a relation. It emphasised the affective power of working with the audio medium and began my thinking around affective relations and learning. The task of translating my own experiential, relational learning from podcast-building into writing challenged me to start finding and/or developing the concepts and language to begin articulating the methodology and aims. This relates back to the generative orientation of the T-learning research programme in which not all methodology and aims were pre-determined. Instead, these were explicitly open-ended and emerged through a co-engaged learning process. It contributed

to our podcasting methodology with the academic community of the Future Water Seminar group at UCT. The paper is also an important tool for making both theoretical and practice-based aspects of my research available to the world, which is central to my aim, as described in section 1.2 *The intent of the study* (in the Introduction section of this thesis), of offering a tried and tested model of education for reconciliation that could be applicable across contexts. This paper also became an important tool in the final creative method of representation of my PhD process, as an offering back to research contributors to review and respond to. I first introduce this process in section 1.6.3 *Podcast praxis* (under *Methodology* in the *Introduction*), and then in more detail in Chapter 6.

At the copy edit stage in the publication process, we encountered some challenges around working with the modality of podcasting and trying to quote podcasts in academic writing. I requested clarification from the editorial team about a copy edit request: "Where we have cited information from our podcast episodes, the request is 'Please cite using presenter last names and year, though you may retain season and episode number in addition to the citation if you wish'". The challenge was that sometimes the citation was from an interviewee, and sometimes the citation was from a protestor at a public rally where we did not have that individual's name but rather the name of the collective to which they belonged (i.e. Cape Town Water Crisis Coalition). The podcast presenter, who we referred to as 'host', was reading a script that we (Anna James and myself, the podcast co-producers) had co-written. Sometimes the information we were referring to was from the script material. I asked, "So when we are being asked to cite the 'presenter', who should we be citing?" We received this clarification: "The in-text citation would be indicating which source the quotes came from, so we would ask that your citation use the host name(s) and year. However, you generally do a good job in the text explaining who is speaking. For example, you have indicated that a protester is speaking and then the citation's role is to indicate which podcast episode this recording came from. This is pretty much exactly what we want." Essentially, in this way, we co-developed a way to integrate podcasts as research sources in academic writing.

In terms of advantages to working with the audio medium, it felt like significant learning for me to find that some of the relational sensibilities and abilities towards reconciliation I was aiming to foster in the model curriculum I was developing could surface in a learning environment that used the aesthetic of audio only (and not video), and through an informal, social learning process (as opposed to a university setting, where my intended model of relational curriculum would take place). The multimodality of this approach also created openings for my own affective learning (Zembylas, 2019; Riley, 2020) of lived experiences of the drought, where I felt emotionally connected to the

people we were meeting and recording conversations with. I was spending significant time and attention with the stories they had shared, both in the script-writing and podcast editing stages. I was experiencing a lot of empathy for people's situations, while also experiencing a sense of shared humanity through living through the drought with them, albeit in my own experience of it. These deep, and sometimes challenging, feelings caused me to learn about the water crisis from a socio-ecological perspective, and from my heart-mind that developed a sense of responsibility alongside a deepening understanding.

2.2.3 Narratives/Counter-narratives

The chronology of my experiential learning process through the personal (where I was focused on personal behaviour change to save water), social (where I learned more about the city's context of fear and scarcity messaging), and arts-activism praxis process (where I learned more about diverse lived experiences of the drought), reveals the uncovering and deconstruction of dominant water narratives, and my exposure to counter-narratives of water in Cape Town. Our choice to call our podcast *DayOne* was a first step in creating an alternative narrative of hope and creative problem-solving, in tension with the dominant Day Zero narrative of scarcity, doom and gloom. As we moved through the podcast-building process, listening to more and more diverse lived experiences of the drought, more narratives emerged (e.g. privatisation, Day Zero having long existed in poor communities, etc.). Uncovering counter-narratives helped to make dominant narratives visible, for example, the narrative that Day Zero was a crisis shared equally by all Cape Town residents.

2.2.4 Context-specificity

Podcast-building and writing this paper about it were foundational steps in developing my water literacy, especially specific to the Cape Town context. This began with Anna and I brainstorming overarching topics around which to build podcast episodes (an introduction to the drought; water privatisation; water augmentation; and health in drought). Through the making of episode one, which introduced listeners to the drought, I was inspired to ask questions and seek answers about where the water in my taps comes from, what the quality of that water is, where the water from my toilet goes, how that water is managed, and who manages it. Through the making of episode two on water privatisation, I was challenged to think critically beyond the rainfall shortage, and to consider some of the political and economic factors influencing the drought, such as the privatisation of water management (including water management devices) and treatment services, as well as the water-related businesses such as bottled water. I was inspired to consider the problematic question of what price to assign to water by learning how the city budget relied on fees for water and benefitted from

wealthy demographics' high-water usage. Interacting with residents queued to collect spring water from the Newlands spring highlighted how their relationships with water had shifted, and caused me to reflect on how there were no fresh water spring collection points in Vancouver that I was aware of. That lack of access to source water contributed to my sense of a severed relationship with my drinking water. Through the making of episode three on water augmentation, I learned about some of the key options for increasing source water in the city: digging boreholes, building dams, desalination, tapping aquifers to extract groundwater, and rainwater harvesting through innovative systems like ferrocement tanks. Through the making of episode four on health in drought, I developed a heightened awareness of health challenges in Cape Town that can surface in drought for reasons such as unsafe grey water use, inadequate or lack of water treatment, lack of hygiene education or practices, and stigma and discrimination related to lack of access to water.

Often the conversations we recorded took place on site where the participant(s) lived, worked, or were engaged in some kind of activity related to what we would be discussing. For example, we met with Imraan Samuels, permaculturalist, at his home-based permaculture garden workshop. We met with Nazeer Sonday, a farmer, in the Phillipi horticultural area where he works. I met with CareOneLove, a mural artist, in the street in the neighbourhood of Salt River where she was actively painting a mural as part of the International Public Art Festival. This created opportunities for situated knowledge (Haraway, 1988) and embodied learning (Katz, 2013; Lange, 2018) that I could take in through the conversation, as well as through some of my other senses and presence in the place.

2.2.5 Unhidden curriculum

Through building the *DayOne* podcast, I was creating a new narrative of what background research for my PhD could look like. In this emergent process, we were reversing the null curriculum by bringing collaborative, generative, multilingual, multi-species, multi-sectoral scholar-activism and public education into being. By co-producing the podcast with Anna, the emphasis was on collaborative scholarship. By recording conversations with people across a wide range of demographics and, with their written informed consent (detailed in section 1.8 *Ethics* of the *Introduction*), including these in podcast episodes, we were supporting knowledge co-production. Knowledge co-production was further supported by producing podcasts in three languages, and inviting the podcast hosts to translate and adapt scripts so that they would not necessarily be translated word-for-word but would make sense for the context of their language. Including the 'voice' of water in episodes through soundscape recordings of water bodies extended our view of

who or what can have voice and agency in the research. By publishing these podcasts online through Soundcloud and Wordpress, we were making this co-produced knowledge accessible to a broad public. In doing so, especially at the early stages of my PhD, we were practising a kind of transparency in the research process, while inviting input along the way to influence the research process.

2.3 Active experimentation

2.3.1 Practising decoloniality

Based on the details outlined in my abstract conceptualisation, I conclude that this phase of my PhD praxis process readily embraced decoloniality in practice.

This stage was strongly focused on establishing, building and shifting relations. I established relationships in the podcast-building process with people and water bodies in Cape Town that I was able to carry forward into the university course I co-developed and facilitated in late 2019 as part of my doctoral research. I was learning from and with everyone we engaged with, including directly with my academic source (McHugh) and podcast co-producer/co-author (James). The relationships developed through email exchanges with Common Ground Research Networks' editorial team supported me in deepening my understanding of the work.

The multimodality of this process created openings for myself and others to engage in affective, embodied learning of the Cape Town water crisis that certainly left me feeling more water literate, connected and responsible. Recording and sharing sound-based stories allowed us to include diverse perspectives, including multiple languages and the voice/agency of the wider-than-human (water). Working with podcasts opened up new possibilities for engaging a broader public in the research, as well as in knowledge co-creation through the creative responses to the podcasts. The writing of the academic paper was also an important part of this multimodality, as it challenged me to start developing the concepts and language to begin articulating the methodology and aims, contributed to engaging the academic community in our podcast methodology, and became a tool for sharing research back with participants towards (but not quite at) the end of my PhD process. Citing our podcast episodes in the paper challenged us to develop a means for combining podcasts and academic writing effectively. The audio medium applied across a water education context allowed me to test out some of the relational sensibilities and abilities towards reconciliation that were at the heart of my PhD research aims.

Narratives/counter-narratives revealed themselves to be essential to this phase in my learning. I went from doing my best to abide by personal water savings behaviours driven by the city's dominant fear-driven narrative of water scarcity, to expanding my understanding of wide-ranging, intersectional issues that came from being exposed to alternative narratives. I experienced first-hand the shift in power that can become possible in creating an alternative narrative, for example, when we chose to name our podcast *DayOne.*

Given that I undertook podcast-building as a form of engaged contextual profiling for my PhD, it is perhaps no surprise that my learning was very context-specific. I was looking to unpack the Cape Town water crisis. That said, podcast-building supported an engagement with context which I feel is more immediate and affective than some more traditional academic approaches, for example, a literature review. While the overall concept of a watershed and water management may have component parts which can be carried across contexts (e.g. water sources, waste/water treatment, water provision, etc.), my experience in making *DayOne* showed me how context-specific those components are to each watershed and/or water management situation. Furthermore, recording conversations on site, where participants' stories unfolded, created opportunities for situated and embodied knowledge that I could take in through both the conversation and some of my other senses and presence in the place.

The podcast made visible what is otherwise referred to as 'hidden curriculum.' The ways we were relating with others in the process, how we were fostering (and suggesting the value of) knowledge co-production, how we were sharing co-produced knowledge publicly, and how we were bridging between our positions as PhD scholars and arts-based scholar-activists, made explicit our values and aims to disrupt traditional institutional cultures.

In terms of weaknesses, when it comes to practising decoloniality, as is acknowledged in the paper, we did not give enough consideration and time to our audience and involving them in more of a dialogue. With consideration for our audience, our script writing should have used more conversational less academic language (although, as mentioned in the paper, this improved as we moved through the episodes). We could have been even more engaged with local communities in the podcast-building process, for example, capacitating and supporting them in recording and editing their own podcasts. I do, however, feel this latter suggestion could only be possible in a second step to this process, after we had ourselves established a grasp of the podcast genre.

2.3.2 Recommendations

Applying a podcast methodology to contextual profiling for PhD research can be utilised as a way to practice decoloniality in higher education when it engages the PhD scholar in the five key parts of an *Anatomy of decoloniz/sed curriculum*: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum. As with an anatomy, these five parts are embedded and interdependent, for example, multimodality affords relationality and narratives/counter-narratives; context-specificity allows for relationality and narratives/counter-narratives; unhidden curriculum affects and is affected by relationality; and the first four parts create the foundation for unhidden curriculum. For this reason, when using a podcast methodology to engage in decolonial practice, I would recommend considering all five key parts, each as unique components as well as an important piece to the whole that is greater than the sum of its parts.

Relationality can be emphasised through establishing and building relationships for co-learning with podcast co-producers and participants, places (e.g. water bodies), as well as academic sources and journal editorial teams. **Multimodality** is a strong attribute of a podcast methodology, through working with sound, storytelling, listening, recording, editing, de/re/constructing narratives, podcast script-writing, and publishing podcasts. Sharing podcasts in innovative ways that invite listeners to respond creatively can take the diversity in modes of learning to another level. **Narratives/counter-narratives** emerge through documenting and sharing stories that listeners can then respond to through further sharing of stories. Uncovering dominant narratives through sharing/creating alternative narratives can shift power relations and reveal underlying issues. **Context-specificity** is made possible through the gathering of stories to construct an image of a place. Recording stories in the sites where they are situated enables the podcast producer(s) to experience multisensory, embodied learning in that place, deepening the image of the place. The **hidden curriculum** of a learning environment, similar to narratives, can be made visible (or 'unhidden') by shifting it to a learning community culture that disrupts what might be expected from traditional learning environments. Be sure to give enough consideration and time to your audience and involving them in more of a dialogue. As part of that, the script writing and hosting should be in as conversational language as possible. If feasible, engage with local communities in the podcast-building process, for example, capacitating and supporting them in recording and editing their own podcasts.

The publication of Paper 1 took place as I shifted my focus to co-designing and leading a course at ECUAD in 2019 (based on a 2018 pilot course). That process of co-designing/facilitating the 2018 pilot course, and what I learned from it, is detailed in the metareflection to follow.

CHAPTER 3: METAREFLECTIONS FOR PAPER 2

This paper demarcates two critical steps in the first year of my PhD: 1) contextual profiling of water stories specific to the Vancouver, Canada context; and 2) piloting the curriculum that I was building by teaching a course 4 July-16 August, 2018 at the Emily Carr University of Art + Design (ECUAD) in Vancouver, Canada (situated on the traditional and unceded territory of the xʷməθkʷəy̓ əm (Musqueam), Sḵwx̱ wú7mesh Úxwumixw (Squamish Nation) and səl̓ ilwətaʔɬ (Tsleil-Waututh) Indigenous peoples). This reflective writing will detail some of the preparatory work required to set up the course, including the relationships established and navigated; the contextual information about water in Canada that was learned from this experience; my experiences from teaching the course that are not reflected in the paper but which I feel are important to share as part of my overall contribution to knowledge; and my process of writing the paper, including the revision process with peer inputs and journal reviews, and what I learned from this. This reflective writing, and subsequent metareflections, will follow a similar approach to my metareflection for Paper 1 by applying Kolb's (1984) Experiential Learning Cycle model for reflective writing, and will include four key stages: 1) concrete experience; 2) reflective observation; 3) abstract conceptualisation; and 4) active experimentation.

3.1 Concrete experience and reflective observation

3.1.1 Context of the paper

My second paper, *A media arts-based praxis process of building towards a relational model of curriculum oriented towards reconciliation through water justice*, published by the University of Pretoria's *Journal of Decolonising Disciplines* (JDD) in February 2021, was the first academic journal article for which I was the sole author for my PhD. The invitation to publish this paper began with being invited to present this paper at an international conference called *The Decolonial Turn and the Humanities Curriculum: Prospects, Practice and Interventions,* hosted 10-12 July 2019, by the University of Pretoria in collaboration with a group of South African universities: the University of Cape Town, the University of the Free State, University of Stellenbosch, University of the Western Cape, Wits University, the University of South Africa, Rhodes University, and the University of KwaZulu-Natal. The timing of the conference was interesting in terms of praxis process, because it was in the middle of the *Making Waveforms* course I was teaching at ECUAD in 2019 (one year after the pilot presented in this Paper 2) as part of my doctoral research. I presented for the conference virtually from Canada, and was able to take some of the questions and comments

from the conference into consideration as I implemented the next iteration of the curriculum there. I had prepared an initial, scaled-down version of this paper first for sharing at the Rhodes University's PhD Week in March 2019. I received many enthusiastic responses to my initial curriculum at that stage, including from colleagues joining us from Sweden, which encouraged me to continue with the work.

3.1.2 Building relationships to weave into the course

For anyone interested in enacting this curriculum, it is important to grasp the time and scope of work needed to prepare relationships that will become the heart of the curriculum, at least for the first time it takes places in a particular context. In my experience, this process can be streamlined by repeating the curriculum in one context, and building on relationships established in that context, over time. While the course ran in July and August 2018, preparatory work towards that course began in June 2017 when I started negotiating potential partnerships and collaborations in Vancouver. At that stage, I had confirmed with the Emily Carr University of Art + Design (ECUAD) that I would be offered a teaching appointment for the summer term in 2018 through which I would be able to utilise ECUAD as a research site for my doctoral research. I had also negotiated a partnership in the course with the David Suzuki Foundation (DSF), who had been course partners of mine since I began teaching at ECUAD in 2012 (described in the section 1.7 Methodology, in the Introduction of this thesis).

A new collaboration I had negotiated was with the Native Education College (NEC), an Indigenous-run post-secondary institution which culturally and spiritually supports mainly Indigenous learners in the province of British Columbia (B.C.). Their website outlines the school's founding philosophy:

> The philosophy of the NEC Native Education College Society is founded on the principles upheld by the Elders of our respective nations. The values of our people are contained in the teachings of our Elders – to protect our spirituality, our culture and our land. We will uphold these ideals; live them to the best of our abilities. (NEC, 2021)

I had established a relationship with NEC in 2015-16 during an Artist in Community residency with the Vancouver Park Board in the Mount Pleasant neighbourhood where both NEC and ECUAD are situated. I had further developed that relationship with NEC through some video production work with them, from which I had learned about the important origins of NEC as a safe educational space for Indigenous learners emphasised through an institutional culture that retained important aspects of

Indigenous culture (i.e. longhouse architecture, welcome pole, traditional food like bannock (bread) at the cafeteria, a choir with drumming, beading and jewellery-making, etc.).

I was particularly excited by a new relationship at that time with the public programmes coordinator of a prominent museum in Vancouver. I confirmed an initial agreement that the museum would host the public event that was to be the signature culminating feature of the curriculum. In June 2017, I initiated a meeting of all partners to begin our working collaboration. I invited all partners to contribute to the course design.

In the year to follow, various shifts within partner organisations meant that there were greater or lesser degrees of involvement than I had initially hoped for. While I engaged in several email exchanges with Dan Guinan, NEC President at the time, and Jason La Rochelle, NEC Dean of Academics at the time, to brainstorm ways that NEC and ECUAD might collaborate in the course, there were challenges in finding alignment between course schedules and curriculum to actually have NEC students and/or instructors mix in the course. Unfortunately, the timing of the ECUAD course (which fits inside a pre-determined summer term) clashed as NEC was in-between school terms. In the end, NEC offered ECUAD students a tour of NEC including being exposed to the cultural activity of traditional drumming and singing, eating traditional bannock bread from the canteen, and being hosted in their classroom for a class.

In April 2018, I received an email from the public programmes coordinator at the museum I had had an initial agreement with advising me that she had left the position. In my experience of collaborating with museums on courses from 2012-2017, it is best to negotiate such collaborations at least a year before because museums often book their public events and exhibitions far in advance. This news made me feel pressured, knowing that establishing a new agreement with a new museum on such short notice (less than four months) would be extremely challenging. It could not be any museum. The museum needed to make sense for what the event was about, in terms of both content and approach. Ideally, our event would align closely with an exhibit already hosted by the museum at the time. The Beaty Biodiversity Museum, a natural history museum based at the University of British Columbia (UBC) in Vancouver, emerged as an option.

The Beaty Biodiversity Museum (which I hereafter refer to as 'Beaty') was interested and suggested our event could fit well in supporting their existing monthly 'Nocturnal' events where the museum was open after hours, by donation, as a step towards expanding their audience. From my past

experience in collaborating with museums, it is extremely important to market your event well to ensure a good turnout, partly to maximise your public education opportunities, and partly to maximise the empowerment potential for students who would get to witness the immediate impact of their work on the public. The prospect of being able to build our event onto a regular monthly event that would also be marketed by the museum was extremely appealing. By agreeing to bring programming to this museum event, we were also offered the venue and museum staff at no extra cost. This was significant, since venue and after-hours staffing fees can be exorbitant and make public education events impossible for educational institutions that have not sufficiently budgeted for this. The only catch was that the event had a pre-determined date in August, and I had already booked my return flight to South Africa for before that date. My partner at DSF agreed to oversee the event on the ground in my absence while I joined by Skype. It would present a new challenge not being physically present in this kind of event, but I decided that since there were so many great opportunities around this collaboration, I would need to make it work.

3.1.3 Selecting water bodies and Knowledge Keepers

As outlined in the method section of Paper 2, a key part of preparing the curriculum involves choosing specific water bodies for students' site-specific creative work to be situated, and sourcing Knowledge Keepers. As mentioned in Paper 2, these water bodies and Knowledge Keepers are provided to students to choose from at the start of the course. While it might create new possibilities to invite students to source their own water body sites and Knowledge Keepers, in my experience of doing this in my early days of teaching at ECUAD, this process often takes longer than the time of one course, and is usually outside the comfort zone of most students. So how were these sites and Knowledge Keepers decided on? I worked closely with Alaya Boisvert, my main contact (at the time) at the David Suzuki Foundation (DSF), a non-profit organisation that came on board as a partner in the course. I had been partnering with DSF on courses at ECUAD since 2012. This course represented an extension of that growing relationship. Alaya was DSF's Public Engagement Manager. Alaya had been instrumental in choosing to focus on water bodies. Alaya and I had discussed the way the course could support DSF's campaign around ending Boil Water Advisories (BWAs) in First Nations communities. After I had explained the way the site-specific approach had typically worked, Alaya had suggested that we could look at the importance of healthy waterways more broadly/holistically, especially emphasising the value in protecting source water. Alaya and I collaborated in building a list of potential sites and Knowledge Keepers. My main criteria was for these water bodies to be of social and ecological importance, to represent diverse forms of water bodies (e.g. river, lake, ocean, wetland, etc.) and Indigenous traditional territories (e.g. Musqueam,

Squamish, Tsleil-Waututh, Tsawwassen, etc.) across a series of sites, to be accessible from the ECUAD campus by public transit and within a reasonable commute time, and for these water bodies to have relevant Knowledge Keepers who would be interested and available to participate in our course. We were aiming to find ones that told stories related to being impacted either negatively (i.e. through pollution) or positively (i.e. through restoration) and that linked directly to First Nations communities, i.e. Camosun Bog (a Musqueam creation story linked to this). We were aiming to confirm five sites/Knowledge Keepers in total. The maximum class size would be 18 students, and this would mean up to three students would share each site/Knowledge Keeper. I had once juggled 18 sites/Knowledge Keepers on a 1:1 ratio with students. It was extremely challenging to manage, and there are budget considerations in terms of how many to involve because of the ethical protocols required to respectfully acknowledge Knowledge Keepers through honorariums or gifting. I describe this in my metareflection on Paper 3. I was aiming for us to involve as many Indigenous Knowledge Keepers as possible. Originally, our list of potential sites/Knowledge Keepers was quite extensive. As I began contacting potential Knowledge Keepers two months in advance of the course start date, that list shortened since some were not available or did not respond in time to plan for them to participate in the course. I recommend allowing approximately 3-6 months for this process.

3.1.4 Recruiting guest lecturers with Indigenous and/or diverse perspectives

Further relationships needed to be established with people who would be appropriate and relevant guest lecturers for the course. My aim was to bring non-traditional (e.g. non-academic), and where possible Indigenous, perspectives into the classroom. Alaya contributed enormously to this aspect of the course by suggesting and introducing me to: Jim Brown (water management operator from the Lytton Band); Gregory Coyes (Métis/Cree filmmaker); and the Squamish Ocean Canoe Family.

Jim Brown is "a level II operator and former maintenance manager and lead operator" and former "band councillor" for 22 years (Lukawiecki, 2018, p. 30) from Lytton, B.C. whose contributions to securing clean water for his community are documented in DSF's *Reconciling Promises and Reality: Clean Drinking Water for First Nations* (2018) publication, primarily written by Lukawiecki. All nine community water systems in the Lytton Band land were at one point under BWA (Lukawiecki, 2018). As per Alaya's recommendation and introduction, Jim joined our class as

a guest to share his experiences in leading community water solutions. Jim began by greeting us in his Nłeʔkepmxcín language, and thanking the Creator. He then let us know that, in his culture, water is very precious to his people and future generations. He offered a prayer for water from his people in his Nłeʔkepmxcín language. Jim gave a brief history of his peoples in their territory which included how the government had created 56 reserves there. Irrigation ditches provided drinking water in that area but due to contaminants people were effectively drinking from "cesspools" (Brown, 2018). Jim shared with us about the Community Circle of Trust[14] established in 2015, which worked collectively to address these water issues. He invited ECUAD students to get involved in water's cause. He shared another story from that morning which spoke powerfully to the impact of unhealthy waters on his peoples and culture, and also to the power of narratives. He shared how he had eaten breakfast at a restaurant that listed "maple glazed salmon" as a daily special on the menu. He shared how the government restricted his people from fishing salmon, which had been an important part of his peoples' diet and culture for a long time, especially since their territories could mostly be found along the Fraser River. I had been reading about the BWAs for nearly a year in preparation for the course, but meeting Jim and hearing these stories about his peoples, land and experiences impacted my heart-mind: I was expanding my understanding while deepening a sense of empathy and compassion for this situation. I was also experiencing feelings of anger and frustration at these historical relations in the country that I had once perceived as being so great. It was enriching for me to hear his language and prayers, and to be introduced to some of the ways he sees the world.

3.1.5 Local water literacy

Molly O'Ray, Outreach Coordinator with Fraser Riverkeeper (a regional branch of a national non-profit organisation dedicated to healthy waterways known as Swim Drink Fish) offered our class a Water Literacy workshop. I learned about Molly and this workshop through the process of scouting for Knowledge Keepers. I had originally considered the Fraser River as a water body, and reached out to staff at the Fraser River discovery centre (museum) for possible referrals. They put me in touch with Fraser Riverkeeper whose staff were very enthusiastic about my course and offered to provide the water literacy workshop. It was free and Molly could come to our campus. This struck me as an incredible opportunity! To my personal research advantage, this also provided me with a

[14] "The Community Circle of Trust is a pilot project for drinking water initiated by a partnership between Lytton First Nation and RES'EAU-WaterNET, an NSERC Strategic Network of multiple universities and public and private organisations in North America devoted to providing innovative solutions for the drinking water challenges of small, rural and Indigenous communities" (Lukawiecki, 2018, p. 30).

unique chance to develop my contextual profiling of the Vancouver water situation. The students and I learned what a watershed was (no students knew when asked). Molly explained that it was the land area where we are interacting with water and that this included both surface water (e.g. rivers, lakes, etc.) and groundwater like aquifers. She pointed out that everything that seeps into the ground eventually ends up in our watershed, and this is why it is important to minimise pollutants like pesticides. We learned that Vancouver is located inside the Lower Fraser watershed, the most densely populated watershed in the Fraser River system. We also learned that our drinking water comes from three river watersheds (Capilano, Coquitlam and Seymour Rivers).

Figure 1. City of Vancouver mobile drinking fountain indicating the Capilano, Seymour, and Coquitlam watersheds where the City's water comes from. Photo by Sarah Van Borek (2019).

I learned something that shocked me: Vancouver used this pristine drinking water (some of the cleanest in the world) not only for drinking but also for showering, laundry, washing cars, and even flushing toilets! I learned another shocking fact: Canadians used more water than most people in the world, averaging 350L/person/day as compared to an average of 150L/person/day in Europe. I was

still ‘letting it mellow if it’s yellow,’ having come from the Cape Town water crisis where, at one point, water restrictions were restricted to 50L/person/day.

Molly also provided us with important information about how and where waste water was treated in Vancouver. The waste water treatment system was a separate system from the drinking water system. There are five treatment plants, located in Iona island, Lionsgate (Langley), Annacis island, Lulu island, and Northwest Langley. All five have primary treatment which removed total, suspended solids. However, Iona island and Lionsgate have only primary treatment whereas the other three have secondary treatment that uses anaerobic bacteria to breakdown these solids and reduce contaminants. We also learned that Vancouver has combined sewer systems which, in Vancouver’s heavy rainfalls (quite frequently) overflow, causing the outfall pipe to leak sewerage into surrounding water bodies. This is why some of Vancouver’s beaches are deemed unsafe for swimming at times.

Molly introduced us to some of Swim Drink Fish’s source water protection public engagement initiatives. First, their Swim Guide app, launched in 2011, provides information on the quality and safety of water bodies. At the same time, its participatory nature encourages a kind of citizen science that keeps this information updated and expansive. Their Watermark project encourages people to get out and interact with water bodies, and share their stories as a ‘watermark’ on their website. This is also part of their strategy for addressing a huge challenge that surfaced when the Government of Canada used an omnibus bill (single document/vote process packaging multiple issues) to change the Navigable Waters Protection Act into the Navigation Protection Act, whereby 99% of water bodies lost federal legal protection, and Aboriginal peoples’ meaningful participation in resource development was further minimised (Kirchhoff & Tsuji, 2014). Overall, Molly’s compact presentation gave us a solid grounding to anchor our newfound ‘watershed mind[s]’ (Wong, 2011, p. 86), to grasp some of the intersecting issues affecting water (e.g. legal, political, economic, social, ecological, etc.), and to get some inspiration for tangible ways we might contribute to ensuring healthy waterways.

3.1.6 Field trip to develop our relationship with water

I included ‘ecomotricity’ (Rodrigues, 2018), whereby students were in deliberate movement in/with water bodies through canoeing together, in the curriculum because I felt this was an important way to build and reflect on our own relationships with water. Rodrigues (2018, p.89) defined ecomotricity as: “living and moving body/ies interacting in/with nature (human-and-other-than-human), where this interaction is *ludic* (where pleasure or joy/happiness gives affective/perceptual

and physical/sensory meaning to the lived experience, often playfully)" and where these relations and intentional "ecological interactions" (ibid., p. 94) create an experience of movement as a feature of all beings (human-and-other-than). It was an incredible contribution to the curriculum that this ecological experience was Indigenous-led. We went canoeing on the Salish Sea with an Indigenous family from the Squamish Nation. I describe this experience in detail in Paper 2. What I feel is important to share here is some of my experience in setting up that field trip. It would be my first time canoeing in a traditional First Nations canoe and to be guided through Indigenous canoeing protocols. I did not know what to expect, and I was unsure of how to approach the situation. I had some aims for including the experience in the curriculum (e.g. relationship-building, introducing Indigenous ways of being and knowing into the course, etc.), but I also did not want to impose my agenda on our guides. I phoned one of the family members to discuss the trip. He was very friendly and relaxed. Somewhere in the conversation, I referred to the canoe as a 'boat.' He said to me, "Don't ever call it a boat!" An awkward pause ensued as I started to feel quite embarrassed that I had already made my first cross-cultural *faux pas*. Then he started laughing, and told me, with a joking tone, that he liked to make us uncomfortable. We laughed together, and, inside that exchange, there was a profound sense for me that we both understood the difficult past that was embedded in that remark, at the same time as an acknowledgement that we were in the process of moving through it.

When we went on the field trip, I was aware that, in my formal role as 'instructor', there would be an expectation that I should be modeling right relations for the students. I took up that responsibility as much as I could, and gave myself permission to recognise that I was also learning how to be with difference and to relate cross-culturally, and that it would be important for me to accept that I was likely to make mistakes. What would be important would be taking accountability for and learning from my mistakes. I felt very deeply moved by this experience. I had a kind of 'aha moment' about why I love dragonboating (a form of ecomotricity that I had been introduced to the year I applied to begin my PhD). I experience something spiritual about this way of being with and on the water together with others. Later, at home, I gathered my thoughts and feelings that could not all be articulated in thoughts and words.

Figure 2. Ocean canoe trip on Salish Sea with Indigenous family from Squamish Nation.
Photo by Sarah Van Borek (2018).

3.1.7 Pilot course iterations from teaching practice

From 2012-2017, I had offered a variety of courses at ECUAD which engaged students in site-specific media projects aimed at social and ecological justice, and which culminated in a public engagement event. The environmental focus varied from one year or one term to the next (e.g. natural capital of wetlands and beaches in 2012-2013; rewilding in 2013-2014; green corridors in 2014; ocean revitalisation and forests in 2015; and estuaries in 2016-2017). The public engagement events almost always took place at a museum, with the exception in the fall of 2013, when the event took place at a local cultural centre because the Museum of Vancouver exhibit, of which the students' work was part, was still under construction at the time. People from outside the university were included in the courses, where students had interviewed them as part of their projects. In those early years, I referred to them as 'local experts'. Sometimes these would be Indigenous people because they would have a preexisting relationship to a particular site. There had not consciously been any overt aims around reconciliation at that time.

When I had taught previously at ECUAD, it had been in Spring or Fall terms where courses consisted of 12-14 weeks. The 2018 pilot course would be the first time I would be offering this kind of experiential course in a condensed Summer term format. ECUAD Summer terms were seven weeks, and I chose to condense the course into five weeks. I hoped this would be sufficient for nurturing the kinds of relationships intended, as well as for providing the space for creative production and reflective practice. The summer weather certainly proved to enable deeper engagement with the outdoors. There was also flexible scheduling, instead of what was previously three hours of contact time per week, which created openings for a variety of experiences and learning environments to become part of the curriculum. This included taking a field trip to Burnaby Mountain to spend time with an Indigenous-led protest camp, opposing the Kinder Morgan oil pipeline expansion project, called Camp Cloud,[12] and to visit their Watch House called Kwekwecnewtxw, meaning ‘a place to watch from’. A sign outside the Watch House read: “In Coast Salish spirituality and culture, Watch Houses have been used since time immemorial to guard the territory from enemies” (protecttheinlet.ca).

Figure 3. Watch House on Burnaby Mountain as part of protest against expansion of Kinder Morgan oil pipeline. Photo by Sarah Van Borek (2018).

[12] Shortly after our field trip, Camp Cloud was shut down by local law enforcement authorities.

Figure 4. Flotilla, or floating protest, in Burrard Inlet against expansion of Kinder Morgan pipeline.
Photo by Sarah Van Borek (2018).

This course involved a conscious focus on water, relational approaches, and reconciliation aims. This was the first collaboration with NEC and the Beaty Biodiversity Museum, and the first time to strategically include Indigenous perspectives through Knowledge Keepers, guest lecturers, and field trips.

3.1.8 Disrupting narrative power

The importance of narratives/counter-narratives had been growing in my understanding since the start of my PhD, so with this course I piloted a workshop right at the start dedicated to what I referred to as Narrative Power. This was intended to raise students' awareness of dominant narratives at the beginning of the course in the hope that this would be present throughout the course. My thinking around this was influenced by the work of the *Centre for Story-Based Strategy*, particularly Reinsborough and Canning's book *Re: Imagining change*: *How to use story-based strategy to win campaigns, build movements, and change the world* (2010), and Bekerman and Zembylas's book *Teaching contested narratives: Identity, memory and reconciliation in peace education and beyond* (2012). When I first asked the class if anyone was familiar with the terms 'public narrative' and 'dominant narrative', I was met with blank stares. I found myself explaining that when a dominant public narrative works well, we do not think of it as a story and simply take it for granted as the way things are, and how this influences the way we make choices and live our lives. It helped that, in the

morning, I had had a conversation with Alaya clarifying that one of DSF's goals in working with ECUAD was to engage young people in shifting the dominant narrative away from believing that the impacts of colonisation were a thing of the past, to one that recognises the impacts of ongoing settler colonialism. For the workshop, students watched short videos I had selected which related directly to themes including: what knowledge is valuable, the identity of Canada and its relationship to colonialism, and the growth economy myth and the role of capitalism in resource extraction and environmental degradation. Following the screenings, students were tasked to identify dominant narratives and suggest alternative narratives which they then presented back to the class in a creative form.

One field trip, which included an exploration of narrative power, took place at the Beaty Biodiversity Museum, where our course's public event would eventually be hosted. The museum is part of the University of British Columbia and consists mainly of preserved animals in glass cases labelled with scientific names and information. The visit started with a guided tour of the exhibit space and was followed with an activity meant to introduce students to the concept of 'photovoice' (Wang & Burris, 1994) while engaging critically with the museum. The prompt was for students to take photos of anything they found particularly interesting, and then later, in pairs, to discuss these photos. Students were asked to first share without their partner being allowed to ask questions, and then for their partner to ask specific questions. This was meant to create grounds for us to discuss differences in power relations when one person is allowed to ask questions (and direct the topics, themes, issues, story) versus creating space for someone to share what they feel inspired to share. This would be an important approach that students would carry over in their meetings with Knowledge Keepers. Knowledge Keepers' photos were eventually part of an exhibit alongside our public event at Beaty.

The photovoice activity was also followed by a critical dialogue on museum practices that typically include: collecting, organising, labelling, naming, presenting, etc., which communicate specific narratives while silencing others. We discussed the disruptive nature of our plans to be bring Indigenous and citizen science/arts-based perspectives into a science-based research museum, especially one that forms part of an academic institution. The monthly 'Nocturnal' events, the museum's invitation to welcome our event, and rotating visual art exhibits on some parts of the museum's walls, were indications that the Beaty disrupted some of these traditional museum practices already, and that our event would build on this. Museums were recognised by Canada's TRC as important players in the reconciliation process, for example, in their call to action #67:

> We call upon the federal government to provide funding to the Canadian Museums Association to undertake, in collaboration with Aboriginal peoples, a national review of museum policies and best practices to determine the level of compliance with the United Nations Declaration on the Rights of Indigenous People and to make recommendations. (TRC, 2015a, p.8)

The Canadian Museums Association (CMA) had a Reconciliation Programme funded by the Government of Canada that, in Spring 2020, indicated it was gathering stakeholder input to prepare a "recommendations report and learning tools for the inclusion and representation of Indigenous communities within museums and cultural centres" by Fall 2021 (Leduc, 2020). Museums contain possibilities for shifting dominant public narratives about what is valuable, important, and has authority. They provide spaces for bringing together multiple voices (i.e. science, citizen science, traditional knowledge, arts, etc.). They can offer public education which supports knowledge sharing and community building between those inside and outside the academy.

3.1.9 Paper iterations through peer inputs

Prior to presenting the paper at *The Decolonial Turn* conference (2019), I shared a draft with a trusted friend and PhD colleague. She had some very important comments and questions, which inspired me to think more deeply around the ideas and issues surfaced. A key question she raised was how decolonisation and reconciliation speak to each other. She felt my paper suggested the two concepts were less in tension than they may be in South Africa. In Canada, my experience has certainly been that the two concepts are treated as being related, particularly in relation to the call for transformations in epistemologies, knowledges and relations of power. As I described in section 1.3 *The notion and (im)possibility of reconciliation* of the *Introduction*, Canada's TRC, in their *Calls to Action* (2015), called for greater integration of Indigenous knowledge and ways of knowing in schools; along with "building student capacity for intercultural understanding, empathy, and mutual respect" (TRC, 2015a, p. 11). South Africa's TRC was intended "to bring to light and address the injustices and crimes committed under apartheid" (Horsthemke, 2005, p. 170). Recognising the Bantu Education system for Black South Africans as one of apartheid's injustices meant that reconciliation in South Africa would also necessitate educational reform. When it comes to decolonising education in Canada, Mi'kmaw educator of the Potlotek First Nation, Battiste (2013) argued for "nurtur[ing] Indigenous knowledge, its dignity, identity, and integrity by making a direct change in school philosophy, policy, pedagogy, and practice" (p. 99). In South Africa, Kumalo and Praeg (2019) argued that decolonisation is "epistemic justice for peoples of the Global South" (p. 2).

My friend/colleague wondered how the course might be experienced by students who self-identify as being Indigenous, since the students in this pilot course all self-identified as being non-Indigenous. This was a very important question. The course was not designed specifically for non-Indigenous students, as there was a possibility that students registered for the course might have self-identified as being Indigenous. My hope and aim with the course was that Indigenous students would also develop sensibilities and abilities towards reconciliation through the course. Some of how this happens might vary slightly for Indigenous students, perhaps in witnessing more of their own peoples' ways of knowing and being integrated respectfully into the approach; being invited to bring their Indigenous languages and worldviews into the course; having opportunities to be guided/taught/mentored, and to build relationships with, Indigenous people from the community; witnessing the relationship building between their non-Indigenous peers and these Indigenous people from the community; and through positive and meaningful interactions with their non-Indigenous peers, course facilitator and broader community (e.g. through our public event).

My friend/colleague had pointed out that the term 'Indigenous' would need to be used with caution as I shifted between discussing the Canadian and South African contexts. I had initially referred to 'Indigenous peoples' and 'African peoples' and their knowledges as two separate concepts. In the Canadian context, it is quite obvious that Indigenous peoples refers to the original inhabitants of the land. In the South African context, not all persons self-identifying as African will self-identify as being 'Indigenous' to South Africa. For example, the original inhabitants were the Khoisan peoples, who were categorised as 'Coloured' by the Apartheid government. However, some people who were categorised by the South African Apartheid government as 'Coloured' and whose ancestors were brought from Asia (e.g. Malaysia) would not self-identify as being Indigenous to South Africa. It is also important to recognise that many Africans living in South Africa have ancestral lines linking to tribes that migrated to South Africa from other parts of the continent. They may be 'Indigenous' to their place of origin, but not to their current place of residence.

3.1.10 Paper iterations through reviewer inputs

The majority of my interactions with the editorial team from the *Journal of Decolonising Disciplines* (JDD) were by email exchanges with the editor. Some of my communications were also with a PhD candidate at the University of Pretoria, and a Communications staff member in the Faculty of Humanities, University of Pretoria. Below is an abbreviated timeline of some of my key interactions with the journal team beginning from paper submission:

13 September 2019, I submitted my manuscript to the JDD via their online portal.

2 March 2020, I received notice that my paper was accepted for publication pending minor revisions.

14 April 2020, I submitted my revised paper.

15 April 2020, after several email exchanges with the editor, I was advised that I could refer to him on a first-name basis. This was an interesting moment for me, because that small shift had me experience a very different sense of power dynamic between the editor and I. I felt suddenly more like we were colleagues and less like a student wishing the journal would accept my paper.

17 July 2020, I received a publishing agreement from the JDD which I signed and returned.

After persistent follow-up on my part, it was confirmed that the paper would be published. I recognise that most of this process unfolded amidst the global COVID-19 pandemic which presented unforeseen delays. While I understand that editing and publishing processes are lengthy processes, especially while in the context of a global pandemic, delays can create a barrier in my ability to share knowledge alongside my study (and/or when it might be most timely and relevant) and can impact on my relationships with the various stakeholders who contributed to the research. This is part of the territory that needs to be navigated while striving, as I do, to bridge between academia and the broader community. I have personal and material supports to enable persistence to be relatively easy; someone without these supports may give up and their contributions to knowledge would then not be shared more broadly via academic journal publication.

3.1.11 Developing writing in conversation with reviewers

The journal's blind review process raised important and critical questions. Responding to these pushed me to deepen my thinking, understanding and articulation of these concepts, and this would consequently influence the shape of the next iteration of the curriculum.

Some feedback was related to the content, structure, organisation and overall flow of the paper. While one reviewer commented that the paper was well written and powerful, reviewers thought it could be made more impactful with some expansion. They also felt it came across as a process of learning (referring to my praxis process) that was not a contested practice and suggested this could be probed in more detail. One reviewer felt an explanation of which particular phase of the larger

PhD praxis process this paper fitted into was necessary. Another felt the title needed to be more specific (i.e. not simply 'art-based', but which artistic discipline more specifically), and needed to speak to all of the key components of the curriculum, including the focus on water. The original title did not actually mention water, which I realise was an oversight. This focus on water needed to be clearer from the start, with the water context further clarified.

Some feedback challenged me to consider my positionality and ethical considerations linked to both processes within the curriculum, and my claims about the curriculum. There was a question around what I was implying when I initially wrote, "my position as a Caucasian Canadian in a teacher role can be decolonising". Was I defining all White persons as colonisers? What kind of teacher must change? How does 'changing lenses' contribute to actual change? What ethical considerations had I factored in, in addition to cultural and historical ones? Can the distinction between Eurocentric thinking and Indigenous thinking be applied to all subjects?

Some feedback called for the structure and details of course activities to be further unpacked, including how and why certain methods and approaches were chosen. This was very helpful, because as the teacher-researcher deeply embedded in the process, I could easily overlook which details, or how much detail, was required for others to grasp how the curriculum unfolded. To meet my goal for my PhD to develop a model curriculum that could be taken up by others and in other contexts, I needed to include enough detail so someone else would be able to adopt some or all aspects of this curriculum. One reviewer probed for more details about some aspects of the design of the curriculum, for example, whether the field trip to the Native Education College and other activities were co-designed or not. They also asked for clarification around the canoe trip with the Indigenous family – what the engagement entailed and how this was negotiated between the family and the students. This comment reminded me that the relationships and related power dynamics that were present in the planning and development of the course were important to understanding the overall impact of the course. For example, ethical considerations and practices could be present within the enactment of a curriculum but lacking in the design of a course, or vice versa. In the discussion section, I pointed to three strategies to reconciliation education I learned from reading the book *Teaching contested narratives*: *Identity, memory and reconciliation in peace education and beyond* (2012) by Beckerman and Zembylas. As written in Paper 2, these strategies are part of what Bekerman and Zembylas referred to as creating 'dangerous memories'[13]: "(1) '[De-essentialising]

[13] 'Dangerous memories' are memories that can counteract hegemonic narratives (Bekerman & Zembylas, 2012, p. 22).

memory and identity'; (2) '[creating] opportunities for anamnestic solidarity',[14] and (3) '[highlighting] common suffering and common humanity'" (2012, as cited by Van Borek, 2021a, p. 35). It was eye-opening to be introduced to these concepts, the ways that narratives link with memory and identity, and the ways that memory and identity can contribute to creating or resolving conflict. I could see quite clearly how these three strategies surfaced in the *Making Wave[form]s* curriculum, and initially put my ideas forward in brief statements. A reviewer asked for more unpacking of this. The process of re-writing this section pushed me to think through in greater detail how exactly I saw this working, and to find the most appropriate language with which to articulate this change.

Some comments nudged me to refine my concept of reconciliation. It was felt that I needed to clarify the aims of the research as it related to reconciliation. One reviewer felt the research was more about experiences and feelings. I found this quite interesting because, while I agreed that I needed to clarify my concept and aims of reconciliation, the feelings and experiences were key to this and may not have been part of the reviewer's understanding of reconciliation. There was a comment about my abstract wherein the reviewer asked 'reconciliation of ???'[15] This was a pivotal moment because it challenged me to articulate very specifically who/what I was aiming to reconcile. Upon careful consideration, I decided on 'diverse peoples and ecosystems' because I recognised that this was about relationships between peoples and between humans and the wider-than-human world.

While this paper was about a pilot course that took place in Canada, I stated in the article that I was intending to apply the curriculum in the South African context. Some reviewer comments raised questions specific to the South African context, which helped with envisioning how this curriculum might be adapted for South Africa. In an introductory paragraph, where I outlined some of the similarities in Canada and South Africa's histories, a reviewer suggested there may be similarities in how environmental management had been a technocratic perspective that did not account for local knowledge, and that it may add value to surface this along with related climate and environmental challenges in both contexts. I was also pointing to colonisation as the main root cause for racialised water inequalities. One reviewer suggested that there were also current actions and views shaping how resources are valued in the neo-liberal context of South Africa, and asked if I could comment on

[14] ".. .it is not that the unjust past and the suffering are being forgotten. Rather ... the anger and the hatred'" (Bekerman & Zembylas,2012, p. 203) attached to them.

[15] Since submitting my PhD proposal, the key research questions for my PhD research project were updated to include 'diverse peoples and ecosystems'.

this in a Canadian context. That set me off on researching literature around the influences of technocracy, neo-liberalism, and similarities in environmental challenges between Canada and South Africa. From the literature, I saw that technocracy and neo-liberalism were current manifestations of systems that were put in place through colonialism, so they afforded an expansion of my thinking through acknowledging the intersectionality of issues influencing water inequalities. This linked directly to some of my background information about the 2018 Cape Town water crisis, which a reviewer also probed for more explanation around debates about whether or not this really was a water crisis and what had generated this debate.

In my methods section, I had initially stated I was adopting a "generative research approach that involved the co-construction of knowledge" (Van Borek, 2021a, p. 16). A reviewer questioned whether this was actually a method, or rather a frame of knowledge, and requested that I include references of similar approaches to support this claim. This motivated me to look further into the work of other scholars practising knowledge co-production (see Djenontin & Meadow, 2018; McAteer & Wood, 2018; Lazarus, Taliep & Naidoo, 2017), and to affirm that this was a method I was applying.

In a discussion section around the decolonial turn, I had put forward an opinion that it involved "not necessarily or only changing the positions of power in an educational institution" (Van Borek, 2021a, p. 33). I was asked to expand on this, as this was seen by the reviewer as quite important. I chose to expand on the importance of institutional culture, after a personal exchange with a colleague in South Africa deeply moved me to reflect on the psychosocial implications of this. This colleague, who had revealed personal challenges he was facing as a Black academic in paving the way for young Black students, also pointed me to the story of a former UCT professor who had taken his own life (Isaacs, 2018). The news stories of Professor Bongani Mayosi disturbed me deeply, and I felt that this potentially grave impact of institutional culture was something that I was not hearing about in the decolonial discourse in Canada, and that, therefore, needed to be highlighted. As I progressed through my PhD, and the development of further papers, I started to refer to the institutional culture, and eventually 'hidden curriculum' (Le Grange, 2016) as part of the problem of colonisation in education that needed to be part of the decolonising project.

After I had attended to the initial round of reviewer comments, there were minor copy edits requested which I subsequently reviewed and responded to.

3.1.12 Relational sensibilities and abilities towards reconciliation

This paper represented my first application of my original tool of analysis – a set of questions based on relational and reconciliation education theory applied to my aims – to the curriculum. This is outlined in Table 1 of Paper 2. Because this was a pilot course, which took place even prior to the completion of my PhD proposal, I was not yet able to interview students about their experience. For this reason, this analysis was based on my reflective observations and narrative analysis of students' videos resulting from the course. The videos are publicly viewable on YouTube (and links are embedded into the *Climate for Changing Lenses* website, found in the Introduction of this thesis).

3.1.13 Narrative analysis of students' videos

This paper represented my first application of narrative analysis to videos. As described in section 1.7.9 Methodologies for data analysis (in the Introduction) and reiterated through Papers 2, 3[16] and 4, I applied a *Narrative Analysis, Constructionist Approach* "to explore how narratives functioned discursively between the personal, social and cultural via relations" (Squire, Andrews & Tamboukou, 2008). I found that this method of analysis felt like a language I could grasp well because of my background in media production, and teaching media production, which engaged me in ongoing practices of meaning-making over many years from both the content, style and creative elements of videos. Bringing the lens of relationality and reconciliation to the narrative analysis was a first for me, and I found this process both challenging and rewarding. It required me to straddle a careful balance between looking in the data for specific things, while retaining an openness to allowing things to surface from the data. It was also a shift for me to start seeing students' videos, and videos in general, as 'data'. It was a great walk-the-talk moment of bringing the concept of multimodality, that I was advocating for in this curriculum, to the analysis stage of my own research process.

3.1.14 The challenge with identifying traditional territories

Creating Table 1 in Paper 2 was complex because it required me to locate the water bodies selected for the course inside particular First Nations' traditional territories and, as I learned, that information was not so readily or clearly available to the general public, and information may evolve as new information becomes available. Having lived and worked in Vancouver for many years, I had been in many events that opened with a land acknowledgement describing the unceded and traditional

[16] In Paper 3, which applies posthuman theories, "I did a posthuman narrative analysis using Arndt and Tesar's (2019) post-qualitative conceptualisation of narrative as 'dreaming/s'" (Van Borek, 2021b, p. 108).

territory of the Musqueam, Squamish and Tsleil-Waututh peoples' on which we were gathered. I had also heard the use of the broader term Coast Salish Peoples. I had further started to hear about some additional nations – Stó:lō, Kwantlen, Tsawwassen – and I had realised I was unclear of where the boundaries of territories lie, if such a concept of boundaries was even feasible. I had also realised I was trying to locate waters, rather than land, within a nation, and that waterways flowed through lands and territories which made locating their so-called 'boundaries' more problematic. I sought to reach out to the appropriate authorities for this information, so I started by contacting Metro Vancouver Information Centre (icentre@metrovancouver.org), the local government organisation that coordinated watershed tours. I then received an email from Metro Vancouver's Supervisor, Indigenous Relations, Marino Piombini (who gave me permission to include information from our emails in my research). Piombini sent me a PDF map of 'Statement of Intent Boundaries for First Nations within the BC Treaty Commission (BCTC) Process and Accepted by the BCTC' and suggested I might also want to check the Consultative Areas using the Province's First Nations Consultative Areas Data Base: http://maps.gov.bc.ca/ess/hm/cadb/. I reviewed the resources that had been provided to me and had further questions, which I sent in a follow up email to Piombini that read as follows:

Dear Marino,

Thank you very much for this. This is very helpful. I do not see the Squamish Nation represented on the map you supplied. Why is that? Also, is it appropriate to include the name of a treaty group when listing traditional territories? Or does that relate more specifically to modern negotiations with the government for consultation purposes? I used the map you provided to pull out the information below. If possible, can you please confirm if this is correct in terms of whose traditional territory each water body falls within? Sometimes it is a bit tricky to distinguish the borders of territories on the map: False Creek — Squamish, Musqueam and Tsleil-Waututh Nations; Sturgeon Banks/Lulu Island Foreshore Marsh — Tsawwassen First Nation, Musqueam Nation and Tsleil-Waututh Nation; Burrard Inlet — Musqueam, Squamish and Tsleil-Waututh Nations, and Hul'qumi'num Treaty Group (Stz'uminus First Nation, Cowichan Tribes, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, and Penelakut Tribe); Squamish River Estuary—Squamish Nation and Tsleil-Waututh Nations; Still Creek—Musqueam and Tsleil-Waututh Nation.

Thanks,
Sarah

9 July 2020, Piombini responded to my query as follows:

Hi Sarah,

I think the reason the map does not include all of the possible First Nations, including Squamish Nation, is that it is primarily focused on those First Nations that have traditional territories (in whole or in part) south of the Fraser River.

It is indeed tricky to make decisions with respect to traditional territories. We don't use traditional territories for that reason. We use Consultative Areas – which are larger than traditional territories – but it provides a much more accurate account of which First Nations have interests over certain areas. Traditional territories are used for treaty negotiation purposes to establish a statement of claim area (and potential treaty title). Consultative Areas are used more to identify where First Nations have potential treaty titles as well as rights to practice their culture (e.g. berry-picking, conducting ceremonies, hunting, fishing, etc.). It's a more established way of day-to-day interactions with First Nation and to identify where we send our referral letters related to construction projects that we need to undertake or who to engage with on various management plans (e.g. Liquid Waste Management Plan or Regional Growth Strategy).

I've both run and attached the reports from the Consultative Areas Data Base for your reference should you wish to use these instead of traditional territories.

On quick glance at your traditional territories listings below, I note that Sto:lo Nation and Sto:lo Tribal Council are not included and should be. Unfortunately, however, I don't have the time to check on all the traditional territories as I don't have all of the information for those First Nations outside the Metro Vancouver region. A safe-bet strategy would be to use the Consultative Areas listings (which provides all of the potential First Nations) and look up each of the First Nations listed on the Internet to find their traditional territories.

I hope this helps you in your search, but do let me know if you have any other questions.

Regards,

Marino

I had considered contacting some of the Indigenous persons who had participated in my course, but I questioned this idea because I felt it was unfair to assume or expect that simply because someone is Indigenous, they should be the authority on traditional territory boundaries for the region. In digging for other options, I also came across a very interesting web resource called Native land (https://native-land.ca/). When you first visit the website you find a 'Native Land Disclaimer' advising visitors that the map is an imperfect work-in-progress with many community contributors and that the map "does not represent or intend to represent official or legal boundaries of any Indigenous nations" (Native Land, 2021). This website was started by Victor Temprano:

> a settler living in Vancouver ..., in late 2014 as a hobby project, after attending pipeline protests and beginning to look more into the traditional territories of different nations in relation to resource development. Victor is the CEO of a small tech company ... which focuses on interactive mapmaking and also works in the area of Indigenous education and language revitalization. (Native Land, 2021).

The website is currently Indigenous-led, run by Native Land Digital, a non-profit organisation created in Canada in December 2018, with non-Indigenous people also contributing to the Advisory Council (Native Land). In the 'About' section of the website, it is clearly stated that this is not a suitable academic survey of traditional territories as, "the maps are constantly being refined from user input. These are meant more for the sake of helping people get interested and engaged" (Native Land). The website has a page dedicated to "Becoming an Active Agent of Reconciliation" (https://native-land.ca/staging-site/becoming-an-agent-of-reconciliation/).

I decided to follow the process that Piombini suggested of using the Consultative Areas reports to look up all of the potential First Nations, and then looked up each of the First Nations listed on the Internet to find their traditional territories as indicated on their websites. I put forward in my paper information that was publicly available through the official websites of various First Nations and cited these. I have also since come across the First Peoples' Cultural Council First Peoples' Map of B.C. (https://maps.fpcc.ca/splashscreen) that identifies language regions, place names, arts and cultural heritage places.

3.2 Abstract conceptualisation

To what extent have I been able to embrace decoloniality within this phase of my PhD praxis process? To answer this question, I critically analyse my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* I outlined in my introduction relate to this phase of my PhD praxis process: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum.

3.2.1 Relationality

The heart of this phase of my process was establishing relationships with course partners (e.g. DSF, NEC, Beaty Biodiversity Museum), Knowledge Keepers, guests lecturers, and field trip guides; which I then connected with students and developed my own relationships with through the course. Through the relationality and multimodality of the course, these were highly affective relations, for example: being moved by Jim Brown's story about living with Boil Water Advisories in his Lytton Band community; being deeply moved by the spirited ocean canoe journey with the Indigenous family from Squamish Nation; singing around a sacred fire with students and Indigenous peoples at the Camp Cloud protest camp; etc. I experienced first-hand the shifting relational contexts of my PhD process: through email exchanges and Zoom calls with people based in Canada as I planned for this course from my home in Cape Town (still transitioning out of the Day Zero water crisis); providing a virtual conference presentation to a South African audience from my temporary accommodation in Vancouver as I taught this course; attending the final Beaty museum event virtually from my home in Cape Town. Along with the students, I moved through an embodied experience across diverse learning environments: an ocean canoe, NEC, Beaty museum, DSF headquarters, etc. I also developed relationships with the Journal's team and experienced a tangible shift in relational context when the editor suggested I refer to him on a first-name basis.

3.2.2 Multimodality

Multimodality started to surface as ever important in this stage of my PhD, notably through the introduction of Slow Media and narrative analysis of students' videos. Slow Media reminded me that the way of telling stories was as important as the content of the stories, and showed me that our relationships to media were also reflections of our relationships with ourselves and with each other. This was important to carry over into narrative analysis of students' videos. I was directly engaged in diverse ways of being, thanks to the presence of guest lecturers and field trip guides who used First

Nations languages, story, song and prayer to share knowledge. Molly O'Ray from Fraser Riverkeeper, in her Water Literacy workshop, introduced me to some innovative modes for facilitating citizen science and public education, e.g. the Swim Guide app and Watermark project. Articulating this stage of my PhD learning process in the form of an academic journal article was both challenging and rewarding. Learning that the paper had a powerful impact on reviewers encouraged me to feel that I had something to contribute to knowledge. Presenting virtually at *The Decolonial Turn* conference in Pretoria, while I was in Vancouver, reminded me of our interdependent world.

3.2.3 Narratives/Counter-narratives

In my growing awareness of the power of dominant narratives and the potential in deconstructing them, I formalised this for the first time into a *Narrative Power* workshop strategically placed at the very start of the course. From this workshop, I learned about some of the dominant water narratives felt by these students, and some alternative narratives they presented. I confronted some dominant narratives I was carrying, which had a direct impact on my overall understanding for this study. For example, Alaya reminded me that settler colonialism was ongoing in Canada and not something that had ended in the past. I had held another narrative that Vancouver had abundant clean water for drinking and recreating. Molly's Water Literacy workshop challenged this by highlighting how the drinking water was also used for flushing toilets, was consumed in daily personal amounts that are some of the highest in the world, and that a problematic stormwater drainage system could leak sewerage into waterways after heavy rainfalls. The critical discussion with students on museum practices while on our field trip to Beaty, and planning for this, encouraged me to think more deeply about the museum practices of communicating or silencing narratives and the impacts of this.

3.2.4 Context-specificity

One of the aims of this pilot course was to do contextual profiling around water in Vancouver as part of my PhD. There were various experiences, places, peoples and water bodies that contributed to my contextual learning. Molly O'Ray's Water Literacy workshop was one of the more obvious ways that I gained a foundational picture of the local watershed, water sources, water provision, management and treatment services, water culture, water policies, water usage, water quality, and citizen-science water engagement initiatives. Through our canoe trip, I learned about the Squamish cultural values and practices related to water, and about the larger economic and political contexts linked to the controversial Kinder Morgan oil pipeline expansion project (e.g. when a Greenpeace boat passed our canoe en route to a protest flotilla). Through students' video projects, which included some of what

they gleaned from meetings with Knowledge Keepers, I learned more about local water bodies. For example, I learned about how the Squamish Estuary's ecosystem had been devastated by surrounding industries and had experienced a significant revitalisation due to long-term rehabilitation efforts led by a range of stakeholders, notably the Squamish River Watershed Society. Through conversations with Alaya and the reports she shared with me, I learned about the Boil Water Advisories in First Nations communities and the racialised nature of water inequality in Canada. Through the writing of the paper, I learned more about how this curriculum might work in the South African (SA) context, after some reviewer comments prompted questions specific to SA. Peer input from a friend/colleague advised me to exercise caution when using the term 'Indigenous' across SA and Canadian contexts. The paper-writing also set me on a journey of locating and naming which First Nations' traditional territories included the water bodies that were part of our class. This exploration allowed me to deepen my understanding of distinctions between traditional territories, consultative areas, reserves and treaties.

3.2.5 Unhidden curriculum

Thanks to the academic freedom afforded to me by ECUAD, I was able to experiment with redefining my role as a university 'instructor,' taking up activities likened more to project coordination and facilitation than 'lecturing'. I did very little chalk-and-talk lecturing while standing at the front of a classroom on the ECUAD campus. In this emergent process, I was reversing the null curriculum[17] by bringing more lateral, university-community collaborations, embodied learning, scholar-art-activism and public education into being. Often I was participating in the learning experience with the students, seated at the same level as them, engaged in the same activities as them (e.g. listening to guests, paddling in the canoe, watching work-in-progress, singing around the protest campfire, etc.). In some ways, this was similar to my previous teaching practice with these types of courses. However, what was new in this pilot was the conscious aim towards reconciliation which specifically included Indigenous perspectives, peoples, and ways of knowing and being. I brought Indigenous people from non-academic backgrounds to lead our class in a variety of learning environments and experiences, and embraced the challenge of modelling right relations with them. I do feel that there were limitations in the depth of input/collaboration in the co-design of the curriculum overall, including assessment. Flexibility in the academic and course structure definitely helped with this.

[17] The null curriculum, here, refers generally to traditional university practices and not specifically to ECUAD which, as an arts-based university, has embraced some aspects of the elements described in some of its curriculum.

3.3 Active experimentation

3.3.1 Recommendations for practising decoloniality

Based on the details outlined in my abstract conceptualisation, I conclude that this phase of my PhD praxis process readily embraced decoloniality in practice. Below I outline some of my recommendations:

Relationality can be practised through establishing and building relationships for co-learning with course partners, Knowledge Keepers, guest lecturers, students, academic colleagues, journal editorial teams, and water bodies. When meaningful relationships are established, there is the potential for this to plant seeds for the individuals and organisations embedded in this rhizomatic network to grow together in the long-term. For example, the relationships with DSF, NEC and Beaty continued from the 2018 pilot into the 2019 iteration of the course.

Multimodality can be an enriching part of the PhD praxis process and for the course convenor of this curriculum building contextual relationships into it. What is considered 'art' can also become 'data' and vice versa, with the rich method of understanding complex phenomena through narrative analysis made possible through multiple modes of 'data' generation. Innovative approaches to modes of doing, e.g. Slow Media, can deepen artistic, research and relational objectives. The PhD scholar/teacher can engage in affective relations in a way similar to what is intended for students, which can increase the scholar/teacher's motivation and potential for connection with students.

Narratives/counter-narratives, when intentionally engaged with, can create openings for the researcher/educator to develop self-awareness of dominant narratives held by them, students, cultural institutions (e.g. museums), and their social context. Understanding the present time as one of ongoing settler colonialism instead of past colonial impacts, for example, shifts the requirements for an effective reconciliation practice. Water narratives directly impact on reconciliation because they speak to water valuing and treatment, which affects water quality and availability (and, therefore, the quality of life of people with access to clean water).

Context-specificity is essential for the PhD scholar/educator to develop a picture of the local watershed and water management system, intersecting issues, social/cultural values, wider-than-human stakeholders in the ecosystem and their web of interdependencies, and historical ties to waters and lands of the place (e.g. traditional territories). This foundation can then be extended to students

and other course collaborators to form the garden inside which the curriculum then unfolds. When this contextual information can be learned through affective relations with people and the wider-than-human world, there is the possibility for sensibilities towards reconciliation, such as empathy and reciprocity, to flourish.

The **(un)hidden curriculum** is made visible through small acts which acknowledge a shift in the traditional 'teacher' role, for example, sitting with the students at their level and experiencing things alongside them. There is an important opportunity, as the 'instructor' to model right relations, which also includes making mistakes, taking accountability for them and learning from them. Wherever possible, input and collaboration with diverse perspectives in the actual course design and preparations is ideal although not always possible. Flexibility in academic schedules and course structures can help with this.

The majority of writing and revisions of Paper 2 took place as I shifted my focus to co-designing and leading a course at ECUAD in 2019. That process, and what I learned from it, is detailed in the metareflection to follow.

CHAPTER 4: METAREFLECTIONS FOR PAPER 3

Paper 3 represented two extremely important steps in the second year of my PhD: 1) a 2019 iteration of the curriculum at ECUAD in the Vancouver, Canada context which would 'officially'[18] form part of my PhD research; and 2) my ethico-onto-epistemological[19] (Barad, 2007) shift to include posthuman theories in my analysis and understanding of my work. The introduction of posthumanism to my study was not a shift away from the theoretical framework of relationality at its heart, but rather an extension of it particularly through Ceder's (2015/2019) *educational relationality,* and Barad's (2007) *agential realism* and *intra-action*. This is detailed in Paper 3 which can be found in the Appendices. I had received ethics approval from Rhodes University and ECUAD's research ethics boards to engage students from the course in the research (with their permission). In addition to my own reflective observations and narrative analysis of students' videos, this meant I would also be able to learn about the students' experiences directly from them through pre- and post-course interviews/questionnaires and students' reflective journal assignments. I was expecting this opportunity to hear directly from students to greatly deepen and enrich my findings. I taught the course 4 July - 16 August 2019. This reflective writing details some of the preparatory work required to set up the course, including the relationships established and navigated; my experiences from teaching the course that are not reflected in the paper but which I feel are important to share as part of my overall contribution to knowledge; and my process of writing the paper, including the revision process with journal reviews, and what I learned from this. This reflective writing follows a similar approach to my metareflections for Papers 1 and 2 by applying Kolb's (1984) Experiential Learning Cycle model for reflective writing, and will include four key stages: 1) concrete experience; 2) reflective observation; 3) abstract conceptualisation; and 4) active experimentation.

4.1 Concrete experience and reflective observation

4.1.1 Context of the paper

My third paper, *Water as artist-collaborator: Posthumanism and reconciliation in relational media arts-based education,* was published by an academic journal called *Reconceptualizing Educational Research Methodology* (RERM) as part of a special issue on *Posthuman Conceptions of Change in*

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[18] By 'official' research, I mean that this had received ethics approval and meant that I would be able to include students' interviews, questionnaires, process journals and videos as 'data'.

[19] Barad's (2007) concept of ethico-onto-epistemology presents these elements as fundamentally inseparable.

Empirical Educational Research. I had initially submitted my abstract in response to RERM's SI 1 December 2019. In a letter I received from the Editorial Board as they moved through my abstract, they indicated that, while publication was not guaranteed, they would provide constructive feedback throughout the process. The process of writing/revising Paper 3 was very interactive, based on rigorous feedback from RERM guest editors and reviewers. The phased timeline of deliverables required for the journal's SI allowed for this. My interactions with RERM's guest editor team centred around the following timeline:

- 15 February 2020: Deadline for papers (preliminary papers of five pages maximum)
- 15 March 2020: Response on papers from SI editors
- 15 June 2020: Deadline for full articles
- 1 September 2020: Response on full articles
- 1 November 2020: Deadline for major revisions (selected for second review)
- 8 December 2020: Second peer review and editors' feedback
- 5 January 2021: Deadline for further revisions
- 14 January 2021: Response on paper
- 1 February 2021: Deadline for further revisions
- 3 February 2021: Paper accepted for publication
- 10 February 2021: Deadline for minor revisions
- 2 March 2021: Formatted proof received for approval
- 5 March 2021: Paper published

I was delighted by the way this publication opportunity came about, as it speaks to a period of transformation in my thinking which had important implications for my teaching and research practices. I had initially written a version of this paper which was structured more as a case study report of the 2019 ECUAD course and entitled *A media arts-based model of decolonised water education re-storying relations towards reconciliation*. I wrote it up within a month of the completion of the course, and it was largely thick description of my initial analysis of what happened within the course. My analysis in that initial paper was focused on the impact of the course on students, using my original tool of data analysis (presented in Paper 2, pages 23-27) which examined the relational sensibilities and abilities towards reconciliation that I was aiming to cultivate in students through the course. At that time, the paper had limited references to scholarly literature. I submitted the original version of the paper to the *Canadian Journal of Environmental Education* (CJEE) 1 November 2019. On 5 November 2019 I received an email from one of the CJEE Editors declining my submission. I responded asking for additional information, emphasising that, as a PhD student and educator, I would particularly appreciate feedback. I was advised to engage with a larger

selection of relevant academic literature, but also to consider a more appropriate venue for 'emerging findings,' since this paper reflected only a part of my praxis process. It was suggested that I might try "a practitioner-oriented publication or the 'research notes' option available in some academic journals". I took this feedback to heart.

In my process of sourcing relevant academic literature and building on my writing, I came across a publication called *Cutting through water: Towards a posthuman theory of educational relationality* (2015) by Simon Ceder. The terms 'water' and 'educational relationality' first caught my attention. Prior to this, I had not engaged with posthuman theories. As I read Ceder's work, many things resonated with my practice. I downloaded the work from Academia.edu, an online network for researchers to connect and share work. While downloading the paper, a pop-up appeared inviting me to send Ceder a message. I did, thanking him for his work and letting him know that it was extremely relevant to my PhD research. Soon thereafter, I received a message from Ceder who invited me to submit an abstract for RERM's SI on *Posthuman Conceptions of Change in Empirical Educational Research,* for which he was one of the guest editors. I reworked my abstract from the CJEE paper and submitted it on 1 December 2019. By 15 December 2019, I received news that my abstract had been accepted and that I was invited to submit a five-page paper as part of the next stage. This sparked in me a newfound excitement to explore the growing movement of posthuman theories and scholarship, especially what I was finding that showed links to decolonising education (Barreiro, Vroegindeweij, Forte & Zembylas, 2020; Preez & Simmonds, 2020; Zembylas, 2018; Herbrechter, 2013); and environmental education (Riley, 2019; Malone, 2017; Haraway, 2016; Pacini-Ketchabaw & Clark, 2016; Rowan, 2015). The most significant shift in my analysis for Paper 3 was in a move away from only looking at the impact of the course on the students (my original tool of analysis used in Papers 1 and 2), to looking instead at what emerged from the relationality in the course, including all related actors (human and nonhumans). Posthuman theory had not been part of my thinking in the design or enactment of the 2019 curriculum, so this would also mean applying a posthuman reading of the data as part of my methodology of the writing of the paper. I elaborate on this briefly in this reflective writing's section 4.1.7 *Paper iterations through reviewer inputs.*

4.1.2 Building on existing partnerships

It was an enormous advantage, for the 2019 iteration of the course, that I could build on the partnerships and relationships formed in 2018. For example, the course was again hosted by ECUAD. Our class was again invited to NEC for a tour which included traditional drumming. The final event was hosted again by the Beaty Biodiversity Museum. Staffing positions changed at DSF

so that staff availability became quite limited. Some DSF staff were still involved in the programme through one-off engagements. For example, Panos Grames, Senior Public Engagement Specialist, joined a class as a guest to share his experience in impactful storytelling; and Brendan Glauser, Communications Director, provided a short presentation at the start of our public education event. Gregory Coyes, Métis/Cree filmmaker, joined us again as a guest lecturer to present about Slow Media. Molly O'Ray, from Fraser Riverkeeper, led a Water Literacy workshop again. I was not able to reach the Indigenous family from Squamish Nation (who had led our ocean canoe trip in 2018) during course planning, so this time around our class went on a guided cultural ocean canoe tour with the Tsleil-Waututh First Nation, led by 'Whonaok' Dennis Thomas. I connected with 'Whonoak' Dennis through the website of his company, Takaya Tours. This time our canoe trip took us eastward along Burrard Inlet around Cates Park, whereas in 2018 it took us westward along the Salish Sea around Stanley Park.

Figure 5. Ocean canoe ride along Burrard Inlet led by 'Whonoak' Dennis Thomas of Takaya Tours. Photo by Sarah Van Borek (2019).

A new partnership was established with the University of Cape Town's (UCT) Future Water Institute (FWI) and a Research Fellow (formerly Postdoctoral Research Fellow) there named Amber Abrams. This was made possible through my PhD research in South Africa. One of my contacts at UCT who I had been discussing possibly partnering with for my Cape Town iteration of this curriculum had suggested I connect with Abrams because of our shared interests in water, arts-based engagement

and museums. We had begun collaborating through arts-based public engagement workshops on water issues linked to the *DayOne* podcast in early 2019 as detailed in my Paper 1 and metareflections about Paper 1. Part of Abrams's work involved spearheading a project she called the *Cape Town Museum of Watery Relations and Uses*.[20] In a collaborative proposal we co-wrote linking *DayOne* podcast workshops to the museum (referenced in the metareflections for Paper 1), Abrams described her museum project as follows:

> This interactive hub for the FWI brings together our various skills, projects, data; and provides a place for citizens to contribute their own perspectives on water, its values and their interactions with it. This site will host an interactive map, which will provide an easily accessible interface that can become a one-stop-shop for all southern African water-related research and resources. I am also working to engage young people in discussions around valuations of water; borrowing from the concept of a Water Museum, this project aims to develop and collaboratively create, with citizens of South Africa, an engaged water museum and interactive online map of water users and their own water stories.

The *Water Museum* Abrams refers to in her description links to a global network of water museums supported by the United Nations Education, Scientific and Cultural Organization (UNESCO) and currently tracked through the following website: https://www.watermuseums.net/. Abrams's project was the first water museum in Africa, based on the information available on this website. There were no water museums shown in Canada either. Because Abrams and I had already been discussing how the 2019 Cape Town iteration of the *Making Waveforms* course could be linked to her *Museum of Watery Relations and Uses*, it seemed appropriate to link the 2019 Vancouver iteration of the *Making Waveforms* course to the museum as well. We agreed that the dialogue of water stories from Vancouver and Cape Town could offer rich learning opportunities.

4.1.3 Selecting water bodies and Knowledge Keepers

As described in the metareflection for Paper 2, a key part of preparing the curriculum involved choosing specific water bodies for students' site-specific creative work, and sourcing Knowledge Keepers with relationships with those water bodies. It is an option for these to be repeated from one iteration of the course to the next, however, I recommend changing these so that if there are any repeats of water bodies and/or Knowledge Keepers, the repetition happens every few years/courses at

[20] Originally, Abrams referred to this project as the *Cape Town Water Museum* and that is the name reflected in the 2019 ECUAD iteration of the Making Waveforms course materials.

the least. The reasons for this are: a) Knowledge Keepers' availability may be limited; b) the rhizomatic nature of networks of relationships can be supported by extending the reach of participants; c) the focus of the final video projects featured in the public education event should bring something fresh to draw an audience (and provide more expansive public learning opportunities than might be available if you were to focus on the same water bodies and Knowledge Keepers again). So, with the 2019 iteration of the course at ECUAD, I needed to do the groundwork to select these in preparation for the course. Ideally, to align with my aims of reconciliation/ decolonisation, Knowledge Keepers would be Indigenous wherever possible. I was situated in Cape Town when I began exploring possibilities for these. I did want to repeat the way the pilot course included water bodies representing different forms of waterways (e.g. river, lake, ocean).

While researching water bodies, I found a book that inspired a new level of focus to the 2019 course, and a new level of my own transformative experience: *Legends of Vancouver* (1911) written by the late Mohawk/English poetess E. Pauline Johnson. The book consists of a collection of narratives shared by the late Chief Joe Capilano (of Squamish heritage) and linked to Vancouver landscapes, scribed and translated for the first time into written English thanks to a friendship that had developed between Johnson and Capilano. The prospect of having Indigenous narratives of Vancouver water bodies linked to a specific historical moment that we could engage with alongside 2019 interactions with water bodies seemed to be an opportunity for interesting possibilities. Fortunately, this book was available online and I was able to read the legends from Cape Town. I found that several of them linked to Vancouver water bodies, and so I set out to find Knowledge Keepers connected to those water bodies. At a certain point, I connected with a man named John Preissl. He is known as an active Streamkeeper, amongst many other roles, in Greater Vancouver and was referred to me by a fellow educator who is one of my water/reconciliation inspirations. Preissl and I exchanged notes over Facebook Messenger initially then, in our first phone call, Preissl told me that he is Chief Joe Capilano's great, great grandson. The serendipity of this entanglement was incredible. In the end, four water bodies, representing four forms of waterways across Metro Vancouver, were selected for the site-specific aspects of this programme: Capilano River, Deer Lake, Lost Lagoon (wetland) and the Point Grey Foreshore (the last wild beach in Vancouver, hugging the Pacific Ocean). These four water bodies link to narratives in the book *Legends of Vancouver* (1911).

The introduction of *Legends of Vancouver* into my studies, and my life, marked another extremely important change in my own lenses. This time the change in perspective was of the very place where I grew up-the city of Brantford, Ontario. As if to see one more way that we are always already

entangled, E. Pauline Johnson also grew up in Brantford. I recalled playing high school volleyball at a school named after her. Her birthplace and childhood home is now a museum called the *Chiefswood National Historic Site.* I had grown up in Brantford knowing nothing about Johnson or this home. Just before starting this 2019 iteration of the course, I was in Brantford to visit with my mother. She had also never been to the *Chiefswood National Historic Site*, so we visited it together. Johnson's mixed Indigenous/European heritage meant that people from both backgrounds visited the house. Architectural features of the home that left a strong impression on me were the two identical entrances, the North one facing the road where people of European heritage would arrive from horse carriage, and the South one facing the river where the Six Nations (Indigenous) peoples would arrive by canoe. This, to me, spoke of embracing diverse ways of being, doing and knowing. It also made me think about how European colonialists divided and owned the land, which remains an ongoing force in social divisions, while waters, which are challenging to even attach to a particular traditional 'territory,' (as described in metareflections for Paper 2), and which cycle between places and water bodies (including human bodies), seem to connect us. Land divides us. Water connects us.

Figure 6. Sarah Van Borek visits the childhood home of E. Pauline Johnson, now *Chiefswood National Historic Site,* Brantford, Ontario, Canada. Photo by Marian Van Borek (2019).

The importance of the Grand River to Johnson's family caused me to reflect on my childhood memories of the Grand River. I had swum in it, canoed in it, and ridden my bike and camped next to it. I had driven in a car alongside it or over it by bridge more times than I can count. I remember once, as a young adult, seeing Tourism Brantford's slogan as 'the Grand River runs through it' and thinking, at that time, that the city was so boring that that must have been the most interesting thing they could have come up with. Brantford is a small city (the population was around 70,000 people when I was a child), and entertainment-driven social pressures meant bigger cities like Toronto, with amusement parks, concerts, and big events, seemed much more exciting. If I were to see that same slogan today, I would have a completely different response to it. I now understand that a river carries an incredible richness of life, health, culture, spirituality, sustenance, transportation, recreation, history, and more, and the river is so essential to the peoples and the wider-than-human world. The river itself is a dynamic and fascinating being. When I started this course, I decided that I wanted to adopt one practice that I had witnessed some Indigenous people do – to introduce myself by stating which water body was closest to where I grew up. So, I acknowledged that I grew up near the Grand River. Six Nations of the Grand River is the largest First Nations reserve in Canada and falls under Treaty#4 (Province of Ontario, n.d.). In that same visit to Brantford, just before enacting this course in 2019, I walked along an old train bridge crossing the Grand River and documented the moment in the photo represented in Figure 7:

Figure 7. Train bridge crossing over the Grand River, Brantford, Ontario. Photo by Sarah Van Borek (2018).

Embedding the course with Johnson's *Legends of Vancouver*, where century-old stories of waters, originally seen through the eyes of the Squamish Nation and translator/scriber Johnson, painted a picture for ways of being and knowing in relation to water and each other. This link was made ever-more visceral through the participation of Preissl, the great, great grandson of the original storyteller of these legends. Preissl's role as a Knowledge Keeper for Deer Lake (one of the legends in the book), offered a rare form of intergenerational teaching and bridging between legend and lived experience. This enabled us to dig deeply into the power of narrative in de/constructing the systems that hold our relations in certain positions of power. While only one student, Gao, made explicit reference to writing from this book in his video 亡灵岛 (*Deadman's Island*), it nonetheless proved interesting and impactful. This lack of direct uptake by other students of legends in their videos may be partly because linking to the legends was presented as an option and not a requirement. This could be more specifically explored in the future.

4.1.4 Including guests and the challenges to reciprocity

When it came to practising reciprocity with Indigenous participants in the course, I experienced a growing tension between what was expected and what was respectful/appropriate when it came to acknowledgements, remuneration, honorariums, etc., particularly for Indigenous guests in the course. If it could be represented as a relationship status on Facebook, I would select "it's complicated". In recruiting Knowledge Keepers for this iteration of the course, where the minimum request was a one hour in-person meeting with a small group of students, one Knowledge Keeper indicated that an honorarium should be between CAD $200-500 paid in cash before the meeting to cover time and travel, and that it was not meant to be treated as a service. One Knowledge Keeper politely declined the offer of an honorarium, saying it was an honour to share with the students in this way. Another accepted my payment by wire transfer after our time together. 'Whonoak' Dennis Thomas and the team at Takaya Tours provided incredible traditional/cultural knowledge as part of the tour package they offered for standard rates that were listed online and in advance of the trip. A non-Indigenous teaching colleague, who often works with Indigenous collaborators, suggested a gift, instead of money, could also be appropriate. If I am wanting to show respect for Knowledge Keepers irrespective of whether or not they are of Indigenous ancestry, should I also be offering some kind of gift or honorarium to non-Indigenous Knowledge Keepers? One of the non-Indigenous Knowledge Keepers asked for his parking and gas to be covered, to which I agreed. I did not make any further kinds of exchanges with non-Indigenous Knowledge Keepers aside from acknowledgements in credits, research, etc., and feel that was problematic. I later discussed this situation with colleagues

working in local government who were looking to adapt their professional practices towards reconciliation with Indigenous persons and we agreed that it seemed to vary on a case-by-case basis. To minimise awkwardness and maintain positive relations in handling these practices, based on my experiences, I would recommend offering a gift/honorarium for each Knowledge Keeper irrespective of background, checking in with each individual and asking them their preference/practice first, ensuring that the agreements/exchanges made between multiple individuals feel equal, and keeping in open and transparent communication with Knowledge Keepers throughout this process.

4.1.5 Unpacking water narratives and aesthetics

Having deepened my understanding of the power and importance of narrative through my experiences in the 2018 pilot course, and in the writing of Papers 1 and 2, I decided it was essential to begin the course again with a workshop on Narrative Power. This time around, I integrated film narrative into the workshop. In preparation, I sought out films with water stories that would be helpful to show in class. Because of the link to the Cape Town water museum, I showed one short film about the 2018 Cape Town water crisis called *Cape Town: Life Without Water* (2018), which presented lived experiences of the drought across class, race, gender, age and geographic location within the city. This also offered ECUAD students a glimpse into water stories from the Global South, to provide a picture of the bigger context inside which Vancouver and Canada's watersheds connect. In searching for something relevant to the Canadian context, I came across a powerful documentary by director Liz Marshall called *Water on the Table* (2010). This film introduced me to a Canadian author and water activist, Maude Barlow, founder of the *Blue Planet Project,* who was the central character of the film. The film follows Barlow's role as Senior Advisor on Water to the 63rd President of the United Nations General Assembly in 2008/9. This film problematised the dominant narrative of the abundance of freshwater in Canada by exposing the ways the federal government was selling Canada's water to private companies. An unexpected takeaway, for me, from watching the *Water on the Table* film was the emotional experience evoked by the visuals focused on water aesthetics (e.g. the interplay of water with light and movement, patterns, textures, etc.). This was a turning point for me, in my research and teaching practice. I had a growing hunch that focusing one's attention on water aesthetics, both visual and auditory, might create openings for shifting affective relations with water towards sensibilities of empathy and reciprocity. For me, this linked back to how Zembylas (2019) argued that affectivity was important to critical pedagogy, and how affectivity and aesthetics were interwoven in Platz's (2004, p. 257) description of Judith Wright's environmental poetry as an "aesthetico-ethical concept of reconciliation".

In the workshop, it was revealed that most students in this class had never heard of the concept of ‘dominant narratives’ and in explaining what was meant by the term, I made the connection to a kind of subconsciously (or consciously) accepted ideology which was almost invisible and which was so deeply ingrained that we would not question it. As part of the workshop, which asked students to identify dominant narratives in the films, a few groups chose a dominant narrative along the lines of water being a finite resource. Students explained that this has been seized by corporations in the sense of water being a ‘hot commodity’ that gave them a motivator to grow clientele and increase prices. Another dominant narrative initially put forward by students was ‘water is a human right.’ I remarked how, in some contexts, like the Cape Town water crisis, for example, that might serve as an alternative narrative to challenge a dominant narrative. The group’s argument was that this perspective was very human-centred and that water was actually a right for the wider-than-human world as well. I thanked the group for expanding my understanding around this narrative. I tracked and photographed each group’s response on the board.

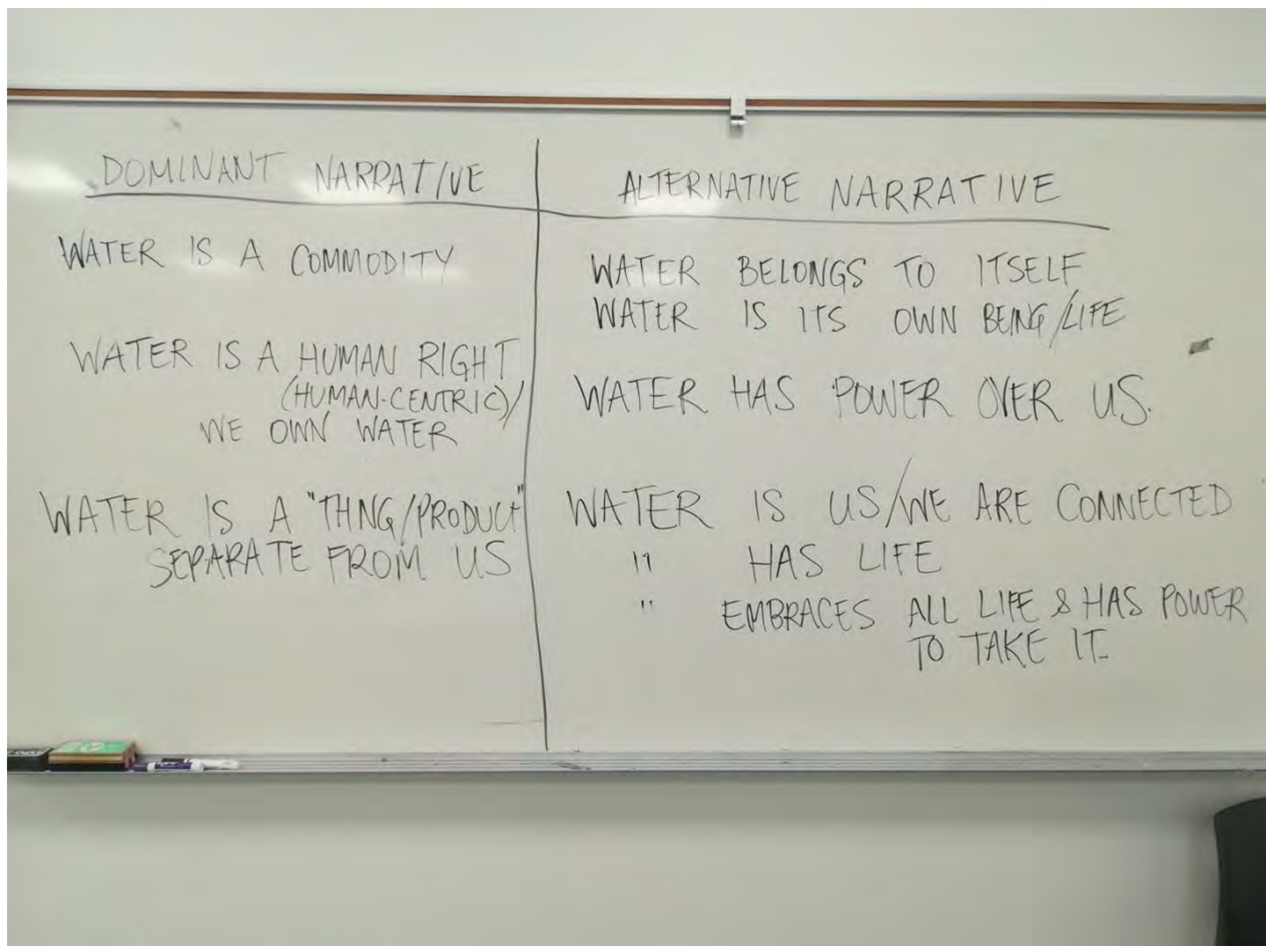

Figure 8: Narrative Power workshop class discussion from Making Waveforms ECUAD 2019 iteration.
Photo by Sarah Van Borek (2019).

Interesting learnings took place when discussing narratives during our work-in-progress critique of students' draft videos, which speak to the challenge of grappling with contested narratives in a social context of difference. In student Shi's video, *Xwmélts'stn/ Xʷməθkʷəy̓ əma?/Capilano* (2019), there was a tension between his sharing of the mistreatment and pollution of water and the history of the displacement of False Creek First Nations forcibly relocated to what is now the Capilano River area, the water body featured in his project. Students felt there were two different stories. I challenged this response by asking whether or not they were actually two stories. I was interested in unpacking what was gained and lost in seeing these two stories as separate, versus seeing them as connected. Connecting the stories revealed the entanglement of entities within the stories, shifting from pre-determined cause and effect, to highlighting ongoing causal relationships (Barad, 2007), and along with it an extended reach of accountability and responsibility. Keeping these stories as separate ran the risk of viewing the symptoms of a problem as its root, and limited the creation of solutions to addressing the symptoms alone. I hold the position that connecting stories in this way can widen the circle of response-ability[21] (Haraway, 2016) and contribute to actual solutions with long-term relevance. I did not impose this view on students, but rather supported them in working through these questions from their experiences. In his final video, Shi addressed this by presenting the intersectionality of social/environmental issues and ongoing settler colonialism, linked in causal relationship with selfishness – which he also acknowledged his entanglements with and response-abilities towards.

One student's project had a serious and heavy tone, so I asked that student about their intentions in creating this tone. I learned that their Knowledge Keeper had shared a sense of doom and gloom in their interactions with the student. While this did not automatically mean the student would adopt the same tone in their project, I do recognise that the perspective(s) of Knowledge Keepers are important to explore in advance of the course if, for example, one's aim (as mine was) is to foster a culture of hope. DSF's Panos Grames also reminded us of the relational aspects of storytelling: identifying what is going to resonate with someone else and the storyteller helping people to 'mine' their emotions. *How* stories are told carry narratives as much as *what* stories are told. Nonverbal dominant narratives seem to surround us and influence our affective relations, for example, body language, tones of voices, presence or absence of peoples, places, and nonhumans in and outside our learning environments can implicitly teach us what to feel in relation to someone or something, including where and when.

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[21] Haraway described 'response-ability' as being "about both absence and presence, killing and nurturing, living and dying – and remembering who lives and who dies and how in the string figures of naturalcultural history" (2016, p. 28).

4.1.6 Living legends of Vancouver: Public education event

On 15 August 2019, we held a public video screening and dialogue event entitled *Living Legends of Vancouver* at the Beaty Biodiversity Museum. The museum is a Western science-based and scientific research influenced cultural institution (natural history museum) housed inside the University of British Columbia (UBC, on traditional Musqueam territory). It mainly consists of preserved specimens of animals and plants collected, organised and labelled according to the biome/regions and/or the historical periods. Museum walls lining the hallways that lead to the displayed specimens often display work by local artists. In the summer of 2019, the museum hosted a special exhibit displaying Indigenous links to biodiversity. Our public screening event took place inside the museum's amphitheatre. The event was marketed by the museum (a sponsored social media blast), myself, the students, ECUAD's Communications officer, and the national broadcaster Radio Canada, which interviewed me about the event on 12 August 2019.

The event was fairly well-attended. Some visitors joined or left our event at different stages, with some remaining for the entire event. As part of the museum's monthly 'Nocturnal' events, the public were also welcomed to explore the rest of the museum. I counted an average of 30-40 people in the audience throughout the event. Two outgoing students co-hosted the event, at my request. In eight years of running courses with public events, the students I invited to be MCs always accepted. I prepared an MC script and invited them to read or adapt it, so they would not feel pressured to 'perform' or memorise anything, and also to be sure that I could organise the flow of the programme in a way that maximised the efficiency in terms of time and potential impact. I also wrote the script to ensure all names/titles of collaborators, partners and students were accurate. The event programme included, in this order: a welcome by a representative of Musqueam; a few brief opening remarks by project partners (including Indigenous, science and arts perspectives to reflect the 'three-eyed seeing' described in my PhD Paper 2); screenings of students' short videos interspersed with short, interactive presentations by student groups; and community dialogue on the themes/issues raised.

The interactive student presentations woven between screenings effectively helped to build our temporary community inside the museum's amphitheatre. I mentored the students in the conceptualisation of these presentations through a public engagement workshop as part of our course. In the real-world context around the time of that workshop, legal authorities were taking

three Indigenous leaders to court for their participation in the Burnaby Mountain protests, which had been part of the course field trips in the 2018 pilot course. One of my teaching colleagues was facing possible prison time for her support of the Burnaby Mountain anti-pipeline protests. This revealed how our efforts around public education of water justice were particularly needed in our social/ecological/political context.

The students did well facilitating knowledge co-creation with the audience through their interactive presentations, which I have since started referring to as 'games' because they are playful and participatory. Two students crafted a game called "Is it flushable?" They divided the audience into two teams, which they named 'Pee' and 'Poo'. They had very professional-looking visuals/text in a slideshow to accompany all stages of the game. One by one, they suggested an item then gave the audience a chance to make a 'Woosh' noise (to reference the sound of flushing the toilet) if they thought they knew the correct answer. Correct answers were rewarded with a special roll of toilet paper. Another pair of students prepared a game based on a popular game known as "Two truths and a lie." They created five different slides with three statements each about their water body. Game contestants were invited to guess which of these three statements was the lie. The statements presented a range of ecological, cultural, historical and political history facts (or fictionalisations) about the lake, much of which they had learned through their meeting with their Knowledge Keeper. A third presentation started with a slideshow of images of the students seen in relation to water, in different contexts all over the world, and had been mined from students' cell phone photo collections. Students explained that this exploration revealed how embedded we and our lives were with water in ongoing ways. They then invited the audience to scan the photos on their cell phones and volunteer to share any they found with themselves and water. The audience contributions, ranging from parent-son swimming lessons to individuals' outdoor adventures, worked well as evidence in this flash collaborative citizen science experience.

When I said goodbye to the students at the end of the course to return to South Africa it was like saying goodbye to new friends. We had learned so much together. Some of the students' films would later become teaching materials in the 2019 Cape Town iteration of the course, which is described in Paper 4 and its metareflection.

4.1.7 Paper iterations through reviewer inputs

When I was first evolving my PhD Paper 3 from the case study report I had submitted to CJEE into the five-page draft paper for RERM, my writing of the paper became an integral part of my method

of analysis. RERM editors pointed out that I needed to articulate the writing of the paper, and how it involved a re-reading (we thought it was a *re*-reading initially) of data using a posthuman lens, as part of my method. In my initial re-reading of the data through a posthuman lens, I developed a new set of research questions.[22] I asked: Why is posthumanist theory the most appropriate one to help understand and articulate the change that is the desired outcome of this course? What/who is being changed in this course, how and why? How does this course move away from binaries? How does posthumanism allow me to expand on my understanding of relationality? How does it help me to see and articulate how, why and for what/whom relations are changing?

As mentioned at the start of this metareflection on Paper 3, Ceder's (2019) book *Towards a posthuman theory of educational relationality*, specifically his concept of 'educational relationality', created an opening for me to see the connection between posthumanism and this curriculum, initially and specifically, due to the media arts (technoculture) aspects and the concept of interconnectedness (including between humans and nonhumans) central to the course. I initially did a narrative analysis of students' videos, looking for signs that students may have expressed an ontology of interconnectedness; and that students may have harnessed media literacies to express more diverse ways of knowing and being. I was growing a hunch that the relational sensibility of reciprocity was supporting the deconstruction of binaries, so I was also looking for expressions of reciprocity in students' videos/narratives.

At first, I had felt that posthuman theories allowed me to look more deeply into my original tool of analysis for this study (which appears in my PhD Papers 1 and 2), where I had developed a set of questions that emerged out of my initial literature review on reconciliation and relational education theory. That tool had been based on my desired change with the course being to transform the students in a way that would have potentially positive impacts on broader social and ecological justice. Applying a lens of posthumanism to my original tool of analysis revealed how, across all sensibilities identified, a moving away from binaries, which is considered part of posthumanism (Braidotti, 2013), was a prominent characteristic of this course. Specifically, there was a blurring of the distinctions between: nature-culture, human-nonhuman, student-teacher, artist-audience, and researcher-participant. In looking to expand my thinking to consider the relational context of the

[22] I emphasise 'initial' re-reading, because at the second peer review stage with RERM, the editorial team and reviewer's feedback suggested that I had not yet fully applied posthuman theories to the re-reading of data. It was at this late stage that I further developed and refined my analytical tool.

university in which the students were situated, I began to articulate my desired change as also including the conventional structure, culture and role of universities. In looking back, I see that I had begun exploring these aspects of the relational context of the university by including some questions in the students' post-course interviews/questionnaires which asked about students' experiences of their role as student in the course, and the role of their teacher. That focus on the relational context had yet to be factored into my analytical approach, that is, until this third paper and the introduction of posthumanism. I developed a tool of analysis in the form of a table (see Table 4.1 below) with which I compared my understanding, at the time, of these in contrast with what I felt was allowed through the *Making Waveforms* curriculum.

Table 4.1. What and how changes are taking place in the course

Conventional university course	***Making Waveforms* course**
(a) perpetuates "unthinking Eurocentrism" (Braidotti, 2012, p. 153)	(a) promotes an equal valuing of diverse (including Indigenous/traditional) forms of knowledge and how knowledge is created through relations and in contexts
(b) positions the *human* teacher (within the academy) as the 'expert,' and assigns authority to the teacher/expert to transfer their expertise to an assumed less knowledgeable 'student' (Gergen, 2001)	(b) recognises 'experts' in the form of Knowledge Keepers, audience members, nonhumans, and students who develop expertise of water bodies and transfer this to the 'teacher' and broader community
(c) sets as its aim the development of individual human minds (Gergen, 2001) so that they may largely serve in the global cash economy (Readings, 1996)	(c) sets as its aim the making visible and/or transforming of relationships so that they may serve in the best interest of all beings on this planet
(d) uses mainly academic language-based (writing/reading) tools for communicating learning (Boughey & McKenna, 2016)	(d) uses mainly relational texts (i.e. sounds, images, films, games, ecomotricity, events) for communicating learning
(e) reinforces alienating institutional cultures (Van Wyk, 2017)	(e) reinforces a culture where actors within the institution are invited to practice a fluidity of 'roles/relata' and bring their person/culture into the institution, allowing the institution to be changed by this

As a next step, I identified five actors I felt were being changed by the course: 1) teacher; 2) students; 3) Knowledge Keepers; 4) film audience; and 5) nonhumans. I developed Table 4.2 (below) where I responded to the question: Who is changing in the course and how?

Table 4.2. Who is changing in the course and how?

Actors	Change
Teacher	(a) shifts values and teaching approaches (b) reduces hierarchy/power of teacher; fosters a valuing of diverse knowledge sources/co-creators (c) fosters greater connection with students, broader community and nonhumans; potential for finding greater sense of fulfillment in teaching (d) offers more challenging and stimulating palette of teaching resources; invites teacher to share teaching role with students/community/nonhumans and to expandtheir own understandings (e) potential for teacher to feel more valued for who s/he is/they are, giving students permission to do the same
Students	(a) shifts values and learning approaches (b) fosters a valuing of diverse knowledge sources/co-creators; empowers students as educators, thereby reducing hierarchies with 'teacher' (c) fosters greater connection with peers, teacher, broader community and nonhumans; potential for finding greater sense of fulfillment in learning (d) invites students to engage more fully and express their whole selves, making room for diverse ways of being and knowing; invites students to share teaching rolewith teacher/peers/community/nonhumans and to expand their own understandings (e) potential for students to feel more valued for who they are; opening for institutional culture to become more pluralistic
Knowledge Keepers	(a) & (b) opportunity to be acknowledged and valued for their expertise; this can shift the way they are seen/treated more broadly (c) fosters greater connection with university actors and broader community
Film audience	(a) & (b) fosters a valuing of diverse knowledge sources/co-creators; opportunity to be acknowledged and valued for their expertise (c) reduces hierarchies/power relations; fosters greater connections with broader community (d) potentially experience a sense of belonging in the learning community
Nonhumans	(a) & (b) opportunity to be acknowledged and valued for their expertise; this can shift the way they are seen/treated more broadly (c) fosters greater connection with university actors and broader community (d) enables nonhumans to voice themselves and be part of knowledge co-creation

In responding to this question for the nonhumans, I found myself thinking: the course enabled nonhumans to express themselves and be part of knowledge co-creation. This was the beginning of my thinking of water as a kind of ‘teacher’. I was inspired to explore this further. I asked myself: how is water teacher in this course? I responded with what I saw as three ways: (a) situating water bodies as sites of learning; (b) building relationships between water bodies and students; and (c) engaging with media literacies using ‘relational texts’ (audio/video), which enabled a kind of communication between water and students. These three ways remained in the paper until the second round of peer review, at which stage it was suggested that the third concept of *relational texts* might be my main contribution to knowledge in the paper. This has to do with the student-water-camera and student-water-microphone relations, and what was made possible by those relations (e.g. deepened attention and perception, which could shift our affective relations to that with which we were relating) that was not afforded by other texts, for example, reading or writing. Academic literature I was engaging with, notably Astrida Neimanis’s (2017) *thinking with water* and water’s *hydro-logics*, and Lange and O’Neil’s (2016) *riverspeaking*, was influencing my perspective around learning *with* water. It became clearer to me how using a media arts-based approach to education and educational research allowed us to harness, rather than simply react to, the growing digitalisation and globalisation of the world.

I started considering what the specific artistic approaches of *slow media* and *soundscape recording* were allowing, which positioned the student as observer of water’s cues. Further academic reading, for example Haraway’s (2016) *Staying with the Trouble: Making Kin in the Chthulucene*, helped me to view water as also being an observer in this situation. This built on the posthuman view that water, like all humans and nonhumans, is entangled and, therefore, emerges from intra-actions with agential qualities of observation. Ceder reinforced this perspective with the notion that “to be an observer, or to be observed, is not a passive activity; it requires a constant entanglement of apparatus and world” (2015, p. 184). This observational entanglement can extend our primary observational senses (e.g. to see and to hear), through affective relations (e.g. feeling more connected to water; experiencing aesthetic pleasure through water’s visuals/sounds), into relational sensibilities that can better position us to relate with other beings in ways that are more conducive to the well-being of the whole planet (e.g. empathy and reciprocity). This can have implications on our thoughts and actions, potentially inspiring us to behave more responsibly towards humans and nonhumans in the embedded ecosystems across our planet. This resonated with Barad’s view that “we (but not only ‘we humans’) are always already responsible to the others with which we are entangled” (2007, p. 393).

In March 2020, I received initial feedback on the five-page version of my paper from RERM editors. I was encouraged to further develop my method section, particularly by referencing other scholars who might be using similar methods. I had initially referred to my method as Pedagogical Arts Activism, but the space of the paper did not allow for sufficient explanation of this, and since it did not feel like a priority for this paper, I dropped it. Structurally, I was encouraged to distinguish between my research approach, the methods used to gather empirical data and the method of analysing data. It was pointed out that my methodology and method needed to be further clarified (partly because I had not originally considered the re-reading of the data as a method). I was encouraged to minimise the context section by focusing on the empirical examples. Because this paper was part of my PhD praxis process, I had started to elaborate on the praxis process in the paper. The editor pointed out that it was drawing readers away from the paper's central argument and could be minimised. I was also encouraged not to use the term 'case study' to describe the course, since it was a qualitative method with specific expectations that did not adhere to my work. Around the same time, a conversation with my PhD supervisor had surfaced the fact that the *Making Waveforms* courses in Canada and South Africa were not actually comparative case studies, but rather iterations of the course across contexts. This was the point at which I stopped referring to my 2019 courses as 'case studies' and instead as 'iterations'. Because my first draft of the paper contained much of my initial analytical work, it sometimes included data that was not the focus of the paper. I was urged to trim back the paper, to continue working with a limited section of my material, and to emphasise my analysis around this through the whole article. I was encouraged to explain which teaching method from the course I would be analysing.

I also received some valuable support in my conceptual understandings. I mentioned Lange and O'Neil's concept of "situated knowledge" and was asked if they used this concept for methodology and, if not, to research scholars who did, such as Lave and Wenger, or Haraway. The editors asked about the origins of the table I had created outlining what and how changes are taking place in the course. They suggested it may link to the straw man fallacy, or the concept of 'affirmative critique'. I researched both these concepts but they did not resonate with what I saw in the work. The editors were unfamiliar with the terms 'Knowledge Keepers' and 'Waveforms' (from the course title 'Making Waveforms') so they asked for these to be explained. I was advised that I would need to develop more around the concept on reconciliation if I wanted to keep it. The editors asked the following questions, which I subsequently addressed in the next iteration of my paper: "What does reconciliation mean from a relational ontology and in this empirical work? What is reconciliation from a posthuman perspective?" I was encouraged to develop the concept of water as teacher, linking

it closely to the empirical. To align more closely with RERM's SI, I was asked to discuss conceptions of change addressed by the paper.

I received some important feedback around necessary clarifications and where further development of my thinking was required. For example, I was advised that sometimes I was writing about the enactment of the course, working from one ontology, and then writing about the analysis of the data from the courses, working from another ontology. I was still at early stages of making these ontological shifts, and the confusion was evident for my readers too. The table to identify 'who is changing in the course' was read as a first step in my analytical work and this table was dropped in the next iteration of the paper. I had described the two main artistic approaches used in the course: 1) slow media, and 2) soundscape recording. The editors asked for direct examples from the empirical that linked to these concepts to support my argument. The media arts aspect, so central to the course, needed to be emphasised in the introduction of the article.

While embracing the agential nature of various elements in my own learning process**,** I integrated video stills and hyperlinks to audio recordings of water (made by students) into the full version of the paper that I submitted to RERM in June 2020. Along with this addition, I had incorporated many of the suggestions from RERM editors. One of the most significant additions, for me, was redefining my concept of reconciliation through a posthuman lens. I wrote: *I view reconciliation as a practice supporting affirmative changes in the ways actors – both human and nonhuman – relate that move beyond boundaries to experiences of inter-connectedness.* I centred the paper around the concept of water as teacher, with this positioning of water being reflective of this posthuman concept of reconciliation. I proposed that this curriculum could be viewed as a form of reconciliation practice for higher education institutions. I wove my analysis of the data, mainly a narrative analysis of students' videos, around my response to how water was 'teacher' in this course. Working with the images and sounds, as visceral data, brought another layer of life to the manuscript (as 'relational texts' which readers could then engage in a different affective relation with, because of emotional responses to certain sounds or visuals, which they might not have to words on the page).

On 27 August 2020, I received comments from the first round of (two) blind reviews, as well as a letter from RERM editors who felt my manuscript was a good fit for the SI. Feedback from reviewers can be summarised as follows: "clarify in what way this article is about change (and reconciliation, if it is) and put forth a clear purpose/aim/research question and positioning early in the article; clarify the selection of material for this article in the methodological section; engage the

theoretical and empirical in more of a dialogue, particularly around the concept of change; deepen the analytical work with the posthuman ontological position; avoid broad concepts and locate the work in a more specific field". In addition, it was suggested I might consider the concept of 'intra-action' to work with the student-water-technology relations; I could reduce the quantity of empirical examples and expand the analysis of each; and it could strengthen the work to start with an empirical example. I found all this feedback relevant and helpful.

Detailed comments from reviewers were also insightful. Reviewer 1 highlighted ways I needed to deepen my posthuman re-reading of the data. It was felt that the empirical materials "may shed light on the ways in which learning and research processes may undergo change in intra-action with the socio-material world, in this case water bodies", but that further explanation was needed for the paper to effectively do so. The reviewers also raised an important question: "What was the initial purpose of the course and had this purpose changed with the [posthuman] re-reading?" One reviewer explained that "the article does not present a clear research question to guide the analysis and argument. There is a tension between methods used for empirical work and the theoretical perspectives employed in the analysis, but this could probably be used in a productive way if better argued." I felt encouraged by what the reviewer was seeing in my first full paper, and agreed that some of the tension and confusion was likely because I was still in the early stages of shifting from the ontology, and research questions, of the empirical work, and into posthuman perspectives for the analytical work.

Reviewer 2 brought to my attention some very critical, ethical aspects related to the context of the paper. For example, my initial use of language around "historically marginalised peoples" was challenged as the processes of marginalisation are ongoing, as part of ongoing settler colonialism and White supremacy. More information was required about the reconciliation demands of settlers in the Vancouver, Canada context where the course took place. The reviewers asked about the kinds of Anthropocentric logics I felt this curriculum could intervene with, and felt I needed more considering and elaborating on the ethical and political complexities of this work. They challenged me to consider what it meant to be applying what is seen as a Euro-Western theory (e.g. post-anthropocentrism) in a colonial education institution where Indigenous knowledges were already often silenced in favour of Euro-Western ones. While the second reviewer praised the analysis section and engagement with the images, they felt more explanation was needed to argue how the students' films worked towards reconciliation. They raised an important consideration, which was

that many Indigenous scholars argue that posthumanism and reconciliation were not the same practice, and I found some materials to inform my thinking around this.

On 23 October 2020, I submitted my revised full paper to RERM which addressed many of the comments from the reviewers and RERM editors. In a letter to the editors, I outlined my revisions as follows:

- I have clarified that this article is about change in terms of shifting students' ways of relating and learning *with* water, and in a university's ways of relating and learning *with* communities (human and nonhuman) to disrupt anthropocentric logics (particularly of commodification, separateness (severing of relations between humans and lands/waters), human exceptionalism (where 'human' typically translates as white, Euro-Western, male human), and universality and, thereby, to offer an affirmative critique to address a growing, racialised worldwide water crisis. As part of this change, this disrupting of anthropocentric logics supports relations towards a reconciliation practice for higher education in terms of disrupting power relations that place humans, especially a particular group of humans, and their ways of knowing/being at the center to dominate over constructed 'others.' In this sense, I have clarified the links between change and reconciliation and woven this more carefully throughout the paper. I have also indicated this clear purpose and positioning early in the article, along with the following key research question: How might a media-arts based university course, in which water is teacher, disrupt anthropocentric logics to embody this reconciliation practice?

- I have developed the way I work analytically so that the empirical and theoretical are in greater dialogue, particularly around change with regards to the disruption of anthropocentric logics. This includes specifically articulating what Anthropocene logics the various student film moments disrupted and how.

- In the methodology section, I have clarified the selection of material for this article.

- I have developed a stronger situatedness for this article by removing concepts that were too general and focusing instead on more situated concepts (i.e. material-discursive intra-actions and anthropocentric logics). To this effect, I have adjusted wording around the application of technologies to instead focus around the concept of intra-actions in order to delve deeper into the relations between students, water bodies and technology. I have also acknowledged the

ethical/political implications of applying this ontological standpoint in this institutional context of ongoing settler colonialism and worked that into my analysis.

- To increase reader engagement from the start, I shifted an empirical example to the opening of the article and worked my way into framing my position around change from there.

- To keep the paper concise while impactful, I have reduced the number of empirical examples and expanded somewhat the analysis of remaining examples.

- After careful consideration, I have adjusted some of my language around systems of oppression, replacing 'historically marginalised peoples' with 'ongoing settler-colonialism' to more accurately reflect the ongoing impacts of colonisation.

- In the reconciliation section, I have engaged with Indigenous scholars from the Canadian context to include some of their critical perspectives around what the hard/politicised work of actual reconciliation in education in Canada demands. I have endeavoured to more clearly link this to the concept of 'water as teacher' and the disruption of anthropocentric logics.

On 8 December 2020, I received feedback from RERM editors and a reviewer based on a second round of blind peer review. It was felt that I need to strengthen the posthuman ontological shift by reworking the analysis using a clearer analytical strategy where the posthuman theories were applied together with the empirical and the changes enabled were more distinctly defined and made visible. I needed to be sure reconciliation was more clearly included in the analysis.

My main challenge in this posthuman analysis was that the enactment of the course took place with certain concepts of who/what might change, and the analysis was pushing me to potentially see who/what had changed in a different way. The ontological shift was allowing me to see both the data, and the course itself, differently. As the reviewer pointed out, it would be helpful to clarify how change had been conceptualised before the posthuman analysis. In a draft version of my paper, I had used a table (Table 4.2) I mentioned previously around who and what I saw changing across five actors (teachers, students, Knowledge Keepers, film audience, nonhumans). By focusing on the change at the level of actors, and by focusing on the change before clarifying the intra-actions or relationality, I was inadvertently keeping my analysis locked inside my previous ontology. I needed to rework my tool of analysis to shift away from a focus on actors and towards a focus on *intra-*

actions. I share this revised tool (see Table 4.3) and describe the process of creating it later in this metareflection.

One part of the review process that was helpful in developing my thinking and writing were comments around certain parts of my research being particularly interesting. In this way, the reviewers and editorial board, senior to me in their understandings of posthuman theories, helped to highlight potential areas for my contribution to knowledge. For example, my concept of video and audio as ‘relational texts’ was identified as being particularly interesting and unique. My analysis of ‘water as part of artistic/knowledge co-creation’ was observed to best capture what my empirical material actually shows. My analytical work around the media arts approaches of slow media, soundscape recording and water aesthetics was observed to be particularly effective, and it was felt that my empirical material was very strong and clearly connected with posthuman concepts.

Another key issue that surfaced in the second review was the way I was conceptualising water as ‘teacher’ through which I was suggesting water *had* agency. It was clarified for me how, with posthumanism, agency is reconceptualised to no longer be something any one entity can ‘have’ but rather as qualities (agential qualities) that actors emerge from intra-actions with (Barad, 2007). Was the focus on a ‘teacher’ still not digressing back to a form of subject-centrism? The editorial team clarified that while framing water as a distinct agent/teacher was a post-anthropocentric (Ceder, 2019) analysis, going deeper to exploring what ‘thinking with’ water allows for was an intra-relational (Ceder, 2019) analysis. I challenged myself to let go of the attachment to water as being ‘teacher’ and instead to look carefully at the many agential qualities water was emerging with from student-water-technology intra-actions (for example, collaborator of artistic/knowledge production). As part of this shift, I dropped a section of the paper that argued how ‘water bodies as sites of learning’ was one way that water became teacher. I also dropped a section of the paper that argued how students’ videos made visible relationships between water bodies and students, thereby supporting the view of water as teacher. In my new understanding and framing, focusing on the intra-actions between students-water-technology felt like a more robust way to explore these learning situations and their entangled relations. I also needed to carefully revisit anthropocentric/morphic language I had unintentionally been using in relation to water, for example, suggesting that water had a ‘voice’ or was ‘saying’ something.

The reviewer raised an important concern about my use of the term ‘representation’ when referring to the use of words and video in the original ontology linked to the enactment of the course, and how

this would not work with posthumanism. In posthumanism, images, words and sound do not 'represent' but also 'relate'. Barad (2007) defined representationalism as "the view that the world is composed of individual entities with separately determinate properties" (p. 55). Rather than focusing on the representations, I was encouraged to look instead at the relations (and the intra-actions) and what is generated in that. This was the first time I learned about this tension, which I then went on to explore. Related to this, the editorial team felt that the frequent use of 'I' and 'my' in the paper indicated a surprisingly clear research subject 'owning' the analysis and suggested the paper could be phrased more relationally. I did my best to incorporate these suggestions.

Reviewer feedback indicated that citing from YouTube videos (e.g. where published scholars give lectures), webinars and 'personal communications' (e.g. talks from guests lecturers in my course) was less acceptable in this manuscript than peer-reviewed publications. While I understand the need for academic rigour, some of these alternative sources offered perspectives that were so current or non-traditional that they would not be available in written publications at the time of writing the paper. To me, this pointed directly to my argument around the need for multimodality in higher education in order to allow for more diverse ways of knowing and being to be valued equally and to be able to be included in educational conversations and exchanges, including academic papers such as this one. While I respect the need for academic rigour, I question the reasoning behind restricting links to YouTube videos of academics' talks, especially when they are talking about their academic writing.

To deepen the analytical work, I needed to return to the primary sources of scholars key to the central reasoning of the article. Barad (2007) was particularly essential to more fully grasping what thinking with intra-action changed in the data. For the first time, I felt I could clearly see links between things essential to reconciliation such as responsibility, agency, and identity (Zembylas, 2012), changing with intra-action in a way that could support openings to reconciliation. Deepening the analytical work with the posthuman ontological position meant some slight revisions to my posthuman concept of reconciliation. This refined concept of a posthuman reconciliation practice for higher education – which can be found in the *Background* section of Paper 3 – emerged as follows: "enabling relations that decentre humans and their ways of knowing/being/doing, and that support the creation and maintaining of equal power relations between bodies (both human and nonhuman)" (Van Borek, 2021b, p. 104).

The editorial team noted how I had repeatedly described which anthropocentric logics thinking with water disrupts, and encouraged me to instead focus on what thinking with water allows for. I was encouraged to consider what this way of working enabled, produced and rendered visible or possible. I took this to heart in reworking my tool of analysis.

Table 4.3 below presents my refined tool of analysis for the posthuman reading:

Table 4.3: Tool of analysis for posthuman re-reading

What/ who intra-acts?	At what stage of the process?	What happens?	What changes?	What does this allow?	How does this contribute to reconciliation?
[entities entangled in intra-action] e.g. student-water-camera	*[stage of process]* e.g. during observation	What is happening in transformations brought on by technical tools? What is happening in transformations artistic approaches (e.g. slow media) bring on? What is happening affectively while intra-acting?	What boundaries, identities, subject-positions (and related attributes) emerge? How might the concept of intra-action change through the process? What are the agentic qualities of which emerging actors that were performed through the apparatus?	What does this render possible/visible, enable or produce? What does this make human entities entangled in the intra-action able to do/see/notice/feel? Who renders whom capable of what?	How might it decentre Euro/human-centric ways of being/doing/knowing? In what ways might it make visible and/or engage root causes of inequalities and//or divisive relations? How might it make relations of power more equal? How might this promote mutual responsibility?

In using this refined tool of analysis, combined with a posthuman narrative analysis of students' videos (detailed in Paper 3), I found that there were even more video stills from students' videos that I wanted to embed in the paper as empirical material in support of my argument. I experienced myself seeing the data differently, and seeing new things happening in the data that revealed openings towards reconciliation.

4.2 Abstract conceptualisation

To what extent have I been able to embrace decoloniality within this phase of my PhD praxis process? To answer this question, I critically analyse my concrete experience and reflective

observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* I outlined in my introduction relate to this phase of my PhD praxis process:
1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum.

4.2.1 Relationality

Relationality flowed through all aspects of this phase of my research. Course preparation involved building on existing partnerships and networks from the 2018 pilot course. A focus on relationality inspired the inclusion of the *Legends of Vancouver* (2011) book, linking historical stories of water bodies seen through a Squamish lens to the participation of John Preissl (the great, great grandson of the Squamish chief whose stories are scribed in *Legends of Vancouver*) as a Knowledge Keeper, and to students' embodied experiences of those water bodies through the course. The focus on relationality, which included bringing various people into the course, led me to navigate the tensions present in practising reciprocity (of honoraria, gifts, fees, etc.) in exchange for guests' contributions. I was reminded of the relational aspects of storytelling, where the storyteller must consider how they will guide the audience to 'mine' their emotions. In my growing awareness of the impact of the university's structure, culture and role(s) on the learning experience, I was deepening my considerations of my instructor-student relations and added questions to the student interviews/questionnaires exploring this. Relationality between myself and academic journals' editorial team and reviewers contributed to the evolution of my thinking and writing for Paper 3. The initial paper rejection from one journal (CJEE) led to my communications with an author (Ceder), and this led to me submitting an abstract to a second journal (RERM). Once the abstract was accepted, a rigorous intellectual and literary exchange took place between journal reviewers, editors and myself.

4.2.2 Multimodality

Multimodality continued to be pervasive at this point in my research. I engaged with the book *Legends of Vancouver*, which makes Squamish legends available across languages and generations, and which reinforces the notion of storytelling as knowledge exchange. Engaging with this book, and learning how the origins of the author (E. Pauline Johnson) related to my own (having grown up in the same city of Brantford, Ontario), inspired me to undertake an embodied experience of Johnson's childhood home and the Grand River alongside it. I engaged with Liz Marshall's film *Water on the Table* (2010), which surfaced my affective relations with water aesthetics and inspired me to focus the audio and video mapping assignments for students around observing and documenting water

aesthetics. The ocean canoe journey with 'Whonoak' Dennis Thomas involved me in stories, songs, and experiential learning of Tsleil-Waututh culture. I supported the development of and participated actively in the 'games' students facilitated at our public event.

4.2.3 Narratives/counter-narratives

Narratives/counter-narratives continued to enrich my learning across this stage of the research project. I was reminded that narrative is expressed as much in the way a story is told as in the content of the story, for example when a story is told with a tone of hope versus a tone of doom and gloom. A focus on water aesthetics allowed for a shift in narratives about water's role(s) and therefore value, for example, suggesting that water can be a collaborator in artistic/knowledge co-production. My encounter with the book *Legends of Vancouver* introduced me to narrative as a form of inter-generational learning across languages, and the links between the book's author and I (having grown up in the same city), led me to reconstruct narratives of my childhood, for example, my perception of the value of the Grand River as expressed in the Tourism Brantford slogan "The Grand River runs through it". Facilitating the Narrative Power workshop with students in the *Making Waveforms* course introduced me to their experiences of water narratives. Marshall's film *Water on the Table* (2010) exposed me to the dominant narrative of Canada having an abundance of water, and how it remained in tension with the alternative narrative that Canada's government was depleting this water by selling it. Rich discussions with students during a work-in-progress critique of their videos surfaced the effects of keeping two stories separate versus connecting them, for example, the stories of First Nations forced removal and water pollution.

4.2.4 Context-specificity

Context-specificity was emphasised throughout this part of the research. Partnering with the *Cape Town Museum of Watery Relations and Uses* for this iteration of the course emphasised the context-specificity of water issues and experiences. The introduction of water bodies and Knowledge Keepers that were different from those in the 2018 pilot course, and which were new to me, allowed for learning new water narratives. Incorporating the book *Legends of Vancouver* into the course presented stories and narratives that are culturally and historically specific. The ocean canoe journey led by members of the Tsleil-Waututh Nation through parts of their territory was a distinctly different experience to the ocean canoe journey of the 2018 pilot course led by members of the Squamish Nation. The Narrative Power workshop revealed students' water narratives, such as "water as a human right", and this deepened my understanding of how narratives can be dominant and harmful in one context, yet alternative and helpful in another context. The legal frameworks of the

city and historical moment in which our course took place were closely felt when I learned, during the week we were preparing for our public event, about anti-pipeline protestors from Burnaby Mountain being in court hearings and potentially facing prison time (some of whom the 2018 pilot class had interacted with).

4.2.5 Unhidden curriculum

There were a variety of ways through which the hidden curriculum was intentionally made visible for students during this aspect of my research. In terms of my own instructor-student intra-actions, I regularly emailed students to acknowledge what I was learning with and from them. My meetings with students, where we discussed their experiences and video concepts, shifted relations to being lateral and collaborative. Being on the water together in our ecomotricity further emphasised this horizontal way of relating and connected us to each other and water through a positive memory created there together. My support of students' desire for and process to include Indigenous names of water bodies and land acknowledgements in their videos implied our shared commitment to decolonisation and shifting harmful relations of the past. Our visit to NEC introduced us to an Indigenous institutional culture which, in doing so, highlighted what ECUAD's institutional culture was or was not. Student-water-technology intra-actions encouraged through audio and video mapping assignments focused on water aesthetics supported the agential qualities of water in artistic/knowledge co-creation. Our final event showed students their learning could be valued as a form of education to a broad public, and took place in a natural history museum (which could be transformed by the programming of our event). The event started with a talk from a Musqueam representative to show respect for protocols and inclusive participation. In this emergent process, I was reversing the null curriculum by bringing more lateral relations, cultural/spiritual dimensions, university-community collaborations, institutional partnerships, and public education into being.

4.3 Active experimentation

4.3.1 Recommendations for practising decoloniality

Based on the details outlined in my abstract conceptualisation, I conclude that this phase of my PhD praxis process actively engaged decoloniality in practice. Below I outline some of my recommendations:

Relationality can be deepened when instructor-student relations are carefully considered as an essential part of the curriculum. Linking Indigenous legends of water into the course can provide

inter-generational learning across languages. Research-journal editor intra-actions can deepen a researcher's contribution to knowledge. Expectations around acts of reciprocity to acknowledge guests' contributions through gifts/cash/fees may vary across individuals and should be approached on a case-by-case basis.

Multimodality can enhance developments in a praxis process. Learning in modes not traditionally part of academia (e.g. songs, stories, canoeing, games, etc.) can support the shifting of affective relations with people, water, etc., and this can be extended from the researcher-teacher to the students. Historical legends rooted in an Indigenous worldview can provide a unique point of reference for exploring water issues, and can inspire a researcher-teacher's unlearning of a familiar place. Audio and video allow for water aesthetics to be observed, and this can change a person's affective relation towards appreciation for water (and bodies, human and nonhuman, entangled with it).

Narratives/counter-narratives can be learned as much through form as content. Access to historical narratives (e.g. *Legends of Vancouver*) can contribute to a researcher's reconstruction of personal narratives. This can, in turn, support reconciliatory openings by shifting relations between peoples and places. Water films can be valuable sources for uncovering contested water narratives. Dominant narratives can be drawn out of students through a facilitated workshop, and these can become an anchor from which to start building alternative narratives which can disrupt the dominant narratives.

The context-specificity of knowledge and learning becomes tangibly felt when introducing peoples and experiences into the course across diverse heritages (e.g. Squamish and Tsleil-Waututh in Canada). This is extremely important because "Indigenising " curriculum means much more than one thing. It is essential to recognise that narratives can be dominant and harmful in one context, yet alternative and helpful in another context. The legal framework of a context should be factored into what narratives might have impact in that context.

The unhidden curriculum can create a powerful foundation for openings to shift relations of power, for example, when applying strategic efforts to make instructor-student relations more lateral and collaborative. When an instructor shows support of students' actions towards reconciliation (e.g. including Indigenous names of water bodies in their videos, and students sharing their videos as public education), this can reinforce an institutional attitude of respect and reciprocity. Explicitly encouraging student-water-technology intra-actions presents an institutional valuing of water as collaborator, and a valuing of diverse knowings/knowers. Exposing students first-hand to new institutional cultures can encourage critical awareness and possible disruption of the institutional culture(s) of the institution(s) hosting this course.

CHAPTER 5: METAREFLECTIONS FOR PAPER 4

Paper 4 represented a critical stage in the second year of my PhD: a 2019 iteration of the curriculum in the Cape Town, South Africa context. I taught the course 11 November - 12 December 2019. This reflective writing describes some of the preparatory work required to set up the course, including the relationships established and navigated; my experiences from teaching the course that are not reflected in the paper but which I feel are important to share as part of my overall contribution to knowledge; and my process of writing the paper, along with what I learned from this. This reflective writing follows a similar approach to my metareflections for Papers 1, 2 and 3 by applying Kolb's (1984) Experiential Learning Cycle model for reflective writing, and includes four key stages: 1) concrete experience; 2) reflective observation; 3) abstract conceptualisation; and 4) active experimentation.

5.1 Concrete experience and reflective observation

5.1.1 Context of the paper

My fourth paper, initially entitled *Making waveforms: Implicit knowledge representation through video water narratives as decolonizing practice towards reconciliation in South Africa's higher education*, is under review by an academic journal published by Routledge, Taylor and Francis Group on behalf of the University of Toronto's Ontario Institute for Studies in Education (OISE), called *Curriculum Inquiry (CI).* This paper was submitted in response to a call for papers for their special issue (SI) on *Education and Ecological Precarity: Pedagogical, Curricular & Conceptual Provocations*. The paper is co-authored with Amber Abrams, a Research Fellow at the University of Cape Town's Future Water Institute (FWI), with whom I co-designed and co-facilitated this iteration of the *Making Waveforms* curriculum. As per the journal's submission guidelines, I submitted a full manuscript on 23 October 2020. On 3 February 2021, I received a response from CI's guest editors and editorial team, after their preliminary internal review process, indicating that they saw "tremendous potential" in the work and that it would make a strong contribution to the Special Issue. They requested I make some revisions and re-submit in order for the paper to move on to their regular external review process. In section 5.1.14, I summarise the editorial team's review, and outline my intended response. I was advised that, should the paper be approved for publication, publication of CI's Special Issue on *Education and Ecological Precarity* is expected in early 2022.

5.1.2 Building relationships to weave into the course

While the course was offered in late 2019, preparatory work began in January 2018 when I started negotiating potential partnerships and collaborations in Cape Town. I was interested in running a course at the University of Cape Town (UCT) for three reasons: 1) UCT was the birthplace of the student-led protest movement known as *#RhodesMustFall* that began in 2015 and that sparked a nationwide push to decolonise higher education in South Africa (Shay, 2016); 2) Cape Town was the first major city to nearly run out of water in 2018 (Enqvist & Ziervogel, 2019); and I had been a student there previously (2005-6).

My first lead at UCT was a professor working in the area of climate change. It felt as if one person had championed my vision on the inside, and this was enough for me to get started on building some kind of partnership. This person put me in touch with a few contacts inside their research centre and a series of meetings were held at my request. Since this would be a brand new course at the institution, a number of questions arose: which department would be an appropriate one to host this? What should the duration of the course be? What format should the course take (e.g. short intensive or longer weekly programme)? Should this be embedded inside an existing programme? What level should this be offered at (e.g. undergraduate? graduate? postgraduate? a mix?). Who would/could/should the students be? What facilities and equipment would be needed, and where would this be sourced from? What costs would be involved, and where would funding come from? The only factor that was clear from the start was that, if I wanted to enact this curriculum within the three-year window of my PhD studies, I would not be able to offer this as a credited course because, as I was advised, getting a new course approved as credit-bearing would take a minimum of two years at UCT. I was encouraged to think of this as a 'short course' which could be offered at any time in the academic year, to UCT students as well as people who were not registered at UCT, and without any kind of certification, or with certification and/or with an option to be recognised on students' transcripts. The short course in South Africa seemed to share some characteristics, in terms of campus-based non-credit courses open to people both inside and outside the university, with what Canada referred to as "continuing education" (Kirby, Curran & Hollett, 2009).

Initially it seemed that UCT's Global Citizen Programme might have been a suitable home for this course because of the global social/ecological responsibility aspects of the curriculum and because it would be offered as a short course. Initial planning meetings with staff from this area seemed promising until an unexpected staffing change meant this kind of new partnership would no longer be feasible administratively within my PhD timeline. Next, it was felt that perhaps this curriculum

would be well-suited to being integrated as a module in an existing, for-credit Masters programme connected to climate change studies. I pitched my curriculum to relevant parties and it was agreed that it would be further discussed. One of the professors from that meeting eventually suggested I should meet Amber Abrams, a Research Fellow (Postdoctoral Research Fellow at the time) with UCT's Future Water Institute (FWI), particularly because of our shared interests in water stories, arts-based research and museums. As described in the metareflections for Papers 1 and 3, this new relationship came with much synergy that translated into collaborations in a variety of forms. The foundation for those collaborations was the agreement that we would co-design and facilitate the Cape Town iteration of the *Making Waveforms* curriculum in 2019.

The challenge of recruiting students for this course included deciding whether or not the course would be open to people who were not UCT students. In initial planning meetings, some UCT staff had suggested the course could be made available to staff members and faculty as well as students. While I think that might be valuable in possible future iterations, I felt it did not fit well with my research goals related to bridging between the university and the wider community, and disrupting traditional university curriculum practices. I had decided it was important to involve mainly UCT students. As a new short course, I needed to take the lead on marketing the course. I created a flyer, which included my contact information and instructions for prospective students to contact me directly. Due to a lack of funding and institutional resources for the courses, I decided that the course would rely on students using their own smartphones for filming and laptops for editing. I also researched free/open source editing software and decided on Da Vinci Resolve [23] as our best option (offering Mac/PC compatibility, and professional production quality). When prospective students contacted me, I followed up by checking their availability with potential course dates, their student status and institutional affiliation (if applicable), their approximate geographic location, and their access to a smartphone, laptop and/or vehicle. This information helped me to finalise course planning. This short course was initially offered as an elective to graduate level students in Masters programmes affiliated to FWI. The majority of students registered in the course were Masters students in UCT's Environmental and Geographical Sciences programme. While recruiting students for *Making Waveforms*, I had been invited to offer a guest lecture in filmmaking to these students, and the fact that many students registered after that guest lecture suggests that this was an effective way of recruiting participants. The course was eventually advertised more widely via the FWI Water

[23] While Da Vinci Resolve is an industry-standard professional software for which full access comes at a cost, a freeversion with robust capabilities is available for both Mac and PC.

forum and the ACDI newsletter, which resulted in three non-UCT students (working professionals) joining the course.

I learned that having UCT handle the administrative side of setting up the short course was going to be unnecessarily complicated and time-intensive. In light of this, my PhD supervisor suggested that RU handle the administrative side of the short course to simplify things, with the course being offered in partnership with (and hosted by) UCT. This seemed the best option. Getting a short course approved by RU required me to complete a short course application form, get it approved by my supervisor, and then get it approved by the Registrar/Dean/Head of Department/Vice-Chancellor (once forwarded to them via my supervisor). Because the short course included a partnership with FWI, my application needed to include a Memorandum of Understanding (MOU) with FWI. The signing of the MOU proved complicated, since FWI, as an institute, did not have signing authority on behalf of UCT (should any UCT funding be attached to the contract). My contact at RU was also a representative of an institute without signing authority for the university, and so documents needed to be signed by RU's Registrar. The MOU needed to first be approved by RU's contracts office. Once approved by the contracts office, the MOU and application needed to be approved by the Head of Department. At that stage, it was then passed on to the Registrar for approval. The signing of MOU's was also tricky because signed hard copies needed to be couriered to RU, at a time when I was in Canada leading the 2019 Vancouver iteration of this curriculum. I had submitted my initial short course application to my supervisor on 1 April 2019. Due to some delays with my PhD project receiving approval from RU's ethics committee (largely due to a change in online application systems during my review process, and partly due to the challenges posed by my emergent social learning and praxis processes), I was asked to reschedule the course for later in the year and to provide an updated short course application. I resubmitted the application on 21 May 2019. This process required an enormous amount of consistent follow-up on my part to ensure things were moving forward. On 18 October 2019 I received the short course approval documents.

Since the short course was being offered as part of my research, and did not involve any fees for students or employment with UCT or RU, I was an unpaid instructor. I was also a PhD student registered at RU, without access to most faculty resources at UCT. My co-facilitator, Abrams, was in a slightly different situation because she was participating as part of her funded Postdoctoral Research Fellowship with FWI. What is gained/lost in my being an unpaid instructor not directly

affiliated with FWI? On the one side, this meant there was a lack of institutional resources[24] available (e.g. computers, video cameras, audio recorders, and editing software for students), while on the other side I had arguably more academic freedom to explore alternative models of scheduling and pedagogical approaches. The consequence of these resource limitations was that I planned on students filming with smartphones and editing with free software on their own laptops. This required me to do extra technical research for understanding options for apps and software, and preparing tutorials and lessons around these. In the long run, this made the technical aspect of the curriculum more sustainable for under-resourced contexts. While on the one hand, this meant I had to juggle my course facilitation with other income-generating commitments (which led to my availability changing last-minute for a soundscape workshop and needing to book a guest facilitator in my place), this also meant that there was no formal grading process, which potentially shifted facilitator-student power relations, and meant that I could be aware of which students agreed to participate in the research from the beginning of the course. Because this course was offered as a non-credit course and timed at the end of the academic year, some students had competing commitments and missed some of the coursework. This created some challenges around enacting, observing and evaluating the full potential of the curriculum (although student absenteeism can happen and should therefore be factored into all kinds of courses).

As is evident from tracing my journey in setting up this short course, trying to do transformative education inside a university system, typically with thick administrative protocols, is challenging and demanding of one's time and patience. By sharing this experience, my intention is to draw attention to the institutional relations of power that must be navigated with stubborn perseverance in getting to the point of having a course shell to officially offer from within a university.

5.1.3 Selecting water bodies and Knowledge Keepers

Four water bodies were selected for the site-specific aspects of this programme: the Liesbeek River, the Zandvlei, the Hout Bay Estuary, and the Khayelitsha wetlands. I selected these particular water bodies to be the focus of our course for four reasons: 1) to represent diverse forms of water bodies, i.e. river, wetland, estuary; and 2) to cut across diverse geographic, and therefore cultural/economic, regions of the city; 3) to offer interesting stories of social/cultural/ecological significance; and 4) to ensure we could locate a suitable, interested and available Knowledge Keeper (described in the

[24] FWI did provide a classroom and projector for the duration of the course, printing of learning materials, as well as some staff support in accessing the facilities. RU did provide a small budget to cover basic course expenses (e.g. guest lecturer honorariums, refreshments for our public event, and petrol for carpooling to field trips).

Introduction of this thesis, and in Paper 4) who could represent that water body in the course. For this process, I first developed a list of potential water bodies and started seeking out potential Knowledge Keepers affiliated with them. Securing the participation of suitable Knowledge Keepers confirmed which water bodies to include in the course. I started by brainstorming possibilities with Abrams. She suggested a number of people and places to contact. I sent an invitation to prospective Knowledge Keepers. From Abrams's suggestions, the ones that led to participation in the course were the Friends of the Liesbeek and the Khayelitsha Canoe Club (who had also come into my awareness and contact in the first year of my PhD through engagement activities with the *DayOne* podcast, as is mentioned in the metareflections for Paper 1). Sabelo Memani, Friends of the Liesbeek River team manager, initially responded by email and invited Abrams and I to meet with two of his team's long-time staff members, Mncekekile Klaas and Sivuyile Zidwe. Abrams and I met with them at the Liesbeek River in early October 2019 to discuss the project and their potential involvement. They agreed to participate. Abrams and I, similarly, visited Siyanda Sopangisa, co-founder of the Khayelitsha Canoe Club, at the Khayelitsha Wetlands Park to discuss the project and his potential involvement. This is when Siyanda came on board.

Figure 9. Khayelitsha Wetlands in Cape Town. Photo by Sarah Van Borek (2019).

After looking at our initial list of potential water bodies, I was reminded that one important consideration was that they should be fairly close to town/campus (or to students' places of residence, whichever was most applicable in the given context) and accessible by public transportation wherever possible so that students could do multiple site visits without requiring a car. I recognised this was a bit challenging for Cape Town, where public transport was limited. Abrams pointed out that it would be good to check where students lived because they might live closer to some water bodies than to town, which would make commuting more feasible. We also needed to factor in safety, and think about having students work in teams for their site visits to ensure their safety. At the initial stage of outreach, I did not yet have funding secured to cover Knowledge Keeper honorariums and this made it tricky to do the outreach without having something to offer in return. I continued building the list through talking with people in my network and researching online. I looked mainly for contacts of stewardship organisations (e.g. beach cleanups, various Friends of ... [water body] groups, etc.), water livelihood groups (e.g. fishing community groups), and recreational water users (e.g. surfing, swimming, etc.). The *Friends of the Rivers of Hout Bay's* staff team were extremely enthusiastic about the project and suggested that a community member who had been helping them for some time, Isaac Crowster, would be an excellent Knowledge Keeper. Similarly, the *Zandvlei Trust*'s staff team responded extremely positively to the course, and highly recommended a community member who had been involved with them long-term, Neville Williams, as a Knowledge Keeper. Both Crowster and Williams joined our course as Knowledge Keepers, and greatly enriched the learning experience for everyone. In preparation for the course, Abrams and I had met with Crowster in mid-October at the Hout Bay estuary to visit the site, discuss the course and confirm his participation. Due to scheduling conflicts, we were never able to meet with Neville prior to the course although I was able to discuss the course and his involvement with him by phone.

5.1.4 Recruiting guest lecturers with Indigenous and/or diverse perspectives

Further relationships needed to be established with people who would be appropriate and relevant guest lecturers for the course. My aim was to bring non-traditional and, where possible, Indigenous perspectives related to water and/or storytelling into the classroom. Reflecting back to the first year of my PhD and the *DayOne* podcast project, I realised that Nella Etkind, who had been our English host for podcast episodes 2-4 (detailed in the metareflection for Paper 1), would be an extremely relevant guest lecturer. Etkind, a young, Black, female South African, was Deputy Content Director with Gingko agency at the time of our course, and specialising in social impact storytelling through

videos with a signature video series project called *Beautiful News.* She had accepted the invitation to join our course as a guest lecturer, and presented an inspiring talk, interspersed with short screenings, to our class on UCT campus towards the end of our course. One student, in their post-course interview, confirmed that the timing, content and approach of this contribution had a big impact:

> *The last [guest lecturer], Nella, about how to make very short tight pieces and change [was] really powerful, and I think that was well timed in the process, right at the end when we're trying to tighten up our narratives.*

Anna James, my *DayOne* podcast co-producer (as detailed in the metareflection for Paper 1), became a guest lecturer in our course, leading the soundscape recording workshop on the first day. I invited James into this role when unexpected last-minute changes to my work commitments meant I would be unavailable for that one workshop. I knew James was familiar with some of the soundscape recording concepts and techniques because of our work on the podcast, and was grateful when she accepted the role. I trained James in advance on the particular recording app students would use on their smartphones, and provided her with a specific lesson plan that we reviewed together in advance. Abrams would also be on site to support James with the session. With James leading a workshop in my absence, what was gained and what was lost? While the curriculum was intended to bring diverse perspectives, approaches and voices into the experience, my presence alongside students being led/taught by our various guests seemed to me as important, instead of simply having the guests replace me as in a substitute teacher situation, since this reinforced notions of co-learning and lateral facilitator-student relations. This was supported by comments from students in post-course interviews which suggested they experienced my and Abrams's roles as course facilitators more as co-learners:

> *I think that in this course it was very much challenging that idea of the teacher having all the knowledge and passing that on to their students. I think in this course, the teachers were students in their own way and I think that provided a really safe space because it felt like we were also teaching at the same time.*
>
> *I felt more ... like someone was actually listening to you and taking that into account. And it felt more like a co-creation.*
>
> *You're given a good amount of responsibility as a student ... The class gives the students the space to be like co-creators or co-developers with guidance from someone.*
>
> *The class dynamic feels very equal and there's not a lot of hierarchy between the facilitator and the students.*

In searching for guest lecturers, it was suggested I contact Faeza Meyers, an activist from Mitchell's Plain (a large, Coloured township in Cape Town), founding member of the *African Water Commons Collective,* and an active member of *Women for Change, the Housing Assembly*, and the *Water Crisis Coalition*. She agreed to my invitation and was joined by her colleague Ebrahim Fourie. They gave a talk on the lived experience of poor communities around water inequalities to our class on UCT campus towards the later portion of the course. The talk was emotionally hard-hitting, reminding our group of predominantly White, mid-to-upper class students and facilitators of the daily challenges faced by many disadvantaged people in the Cape Town community to accessing water for basic needs. Several students commented, in their post-course interviews, on how this talk affected them emotionally:

> *It was so interesting to hear a completely other aspect of water that we as middle- class people don't experience like that ... To hear it from somebody, it's a different thing ... I found this really very moving.*
>
> *They really inspired and touched my heart.*
>
> *After that meeting, and that time that we were able to spend with them, I think there were a lot of people, myself included, who started to defamiliarise certain constructions of meaning that we just sort of picked up and walked with up until then.*

Narratives that may have challenged some of the ones we were creating, combined with the emotional tone (urgency, frustration, anger and sadness) to how the information was shared, left a heaviness to linger in the classroom after our guests left. This was clearly illustrated by one student who commented:

> *I couldn't go into a discussion afterwards. I couldn't even ask her [Meyers] a question because you were almost numb with thoughts ... They spoke on a lot of things that we didn't really take into consideration and it really helped to contextualise a different area, which was very good.*

Some of the emotion seemed to have come from the way that these speakers positioned themselves with a tone of opposition (to government policies and practices), implying a narrative of division and conflict, rather than one of interconnectedness. One student reinforced this notion by stating:

I felt there it was ... activists come in and they're like, it's like them against, them against, them against. I know that's an activist narrative, and I respect it but I felt like, in the class, it didn't work. It didn't fit within the rest of the class ... it didn't speak to me of a dialogue that this kind of work tries to foster.

It was such a shift from the hope-inspired, encouraging atmosphere Abrams and I had intentionally been cultivating that I felt the need to debrief with students after the talk. Some students questioned why this talk had been programmed so late in the course, suggesting that they would have otherwise chosen to include some of it in their videos. For example, as one student commented:

I found it very powerful and important to hear, but perhaps as like a more introductory thing around setting the scene for the politics of water ... it was hard then to hear all these things that I haven't engaged with, which is fine but then it feels a bit misplaced ... week 5's focus was really on the sharpening of an already established narrative.

The question of where to programme in the schedule a guest and/or talk of this nature was debatable, since the time was limited for the whole course and early workshops on sound, video and narrative processes were necessary so students could start planning and producing their own videos. My aim with having Meyers and Fourie (guest lecturers at UCT campus) speak to our class was to create an opening for shifting affective relations; it was intended that they felt seen, heard, acknowledged, respected and valued for their experiences and expertise as water activists (by our group, and by the institutions we represented). The intention was also for the students to experience a sense of connection to these speakers and the communities they represented, to foster sensibilities of empathy and reciprocity that might surface in students' videos. One student's response in a post-course interview confirmed that this was the case:

Hearing Faeza speak ... and hearing people who have maybe, the access of water is limited for various political and economic reasons ... you feel very empathetic and like I should do something ... ok I can make this video to highlight this.

I encountered challenges to practising reciprocity of gifts/fees in exchange for the participation of Knowledge Keepers and guest lecturers in the course. While RU initially agreed to cover expenses related to honorariums for Knowledge Keepers and guest lecturers, the administrative aspect of managing this proved cumbersome. If guests who gave talks in our classroom on campus were referred to as 'guest lecturers', RU viewed these as salary related payments which had to be processed on specific forms submitted to the salaries department. Knowledge Keepers, who I had

paid directly at or around the time of their meetings with students in the course (unaware at that time that there would be complications in getting reimbursed, since I still provided a receipt as proof of payment), were expected to complete claim forms and submit these to RU, and then to reimburse me. The salary related payment form required the person completing it to have a bank account and proof of banking details, and to submit the form by email (requiring access to a computing device and data). The form also required a residential address, identity number, contact number, and email address. It then took a month for the form to be processed. This was not always easy for Knowledge Keepers and guests so ultimately I decided not to be reimbursed for honorariums to avoid these administrative processes, especially after many had already fulfilled their contributions to the project.

5.1.5 Selecting a venue for our public event

I had initially been convinced that the public education event, which the course culminated in, should take place in a museum (described further in the metareflections for Papers 2 and 3). As Sandell (2002) conferred, "that museums have the potential to act as agents of social change is neither new nor radical" (p. i). What is important to this study about museums is the ways they have been considered integral to national reconciliation projects both in Canada and South Africa. In Canada, the TRC's (2015) *Calls to Action* explicitly included the role of museums:

> Museums and archives, as sites of public memory and national history, have a key role to play in national reconciliation. As publicly funded institutions, museums and archives in settler colonial states such as Canada, New Zealand, Australia, and the United States have interpreted the past in ways that have excluded or marginalized Aboriginal peoples' cultural perspectives and historical experience. (TRC, 2015a, p. 246)

Mosely (2011) illustrated through descriptions of various artists' work that engaged with the TRC in her article *Visualizing apartheid: Re-framing Truth and Reconciliation through contemporary South African art*, that the South African National gallery and visual culture play(ed) an important part in this. As she stated, "many artists have felt the need to critically re-imagine the TRC process, creating work that speaks to the many untold stories of apartheid that were rendered invisible as a result of the Commission's limited scope" (2011, p. 140). The role of museums was integral to intersecting democratic and reconciliation projects. When the Robben Island Museum officially opened in 1997, Mandela was quoted (by Mpumlwana, Corsane, Pastor-Makhurane & Rassool, 2002) to have stated: "With democracy, we have the opportunity to ensure that our institutions reflect history in a way that respects the heritage of all our citizens" (p. 245). I had ensured our event was hosted in a museum in both 2018 and 2019 Vancouver iterations of the *Making Waveforms* course where, as described in paper 3, the event was hosted by the Beaty Biodiversity Museum. I had gone to great lengths to try

and make this possible for the Cape Town iteration of the course. Due to various logistical barriers (scheduling conflicts, administrative delays, etc), the Cape Town iteration of the curriculum was not hosted at a museum, and instead hosted at the Tshisimani Centre for Activist Education. Tshisimani is a not-for-profit organisation initiated and funded by the Bertha Foundation. As outlined on its website, the Tshisimani Centre for Activist Education:

> ... draws its name 'Tshisimani' from a word in the TshiVenda language meaning fountain, spring or 'at the water source'. This captures the driving inspiration for the Centre, which is to nourish, replenish and sustain the power and capacity of activist movements, organisations and networks engaged in grassroots struggle to build a just society in South Africa and internationally.

Learning about and gaining access to this venue came from building on existing relationships. A former RU professor had referred me to Alex Sutherland, also a former RU professor and the Coordinator of Creativity in Activist Education at Tshisimani at the time of our course. Sutherland and I had met several times since the start of my PhD to explore possible synergies, and utimately we agreed on the organisation hosting our event. By the time the course was enacted, Tshisimani's facilities in Mowbray, Cape Town had completed renovations which included a beautiful cinema with tiered seating, screen, projector and sound system. Due to the activist and public education orientation of our event, the organisation waived any venue or staffing charges. The centre also ran on a generator, which meant that the load shedding[25] taking place at the time of our event did not affect us. Our event included a live musical performance by Martin Høybye, a PhD scholar from Aarhus University (Denmark) who had been collaborating with Abrams, and who had been co-writing what he referred to as 'documentary songs' (lyrics that encompass peoples' lived experiences) about waterways in Cape Town. We needed to supply our own sound system and engineer to support this aspect of the programme. I created a flyer for the event, which we marketed through the Future Water mailing list and social media. We filled the venue to capacity with approximately 70 people in attendance. The theatre had the right space and lighting to support the various non-film aspects of our programme: opening remarks, MC comments, and student-led games with the audience. A South African friend and colleague, Farieda Nazier, who had produced art exhibits in the Apartheid museum (2018-19) and Castle of Good Hope museum (2020-21) to disrupt museum logics, and who attended our *Making Waveforms* event, shared with me her experience of

[25] 'Load shedding' is the term for electricity cuts in South Africa, which the local electricity provider would typically rotate across areas of the city within a given period of time.

South African museums as still having room for improvement in achieving inclusivity in audiences they aim to draw. The reasons for this are complex and cannot be reduced down to questions of access alone. As Mpumlwana et al. (2012) argued:

> They concern the very notion of the museum as a western construct imposed on South Africa during the processes of colonisation, as well as the classification systems that characterised museums. (Mpumlwana et al., 2012, p. 245) ... For the majority of South Africans then, museums, at best, had little or no value for them. At worst, these institutions were seen as agents that helped to reproduce and maintain the status quo of inequalities controlled by, and in the service of, the dominant cultures (ibid., p. 247).

South Africa's heritage sector has been undergoing restructuring of existing museums and the creation of new museums and heritage projects (ibid.). I noted down from a wall inside the Iziko South African Museum (natural history museum) in Cape Town:

> Our cultural institutions cannot stand apart from our Constitution and our Bill of Rights. Within the context of our fight for a democratic South Africa and the entrenchment of Human Rights, can we afford exhibitions in our museums depicting any of our people as lesser human beings, sometimes in natural history museums usually reserved for the depiction of animals? Can we continue to tolerate our ancestors being shown as people locked in time? (Nelson Mandela/Aah Dalibhunga)

Hosting our event at Tshisimani showed me that a museum, while beneficial as a venue because of the ways the event can disrupt the colonial/narrative logics of museums, was not *required* for the public education event in this curriculum to have an impact. The main characteristics of the event venue that were important were that it was a neutral 'third space' (Bhabha, 1994) between academia, community, science, arts and government and that the facilities were conducive to the audio-visual and facilitation logistical needs. The mission of the host organisation and aesthetics of the space should be factored in as important parts of the unhidden curriculum of the event. In some cases, arguably such as ours, hosting the event at a space which may allow for greater inclusivity in its audience than a museum, might actually better support the course aims.

Figure 10. Making Waveforms students facilitate 'game' with audience at the Tshisimani Centre for Activist Education in Cape Town. Photo by Sarah Van Borek (2019).

5.1.6 Mapping relationships with water

Co-designing and co-facilitating the course with Abrams, with a background in anthropology, allowed for some invaluable new arts-based approaches to be added to the workshops. On day one, Abrams facilitated a process she referred to as "map your waterworld". 'Waterworld' is concept from anthropologist Hastrup (2009)[26] which views water as a connector of various aspects of social life and relations, with the power "to make or unmake social worlds" in collaboration with people who "respond to it and refashion their life according to their understanding of water's course and force" (Hastrup & Rubow, 2014, p. 3). More specifically, Orlove and Caton defined a 'waterworld' as "the totality of connections that water may have in a given society" (2010, p. 403). Abrams developed the mapping of waterworlds from a workshop co-hosted with the non-profit *Sustainable Livelihoods Foundation* (Abrams's paper is forthcoming). Students wereinvited to use drawing and

[26] Hastrup led a *Waterworlds* project at the University of Copenhagen from 2009 to 2014.

text, combined with a sort of mind map technique, to each map out their ‘waterworld’. Students were prompted to think beyond their survival needs, and to consider where/when/how water affected or was affected by social relations, social life, and livelihoods. Students were also asked to factor in how Cape Town waterworlds might be similar or different to those in a rural area. These maps were then shared back with the class for discussion, although time was limited. Students granted us permission to photograph and archive their mapped waterworlds for research purposes.

Towards the end of the course, Abrams facilitated another drawing/mapping activity focused on the knowledge embedded inside lived experience and referred to as ‘body-mapping’. The body-mapping method was developed by Jane Solomon in 2002 at the University of Cape Town (Skop, 2016). Klein and Milner (2019) explained the advantages of body-mapping as a process that “allows for unique insights into participants’ lived experiences, the meaning thereof, and into how meaning is impacted by their socio-cultural contexts” (p. 533). De Jager, Tewson, Ludlow and Boydell (2016) highlighted how this process allows one to tap into emotions stored in one’s body as an archive of experience. In this sense, body-mapping draws out affective relations (which became an increasingly relevant aspect of this study). Body-mapping moves beyond Euro/Western binaries in research/education by positioning a unified mind and body (Skop, 2016). Students were given long paper (to work in life-size) and placed in pairs to trace an outline of each other’s bodies, and then to use this framework to add images and text in order to map each person’s uses/relations with water as they connected to various parts of a person’s body, and to generate insights around the body-environment-water relations. Abrams further explained that the maps were a way for people to access the different ways in which people live (in their bodies, with water, etc.), and to uncover unspoken or other modes of understanding beyond the biomedical/technical sciences. The students engaged enthusiastically in these activities. Sharing these creations back with the class allowed for rich discussion on the themes and topics that arose. The process of creating the maps, the conversations about the maps, and the maps themselves were all important aspects of the process. As a research framework, the body-mapping methodology typically also includes a ‘symbol-key’, developed from a transcription of the participant’s explanation of the map, with which to interpret the map (Solomon, 2002). Students granted us permission to photograph their body maps for research purposes. Students responded positively to these activities in their post-course responses, emphasising the ways that they allowed for different ways of knowing and being to explore relationships with water:

> *I think that stuff worked really well because I think it got people thinking in different ways.*

The water mapping and body mapping ... were really interesting to me as tools for better understanding my own relationship to water and then also as a way to think about communicating about water with other people.

5.1.7 Field trip to develop our relationship with water

Similar to canoe trips led by various First Nations peoples with the 2018 and 2019 Vancouver courses (explained in metareflections for Papers 2 and 3), my aim was for the course to include a community-led form of ecomotricity that could also be an intercultural experience, and that might allow us to explore our relationships with water and each other while building meaningful, shared memories from engaging with water together. The Khayelitsha Canoe Club (KCC) was an obvious choice for a field trip. KCC was already part of our course through its co-founder Siyanda Sopangisa being one of our Knowledge Keepers, and the Khayelitsha wetlands being one of the water bodies featured in students' videos. KCC provided canoeing training, mentorship and equipment mainly for free to young people in their community. They also provided guided tours, mainly to tourist groups, for a fee to help support their community work. Our afternoon on the wetlands together was a rich, embodied learning experience, confirmed through post-course interview comments from several students:

The wetlands, it was really fun and uplifting.

Going to the Khayelitsha wetland was really a nice sort of introduction to that water body.

Through experiencing the paddling with Siyanda, being with him and doing things with him, that helped me to understand who he was, what the space was, why the space was valuable to him, what he does in the space.

I have a small understanding of where these guys are coming from and what their mission is and why they're doing this and also the challenges that they're facing 'cause I'm kind of seeing it and they're telling me, and we're engaging as humans.

The first step in our canoe trip, consisting of some land-based paddling techniques and background about the club, was a vivid illustration of narrative power while containing implicit learning and shifts in affective relations between our guides (Black residents of Khayelitsha), and our group (mainly White, mid-to-upper class UCT students and graduate scholars). While we were all sitting

fairly closely around the inflated sides of a rubber canoe (literally 'in the same boat'), one of our guides explained how one of the things that had made their work with the canoe club and introducing youth to water canoeing so instrumental was the idea many in the community hold – that Black South Africans do not do water sports. He laughed as he shared this, and we laughed with him. During his post-course interview, one student noted that the moment of shared laughter had been quite profound and was a reflection of how the South African context allowed for the confronting of differences to be part of everyday conversations:

> *One thing that I like about the South African context is that we're quite open with that kind of stuff. Like, you know, guy made a joke about White peoples' sports and then kind of looked at me and laughed like I would get it and so on. And it was cool. It wasn't like I feel weird or like he feels weird. It's just that's how it is here ... So for me that was nice. .. It reminds me that we have these intercultural ... racial disconnects, socio-economic disconnects, but I think we, like we try to hold it in a way you know that's kind of, it can be front and centre of conversations.*

As our group transitioned onto the water, the narrative of water being a White man's sport surfaced again. Because of my paddling experience,[27] I ended up sharing a canoe with a paddling first-timer. He happened to also be the only Black student in our course and told us he was doing a water sport for the first time ever. As we paddled together, he explained how he had been carrying a personal narrative since childhood of paddling, swimming and other recreational uses of water being for other races only. In his post-course interview, this student indicated how experiencing Black African peoples who interacted regularly with waters (e.g. canoeing and stewardship), as a counter-narrative to his own experience, shifted his perspective:

> *Young people involved in the water uses, that changed my horizon. The African background we have before the advent of democracy, we were taken away from the waters. I'm part of those peoples. My mother ... didn't want me to play with water and as a result I withdrew from the waters ... from the rivers and waters and lakes at an early age ... When I got to see the young people engaged, especially in ... the Khayelitsha wetlands ... that really changed me. And Liesbeek as well. Those guys [Knowledge Keepers] have an average of ten years in the Liesbeek conservation.*

[27] I have been paddling as part of recreational dragonboating teams in Canada and South Africa since 2017. Dragonboating is a water sport originating in China where paddling teams race one another. Regular practice sessions and racing festivals make it a very social sport.

Given that KCC's experience showed a direct connection between recreational users developing their valuing of water and stewardship practices towards water (e.g. youth who paddled with KCC helped pick up litter in the wetland and advocated for the wetland with their families), it can be suggested that perpetuating narratives of water recreation being exclusive to specific demographics may interfere with valuing and protecting waterways. Therefore, the reverse can also be said. Where recreational use of waterways can be expanded to diverse peoples, valuing and protecting those waterways may also be expanded.

5.1.8 Smartphone filmmaking

Funding limitations restricted the filmmaking in this course to the use of smartphones, laptops and open source video editing software, with no institutional information technology support. There were advantages (wider applicability across contexts) and disadvantages (reduced production quality of films and technical challenges) from this. Working with smartphones seemed to have liberated the creative process, especially working with science students.[28] The results of an in-class filming exercise showed student confidence and competency in capturing decent quality videos, which could have been unnecessarily encumbered by using more sophisticated cameras. The OpenCamera (Android) and ProMovie Recording (iOS) apps we used, which allowed for some professional videographer capabilities (namely manual adjustment of focus and exposure, as well as uncompressed file recording formats), made this a viable option for future iterations of this course even in technology-rich contexts.

5.1.9 Narrative power of Indigenous legends

The 2019 Vancouver iteration of this course, which was inspired by the book *Legends of Vancouver* (1911), containing Squamish Nation legends, inspired me to look for ways to bring Indigenous legends from the Cape Town context into the curriculum. In September 2019, in casual conversation with a friend, I learned about *The Digital Bleek and Lloyd* (http://lloydbleekcollection.cs.uct.ac.za/). With the Indigenous San people of the region swiftly decreasing in the mid-19th century, German linguist Dr Wilhelm Bleek and Dr Lucy Lloyd (his sister-in-law), hosted various /Xam-speaking people at their home from 1870-1882 to record their knowledge and culture, which was documented in an extensive series of notebooks and drawings. These ways of relating (co-habiting and

[28] Students who participated in the 2018 and 2019 iterations of the course in Canada were all art, media or design majors.

collaboration) were disruptive of the hegemony of the time, and this was clearly illustrated by an explanation on display at the Iziko South African museum in Cape Town, which reads as follows:

> The /Xam had at one time inhabited much of the western part of South Africa south of the Geriep (Orange) River. Five /Xam men, /A!kunta, //Kabbo, Dia!kwain, =Kasin and /Han=kass'o, who had all been arrested...[often in reaction to harm done to them], were serving sentences at the Breakwater Prison in Cape Town. They were permitted to stay at the Bleek's home so that their knowledge could be recorded and were joined for a few months by =Kasin's wife, !Kweiten-ta-//ken. Over 11 000 pages of their testimony in the /Xam language were written down and translated into English. More than a century later, this legacy was recognised by UNESCO and inscribed in the Memory of the World Register.

I perused through *The Digital Bleek and Lloyd* for stories that related to water, although these records were scans of hand-written notebooks and I found the hand-writing difficult to decifer. I decided to pursue further San folkloric stories, and was able to locate related books at the UCT library: *Stories that float from afar: Ancestral folklore of the San of Southern Africa* (2000) edited by J.D. Lewis-Williams, and *Living legends of a dying culture: Bushmen myths, legends and fables* (1994) edited and illustrated by Coral Fourie. I sourced several water stories from each of these and provided scanned copies in a handout to students, along with a link to *The Digital Bleek and Lloyd*. In their post-course interview, one student shared their appreciation for access to this:

> *... the incorporation of some Khoisan knowledge was really...good. Yeah, I enjoyed reading through some of the books, like [Sarah] gave us some chapters about Khoisan knowledge related to water and mythology and things like that, which I found fascinating.*

Because San stories related to water and information about Bleek and Lloyd's process with the /Xam-speaking peoples was part of an exhibit at the Iziko South African museum, I was inspired to build a field trip to the museum into the course. I combined the visit with a lesson in photovoice[29] (an arts-based approach integrated into students' meetings with Knowledge Keepers in the *Making Waveforms course*), starting with a prompt for students to explore the full museum at their discretion and to photograph what they felt were water narratives. These photos were shared in pairs in an activity related to photovoice similar to the one explained in my metareflection for Paper 2.

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[29] Photovoice is an arts-based methodology based on Wang and Burris's *photo novella* (1994) visual research methodology, where research participants are empowered to identify matters of concern through photographing parts of their lived experiences that relate to the research (Budig, et al., 2018).

Afterwards, as a class, we had a rich discussion about museum practices (e.g. categorising, organising, labelling, presenting, etc.) and how these contributed to creating and reinforcing narratives. I invited students to explore how they might engage with the San water stories in relation to their projects, but avoided being any more prescriptive than that because I did not want to impose which narratives might appeal to or be created by students. In my narrative analysis of students' videos, I did not observe any obvious connections to San stories, nor did students mention anything to this effect in their artist statements or post-course interviews. In hindsight, I feel the course lacked a way of bringing these San stories into our creative consideration in a meaningful way. This is untapped potential that I feel could be expanded on in future.

5.1.10 Safety considerations

Applying this curriculum to the Cape Town context meant that safety needed to be a primary consideration when planning the selection of water bodies, Knowledge Keepers, field trips, and pedagogical processes both inside and outside class time. It was clear from the start that site visits to water bodies, to be done by students outside of class time, would need to be done in groups for safety reasons. Violent crime rates are high in Cape Town (Standing, 2003), an urban landscape of extremities along a spectrum of rich and poor living alongside ongoing racial, economic and spatial divisions. City signage at public beaches show no guns will be tolerated, while city signage at public hiking trails show that walking in groups is required.

The first class field trip was along the Liesbeek River for a soundscape workshop. The workshop, focused on *soundscape recording*, was led by guest lecturer Anna James in collaboration with Amber Abrams, and was the only workshop for which I was absent due to scheduling conflicts with my income-generating commitments. The river cuts through many neighbourhoods of differing classes, and is more or less accessible to the public depending on what else is happening in proximity to various spots. For example, Abrams and I had first met with our prospective Knowledge Keepers of the Liesbeek at a place where they regularly do stewardship work and, therefore, the area was relatively safe. In their post-course interviews, one student shared how they did not feel completely safe in the location chosen for the field trip, and that this impeded their ability to fully engage with the activities presented:

> *The public space in South Africa can often be unsafe for everybody using it, and obviously in areas with higher crime rates ... I'm walking around this place with my phone out and so forth, and ... I didn't feel at ease to do my work and engage with the water in the way I would have liked to. And I know that a few other people I spoke to felt the same way.*

The Khayelitsha wetlands site also required some safety considerations because it is situated in a township with one of the highest crime rates in South Africa (Breetzke & Edelstein, 2018). There were originally supposed to be three students working together on the Khayelitsha wetlands as a site for their video projects, however, registration attrition after the first week of the course meant we were down to one student focused on this water body. It was only possible for this student to proceed because she had access to a vehicle and driver's license, and felt comfortable getting to the wetland independently.[30] I encouraged this student to do some of her audio/video mapping exercises while our whole class was with her at the wetland on a field trip, and to be sure to contact her Knowledge Keeper to meet her at the wetland for any subsequent filming.

Tidball and Krasny (2010) pointed out how encounters with nature were essential to behaviours that support the planet's well-being. Fear-based perceptions of outdoor places can be a barrier to various forms of environmental education (EE). According to Bruyere, Wesson and Teel (2012), a study conducted by Simmons (1998) that looked at barriers for teachers to take up EE in Chicago's urban environment, identified teachers' fear of natural spaces as including: "getting lost ... encountering dangerous animals or poisonous plants, and distance from help in case of an emergency" (p. 330). This only referred to fear perceptions of the nonhuman. Adding the perception of human-driven crime may further increase barriers to EE, or simply to engaging with and developing a relationship with nature.

When I feel safe, I can be more fully present with my situation and observe what I am experiencing and sensing around me, and how that is making me feel. When I feel unsafe, I am not able to be as fully open to observing and experiencing my surroundings. When I am engaged in water-nature intra-actions, I notice details that I might otherwise overlook when I am with other people. In Cape Town, there are certain outdoor spaces I simply do not visit alone because I have been advised that it will be a risk to my safety, and, in that sense, I feel I am missing out on some potential connecting with water and the natural world here. At the same time, as one student pointed out, there could be advantages to experiencing water and the natural world with others:

> *I think what worked quite well was dividing us up into groups to visit the water bodies together. I think just for [sic] safety perspective that was good, and then also, afterwards, it was really great constantly discussing with group members. Even though we started developing our own ideas, I think visiting the site together and grounding each other's thoughts was really, it worked really well.*

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[30] This was the student's choice and not a requirement of participating in the course.

As students' reflections on their experiences with water bodies indicated, safety was an essential ingredient in promoting connections with water that could contribute to valuing and protecting water. Therefore, a curriculum towards water justice needs to prioritise the safety of learning experiences.

5.1.11 Engaging with empathy

Speaking from my own experiences, I have often associated empathic sensibilities with beings (human and nonhuman) that are challenged with adversity in some way. In convening this course, I learned a very important lesson about how empathy can also be felt and/or expressed towards someone or something which may be perceived as having advantages, privileges and power in a given relationship. This shift, which happened for one student through the course, is carefully articulated in their post-course interview:

> *Sometimes I don't feel empathy when someone's coming from a privileged perspective and refuses to acknowledge their privilege, like we saw one video of a lady that was like fussing about her borehole and then it's like there are much bigger issues in the world. But I definitely do feel that I've become more empathic through the class, through the course. Even with that lady, I would just be like, I would feel empathy toward her. I feel sorry. I'd be like, I really feel sorry for you spending so much money on your borehole ... at the beginning of the course I would have just like rejected it. I would have just been no, it's invalid. But now I don't feel so much like it's invalid except that it's a different perspective and needs to be taken that way.*

What possibilities are allowed for when empathy is extended in this way? Might it support de-essentialising identities of separateness, towards identities of interconnectedness? As I describe in the discussion section of Paper 2, identities of interconnectedness can be important openings towards reconciliation of diverse peoples and ecosystems.

5.1.12 The challenge of land acknowledgements

In preparation for the public engagement event, I prepared a script for the MCs. I had done this in Vancouver and had made sure to include a land acknowledgement reflecting the First Nations territory on which our event was being held. I wanted to mirror this practice in Cape Town, which was considered part of reconciliation in Canada currently (Canadian Association of University Teachers, n.d.). I spoke with the MCs about what would be most appropriate to say in this context, and they were unsure. In the end, they suggested they could acknowledge that we were gathered on ancestral lands without naming whose lands. I agreed that was one step in the land

acknowledgement direction. This inspired me to explore why land acknowledgements were not practised in South Africa. I came across an interesting article by Coetser (2020) who argued that bringing a land acknowledgement practice to South Africa may help with its land reform process. I described this in section 1.3 *The notion and (im)possibility of reconciliation* in the *Introduction* of this thesis.

5.1.13 Paper iterations

I wrote an earlier iteration of this paper, in March 2020, as a case study report entitled *A relational model of media arts-based environmental education towards reconciliation in South Africa,* that I had submitted as an application to present at the annual *Environmental Education Association of Southern Africa* (EEASA) conference. The EEASA conference, originally scheduled for July 2020, was postponed due to COVID-19 restrictions and I never had an opportunity to present the paper. Writing that initial draft paper allowed me to apply my original tool of data analysis to this Cape Town iteration of the curriculum. I could see how the relational sensibilities and abilities towards reconciliation I was aiming to cultivate in students did indeed show up for students in the course. While I did not present this as explicitly in Paper 4 as I did in Paper 2 (about the 2018 pilot course in Canada), many aspects of this surface through the analysis, for example, 'knowledge ecologies' represented through implicit knowing/learning; 'empathy' expressed through the ways students engaged in affective relations with Knowledge Keepers; and 'embodied ways of knowing' represented through students' sensual experiences of water aesthetics. See Paper 4 in the Appendices for more details.

As part of my PhD-by-publication, my fourth paper needed to be submitted to an appropriate academic journal. I learned, in the writing of Paper 1, how a journal's objectives, especially in the case of a special issue, influences the shape of the paper. The next iteration of the paper (April 2020), co-authored with Amber Abrams, my co-designer/facilitator of this iteration of the curriculum, came from my suggestion to submit an extended abstract to a call for papers from the journal *Educational Research for Social Change*, hosted by Nelson Mandela University in South Africa. This call was for a special issue on *Community-based research for social change.* Our extended abstract, titled *A relational model of media arts-based water education reconciling diverse people and ecosystems in South Africa*, placed stronger emphasis on the course as an educational research methodology. Specifically, I articulated how I saw that this course was a dynamic form of community-based, media arts-based educational research for social change where students, faculty, and the broader community collaborated in various aspects of teaching, learning and research through the co-creation of

knowledge. Our definition of 'community' was broadly inclusive of the students, facilitators, Knowledge Keepers, guest lecturers and guides, event audience members and the broader community directly affected by Cape Town's water situation. Additional research participants/co-researchers included: the community members who participated as Knowledge Keepers in the course ('data' in the form of photos shared by Knowledge Keepers and stories video-documented by students), and the audience members who attended the course's final public screening and dialogue event ('data' in the form of what the audience said or did when participating in the event). It was felt that some of the relational sensibilities and abilities cultivated through the curriculum aligned directly with some core principles of community-based research (CBR) for social change, for example, those outlined by Ibhakewanlan and McGrath (2015), to including: (1) context based knowledge production and a valuing of contextualized knowledge; (2) collaborative university-community partnerships and engaging participants as co-researchers; and (3) underscoring the social (or, in our case, relational) nature of knowledge. On 21 April 2020, we received the news that our manuscript had been declined. This motivated me to look for alternative journal options. My PhD supervisor forwarded me the Special Issue call from *Curriculum Inquiry*, and it seemed a good fit (e.g. curriculum, decolonising environmental education, Indigenous knowledges, storytelling, Global South pedagogical interventions, etc.).

My PhD supervisor gave valuable input at this stage of my praxis process that helped me to focus this paper on implicit learning. In a supervisory Zoom meeting, we had a conversation about the Cape Town iteration of the curriculum, in which I described what stood out for me about the course, and which I had not yet covered in my previous PhD papers. My supervisor reflected back to me that it seemed the work spoke of silent knowledges. This inspired me to source and explore academic literature related to silent, tacit, implicit and explicit knowledge. Dienes and Perner's (1999) theory of implicit and explicit knowledge, and the direct link between knowledge representation and valuing knowledge, resonated strongly for me, because I was thinking of videos as a mode of knowledge representation. This anchored my argument for Paper 4. In a later meeting, my supervisor suggested I might find Santos' (2018) book *The End of the Cognitive Empire: The Coming of Age of Epistemologies of the South* relevant. I devoured that book, finding many of the concepts related to the curriculum and the impacts I had observed it to elicit – notably *ecologies of knowledge*, *epistemologies of the South*, the *sociology of absences* (Santos explained this as "a resource for the struggle against capitalism, colonialism, and patriarchy... The context of the struggle – the specific aims and social groups involved – which] provides noncognitive dimensions that condition the ways

in which absent social groups and knowledges become present" (p. 26)), the *superiority of the universal*, and *demonumentalising written knowledge*.

Co-authoring Paper 4 with Abrams was less of a dialogic process than the co-authoring of Paper 1 with James, mainly because Abrams' capacity for involvement was limited. The workload-split was approximately 90% for me, and 10% for Abrams. Abrams' inputs were, however, extremely valuable to the quality of paper and the deepening of my understanding. I wrote the full first draft of the paper, then emailed this to Abrams for her feedback. Her main contributions included: suggesting places to reduce word count; commenting on how Welch's (2019) view of Indigenous ways of knowing as 'embodied implicit procedural knowing' (p. 85) had similarities to some anthropological theories on ways of doing and skills learning; pointing me to Ingold (2011/2012) whose work on knowing, skills and dwelling aligned with the concept of embodied knowledge; suggesting minor adjustments to the choice of language; highlighting areas needing clarification, for example, how implicit learning contributed to the de/re/construction of narratives that support the valuing of water; clarifying how her role as third party researcher conducting interviews with students minimised researcher bias; and identifying where I needed to clarify the concepts of decolonisation, reconciliation and 'relational' curriculum that I was using in the paper.

Paper 4 was submitted to the *Curriculum Inquiry* journal (23 October 2020) before the second round of reviewer feedback was received on Paper 3 from the RERM journal (8 December 2020). This is important to note because the December feedback on Paper 3 was the point at which it was brought to my attention that representationalism was critiqued in posthuman theories (outlined in the metareflection for Paper 3). As is evident from its title, Paper 4 focuses strongly on representation by exploring the relationship between implicit knowledge and its referents, and viewing students' videos as implicit knowledge translation/representation devices. Certain understandings that emerged from Paper 3 influenced the Cape Town iteration of the *Making Waveforms* curriculum, notably the emphasis on water aesthetics in audio/video mapping assignments, and the introduction of a question in students' post-course interviews/ questionnaires about how the course may have moved away from binaries. However, Paper 4 was not written with posthumanism as part of its theoretical framework. The relational work embedded in the curriculum, and the relationality at the heart of the analysis, are the consistent threads in moving from reading Paper 3 to Paper 4.

5.1.14 Paper iterations through reviewer inputs

As outlined in section 5.1.1, on 3 February 2021, I received a response from the *Curriculum Inquiry*

journal's guest editors and editorial team, after their preliminary internal review process, indicating that they saw "tremendous potential" in the work and that it would make a strong contribution to the Special Issue on *Education and Ecological Precarity.* They requested I make some revisions and re-submit for the paper to move on to their regular external review process. In this section, I summarise the editorial team's review and outline my planned response.

CI's guest editors and editorial team highlighted what they believed to be the strongest contribution of the paper and its greatest reason for being included in the SI: a discussion I had initially only briefly pointed at about how implicit knowledge, which I argued was engaged with and shared through the *Making Waveforms* course, enables us to share non-verbalisable knowledge beyond language barriers and influence behaviour, and that this may have important ramifications for climate change education. It was requested that I bring this discussion more fully into the paper. The review indicated that I needed to deepen and further clarify my theoretical framework by explaining the relationship between the various relevant concepts I was using, and to distinguish between "different ways of knowing" and "Indigenous ways of knowing". It was also suggested that my methodology needed clarification, and greater consistency with the theoretical framework, which, it was argued, would likely come with clarification of my theoretical framework. Lastly, it was requested that I ensure closer alignment between the paper's objectives and conclusion.

To address these requested revisions, I plan to strengthen and clarify my theoretical framework so that it more distinctly allows for the analysis of the empirical material to explore the potential for processes in the course to enable the sharing of non-verbalisable, implicit knowledge beyond language barriers and the influencing of water-related behaviour change. From my initial analysis, I started to see already how this was happening in the data where learning processes were producing feelings in students of empathy for diverse peoples and waterways, and aesthetic appreciation for water through sensual, embodied experiences with water aesthetics. I will explain the connections between the various theoretical concepts, and clarify my methodology so that it aligns better with my theoretical framework. I will develop an analytical framework rooted in this revised theoretical framework as part of my strengthened method of analysis, and be sure to apply the theory to the analysis more substantially. I will fine-tune my argument around water narratives to show how they reveal the ways that students' embodied experiences with water, and diverse water users, allowed for these feelings of empathy and aesthetic appreciation to emerge, and how this can contribute to healthier behaviours with and towards diverse waterways and peoples. This will require adapting my

key research questions for the paper, along with the stated objectives and conclusion, so that it all works together cohesively to support the paper's argument.

To clarify, my revised objectives of the paper are to analyse the *Making Waveforms* course held in South Africa in 2019 to explore its potential as an approach for sharing non-verbalisable, implicit knowledge and, thereby, influence water-specific climate behaviours; and to investigate how, if at all, this might contribute to a decolonised reconciliation practice for higher education institutions. I have, therefore, revised research questions to include: 1) How might media arts-based teaching methods enable non-verbalisable, implicit knowledge to be shared? 2) How might this support response-able water-related behaviours? 3) How may this contribute to reconciliation and decolonisation for higher education institutions? Given my revised objectives of the paper, I feel it is important to revise the title of the paper to better reflect these objectives. At the time of submitting this thesis, I decided to revise the paper's title to: *Non-verbalisable, implicit knowledge through cellphilms as decolonised reconciliation practice towards response-able water behaviours in South Africa.* According to MacEntee, Burkholder and Schwab-Cartas (2016), the term 'cellphilm' was created by Dockney and Tomaselli (2009) to reflect the fusion of a mobile device's diverse communication modes. MacEntee et al. (2016, p. 10) presented 'cellphilm-production' as a participatory methodology for research and activism. Cellphilms are key to the course analysed in this paper, so I have decided to include mention of them in the revised title of the paper. I will also update the abstract to reflect my intended revisions.

5.2 Abstract conceptualisation

To what extent have I been able to embrace decoloniality within this phase of my PhD praxis process? To answer this question, I critically analyse my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* I outlined in my introduction relate to this phase of my PhD praxis process:
1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and
5) unhidden curriculum.

5.2.1 Relationality

The Cape Town iteration of the *Making Waveforms* course was made possible by fostering partnerships and collaborations that built on establishing and growing networks that began in 2018. This involved starting with Rhodes University (RU) links to the University of Cape Town – first with various UCT institutes and programmes as potential partners, and eventually the Future Water

Institute (FWI) which hosted the course in collaboration with RU. Collaboration with FWI's Research Fellow, Amber Abrams, enabled us to co-design and co-facilitate this Cape Town iteration of the *Making Waveforms* curriculum, and for it to link to Abrams's *Cape Town Museum of Watery Relations and Uses* project. Recruiting Knowledge Keepers was made possible through Abrams's networks and recommendations, as well as through referrals from local environmental stewardship organisations. An RU link to the Tshisimani Centre for Activist Education in Cape Town led to us hosting the course's public screening event there. Recruiting students was rendered possible by marketing the course through FWI's networks, and by guest lecturing in film at UCT. Initially developing a collaborative relationship with James through co-producing the *DayOne* podcast (detailed in Paper 1 and its related metareflection), allowed for James to become a guest lecturer of the soundscape workshop in the course. Etkind, who had hosted *DayOne* podcast English episodes 2-4, also became a guest lecturer. Relationships established with some water bodies in the making of the *DayOne* podcast, for example the Liesbeek River and Khayelitsha wetlands, rendered it possible to include these water bodies in the course.

5.2.2 Multimodality

Multiple modes for teaching/learning were integral to course planning and enactment. The task of recruiting students, Knowledge Keepers and guest lecturers benefitted from the wide range of digital communications platforms available currently (e.g. Facebook Messenger, Whatsapp, email, in-person meetings, phone calls, etc.). While the shift to working with smartphone filmmaking, apps, and open source video editing on students' laptops[31] came about due to a lack of institutional resources in Cape Town, this pushed me to develop a viable approach for under-resourced contexts. Abrams's contributions to the curriculum introduced me to new arts-based approaches rooted in anthropology, which can be effective ways to engage more diverse ways of knowing and being in exploring relationships with water. These approaches were based on drawing/mapping activities and included 'body maps' and 'map your waterworld'. The field trips allowed for engagement in embodied ways of learning. Specifically, paddling on the Khayelitsha wetlands while sharing a canoe with a student simultaneously activated all my senses while inspiring a deepened sense of connection to all the actors in that entangled learning situation. Touring an exhibit of the Bleek and Lloyd archives, portraying their collaboration with /Xam-speaking peoples, at the Iziko South African (natural history) museum, invited me to explore emotions that surfaced around what was

[31] This approach differs from that of the professional video cameras and editing software on institutional computers used in the 2018 and 2019 iterations of the course in Canada, detailed in Papers/metareflections 2 and 3. Such resources were made available by ECUAD, the host institution for which I was a paid instructor.

being presented, how and why. Researching the San stories linked to water, to link them into the course, made it possible to start experiencing narrative consonances and dissonances across languages and generations.

5.2.3 Narratives/counter-narratives

Engaging students in a Narrative Power workshop, that included screening a short film containing various water narratives specific to Cape Town, enabled my learning about the dominant narrative of a 'right to water' in South Africa to become twisted into a sense of entitlement. This helped me to understand how narrative plays an important role when it comes to linking policy with practice, for the 'narrative power' of legal language ultimately lies in how it is interpreted. Meyers and Fourie's talk on the lived experiences of poor communities and access to water in Cape Town, delivered as an impassioned guest lecture to our course, taught me about the potential for narratives to create and shift affective relations between the storyteller and the listener. The class field trip to the Iziko South African Museum, where I tasked students with 'collecting' water narratives, introduced me to a variety of water narratives and modes of presenting water narratives that the students shared. Our class field trip to paddle on the Khayelitsha wetlands introduced me to an important narrative dominating the Khayelitsha community: that of Black South Africans not doing water sports. How this narrative surfaced –first through a joke delivered by one of our guides, and then through a personal story shared by a student while we were paddling in the same canoe – contributed to the development of my affective relations (e.g. feelings of empathy) towards the storytellers.

5.2.4 Context-specificity

Since this course was the first iteration of the *Making Waveforms* curriculum for the South African context, the context-specificity of my learning at this stage was particularly strong. I learned, first-hand, about the lengthy networking and administration processes that were required to set up a new course at UCT (where the course was hosted) and RU (where the course was administered). Because this particular iteration of the course lacked institutional support, where I was neither a paid instructor nor a student of UCT, and therefore without access to UCT filming and editing equipment, the context pushed me to explore a more viable option for students using smartphone filmmaking and open source video editing software. Building the course so that it would be able to run as a Cape Town pilot meant that the logistics needed to be adapted around students (e.g. locations, schedules, access to technology, etc.). The safety considerations required in Cape Town meant I had to plan for students working on sites in teams, and this had ramifications for the possible ways of relating with water. The extremely windy conditions (e.g. up to 50 km/hr at times) in Cape Town meant that

soundscape recording was less effective in this context (due to wind interference of sound recording), and that slow media (where water aesthetics may be more dynamic due to interactions with extreme winds) was emphasised. Public transport limitations meant we needed to select water bodies for the course which were close to students' places of residence. Load shedding demanded we maintain flexibility in aspects of the course requiring electricity (e.g. projectors for lessons and the public screening event). In preparing the MC scripts for the public event, I encountered the ways that land acknowledgements were challenging and therefore not part of university decolonising protocols currently in South Africa. A joke about racially specific water sports, by our paddling guide, showed me that social constructions, such as race and class divisions, could be part of inter-cultural conversations in South Africa. I was reminded that some Knowledge Keepers did not have access to certain communications resources (e.g. data, computers, etc.) and that I needed to adapt my methods of engaging with them to meet them on their terms. Exploring Khoisan legends introduced me to some of the Indigenous water narratives and worldviews that once flowed here.

5.2.5 Unhidden curriculum

By endeavouring to set up a new university course, I uncovered the thick, complex processes required to do so. As an unpaid instructor for the 2019 Cape Town iteration of the *Making Waveforms* course, there was greater academic freedom to explore alternative pedagogical approaches and schedule models. The course was not for credit and there was no grading, which contributed to a breaking down of hierarchies between teachers and learners to support a greater sense of co-learning. This was further reinforced by my presence alongside students being led/taught by various guests (with the exception of the workshop with James). Including some working professionals alongside registered UCT students in the course suggested that learning could take place both inside and outside the academy, and could be a lifelong process which one engaged with even as a working professional. Using smartphones for filmmaking implied that learning could happen both inside and outside the institution. In this emergent process, I was reversing the null curriculum by bringing alternative pedagogical approaches and schedules, more lateral teacher-learner relations, university-community co-learning, and more publicly-accessible educational tools and resources into being.

5.3 Active experimentation

5.3.1 Recommendations for practising decoloniality

Based on the details outlined in my abstract conceptualisation, I conclude that this phase of my PhD praxis process actively engaged decoloniality in practice. Below I outline some of my recommendations:

Relationality can be emphasised through establishing and building relationships for planning and enacting the curriculum. These relationships include relations with humans and nonhumans (e.g. water bodies), and range from individuals to organisations and institutions. Building on existing connections and networks can expand possibilities for enriching the course, and for developing collaborative relationships for relational work on social and environmental justice in the long-term.

Multimodality is an important element of the curriculum and course planning. This ranges from the modes of communicating and recruiting students, Knowledge Keepers and guest lecturers, to the types of technologies that can be harnessed (e.g. smartphone filming apps), to modes of learning (e.g. drawing/mapping activities) that will be built into the course. Embodied learning experiences, such as paddling on a water body as a class, and visiting a museum, can introduce water narratives in non-traditional ways that produce and shift affective relations. Introducing Indigenous mythologies linked to water from the local context of the course can present openings for inter-generational learning across languages. This should be carefully integrated into the creative processes of the course if the aim is to meaningfully engage with such stories.

Narratives/counter-narratives can emerge in a variety of ways (e.g. canoeing or visiting a museum) and the context in which the narrative unfolds adds to the meaning that the narrative contains (e.g. being told Black South Africans do not do water sports by a Black South African guiding you in a water sport makes visible the social construction of this narrative). The affective power of storytelling can contribute to narratives creating and shifting affective relations.

Context-specificity is a necessary requirement of planning and enacting the *Making Waveforms* curriculum. It can only take its final form once it has been adopted to the various conditions and relations of the specific context in which it is enacted. This includes the specific institution hosting the curriculum, and the broader publics, water bodies and discourses it engages with. As part of these adaptations, a curriculum towards water justice needs to prioritise the safety of learning situations.

The **hidden curriculum** of educational institutions and environments is made visible both to course convenors (in the course planning stage) and to course participants and film audiences (in course enactment) through the various ways the relational context of the curriculum is presented at different stages of the course, which appear and behave in unique ways to traditional educational settings. Using technologies and artistic approaches that meet your participants on their terms is essential to suggesting that you are co-creating an educational/institutional culture that welcomes everyone to come as they are.

CHAPTER 6: MULTIMEDIA METAREFLECTION

6.1 Reasoning for multimodalities of PhD representation

As described in section 1.9.3 on *Multimodality*, where Euro-Western colonial education, according to Santos (2018), monumentalises written/academic language, a decoloniz/sed curriculum liberates new ways of being/doing/knowing through multimodality. Multimodality embraces a notion of knowledge as beyond cognitivism and linguistics alone, and opens to being inclusive of spirituality, emotions, intuition, and other ways of knowing that have traditionally been discounted by modern universities. By working with different languages and knowledge, multimodality creates space for knowledge co-production. Working with what I refer to as relational texts (audio/video – see Paper 3 for more details), I sought to engage my audience in affective, embodied learning. Given the importance of multimodalities to decoloniz/sing education, I recognised that how this research was represented was just as important as the research itself. When I went back to my original aims of exploring how this curriculum and my own PhD process might contribute to decolonising higher education, I felt that an important way to do so included:

- Discussing my ideas about the research in relation with others, especially those who contributed to part(s) of the research
- Presenting research findings in formats that spoke to a broad audience, and in ways that allowed for diverse ways of knowing and being
- Leading by example in producing a multimedia PhD thesis which could potentially open doors for others

For these reasons, I undertook a process of creating several modes of multimedia, which are all entangled in procedure and intention, at various stages of my process.

6.2 Methods

As described in section 1.6.4 *Podcast Praxis*, a podcast series, called *Climate for Changing Lenses*, was produced as part of my explorations in decolonised research representation while strategically involving research contributors in opportunities to give input on research outputs as they developed. To clarify, by "contributors", I am referring to people who represent the wide range of stakeholders that form part of the curriculum's learning community: students, partner institutions, guest lecturers, Knowledge Keepers, and scholars who had influenced my thinking around the curriculum. I consider this an important part of decolonising my PhD process.

In December 2020, I engaged seven research contributors in Zoom[32] conversations (which I recorded with their permission), where participants were invited to share their responses to research outputs I had created and made available to them by email in November 2020. These research outputs included four academic journal papers, which are included in the Appendices of this thesis, as well as a series of four short videos entitled *In the Flow,* available through the website that is part of this thesis (bit.ly/sarahvanborekphd). These videos offer an alternative mode of representing each of the four papers. I then edited the Zoom call recordings into slightly more polished podcast episodes (which included my writing and recording of some basic narration), shared these back with contributors to confirm they felt comfortable with how they and the conversations were represented, and published these online to make them freely available for the public (anchor.fm/sarahvanborek).

I also invited participants in these Zoom calls to contribute one line for lyrics to the song *Please Don't Blow It* (detailed below), indicating that the line should fit into 4, 8, 12 or 16 beats. I suggested they could say the line in our Zoom call (which three people did), or grant me permission to construct a line out of the Zoom call recording (which the rest of the participants agreed to).

To recruit participants, I drafted an invitation letter explaining my motivation behind using multimodalities in my PhD, as well as the proposed process of engagement (e.g. review papers/*In The Flow* videos, the Zoom call, then the call recording edited into a podcast and an excerpt added to the song). I included a DropBox folder link to the four academic papers from my PhD, and Vimeo (password-protected) links to *In The Flow* videos. I drafted a list of all the people I could think of who had contributed to part(s) of the research, grouping them according to the four papers (and, therefore, to my PhD timeline since the papers had been produced chronologically in alignment with my PhD process). My initial list included approximately 100 contributors. I recognised that it would not be feasible, within my PhD timeline, to engage all these people, so I narrowed my list down to approximately 20 people (five per paper), and a cross-section of roles in the research (e.g. student, Knowledge Keeper, etc.). I hoped that this cross-section would provide diverse perspectives on the research, and would model what might be possible with this methodology. I emailed my invitation letter to this list of people. Some responded with enthusiasm, indicating that they would have loved to participate but the timing would not work for them. Some did not respond at all. Seven people agreed to participate and generously contributed to deepening this research.

[32] All conversations took place as Zoom calls, with one exception where the conversation took place in-person in Cape Town to avoid the need for the contributor to have access to a webcam and data.

Participants:

Fatima Holliday, *Making Waveforms* course 2019, South Africa, student
Isaac Crowster, *Making Waveforms* course 2019, South Africa, Knowledge Keeper
Ryanne Bergler, *Making Waveforms* course 2018/2019, Canada, student
Gregory Coyes, *Making Waveforms* course 2018/2019, Canada, guest lecturer (co-founder of the Slow Media community)
Dan Guinan, *Making Waveforms* course 2018/2019, Canada, organisational partner (former President of the Native Education College)
Jaymie Johnson, *Making Waveforms* course 2019, Canada, research assistant
Siobhan McHugh, *DayOne* podcast 2018 advisor, Assistant Professor at Wollongong University, Australia; Podcast producer and critic

These Zoom conversations took place as I was writing up the Introduction section and metareflections of this thesis, so that my own relational learning from these could be considered in any final recommendations for this project.

6.3 Multimedia results

In the Flow series of four short videos

In the Flow (2020) is a series of four short videos representing my translation of the four academic journal articles I wrote as part of my PhD-by-publication. The videos are part of my arts-based research practice where people who participated in part(s) of the research, including scholars whose work greatly influenced me, were invited to watch them and respond to them in a Zoom call. That response was shared publicly as a podcast (see the *Climate for Changing Lenses* podcast series) and part(s) of that were included in a final song/music video (see *Please Don't Blow It* song/music video), that integrates diverse perspectives across Canada and South Africa.

In the Flow

videos can be accessed as follows:

Part 1 is about my experience of living through the Cape Town water crisis of 2018, and co-producing a podcast around it as part of my contextual profiling:
https://vimeo.com/485163085

Part 2 is about a course I piloted in Vancouver, Canada in 2018:
https://vimeo.com/485165223

Part 3 is about a course I iterated in Vancouver in 2019:
https://vimeo.com/485165948

Part 4 is about a course I iterated in Cape Town, South Africa in 2019:
https://vimeo.com/485168735

**The password to access all videos is: water2020*

Each *In the Flow* video consists of: instrumental mbira (thumb piano), the call/beat of a red-eyed dove, my voice sharing key aspects of an academic paper in rhyming prose, and photo/video documentation of the stage of my praxis process represented by the paper. Each component brings an important meaning to the videos, while the overall work is an exploration in transforming academic writing into an emotionally affective experience. The mbira songs are composed and performed by me, and represent one of my first relationships with local knowledge. In 1997, I started studying Shona oral music traditions in Canada, and the friendships developed through this inspired me to first come to the continent of Africa in 1999. The oral traditions have been an important experiential learning for me in diverse ways of knowing and being, as I have been learning, composing, performing and teaching Southern African music for two decades without knowing how to read music. My voice is included partly to express my body and spirit in the work (and entanglement in the world), partly to contribute to the potential emotional impact of the work not necessarily possible through academic writing alone, and as a tool for musicalising the academic paper into rhythm and rhyme. The call of the red-eyed dove is a way to acknowledge the land and waters of South Africa

where I have been living, studying and engaged in parts of this work. It is also about including the agential qualities of the wider-than-human in my proposed reconciliation practice, with the dove being chosen as a symbol for living peacefully with difference. The photo/video documentation is intended to present the narrative of my praxis process, especially the relationships established, and to include some details that could not fit within the word count limits of academic papers. A water ripple effect layered over photo documentation speaks to my reflexive practice in making these videos, and how water is a mirror of our social relations.

Climate for Changing Lenses podcast series (seven episodes)
Climate for Changing Lenses (2021) is a podcast series consisting of seven episodes which represent responses by research contributors from my PhD to research findings made available to them in the form of four academic papers and four short videos (the *In The Flow* series). These podcasts, hosted by me, were produced by editing the recordings of conversations I had with participants in December 2020. The purpose of creating and sharing this podcast series is twofold: (1) to contribute some of my research process towards a (public) knowledge commons; and (2) to engage listeners in affective relation with myself and my podcast guests through the host-listener intimacy made possible within the podcast genre (see Paper 1 for more details). These podcasts were edited together and shared back with participants for their approval before publishing the podcasts online. The editing process required some minor narration scripting and performing from me, and some music sourcing, to weave together a more succinct and affective audio narrative.

Climate for Changing Lenses
7 podcast episodes can be heard here:
https://anchor.fm/sarahvanborek

Please Don't Blow It song and music video
Please Don't Blow It (2021) is a song and music video that represent diverse perspectives and voices from Canada and South Africa that touch on key themes from this PhD research. It started as an original song *Please Don't Blow It* (2019) composed, performed and produced by Cape Town based Mapumba Cilombo. Cilombo generously offered that this song could be altered as part of this research experiment. The original chorus from the song remains intact, while verses to the song have been constructed by reconfiguring statements from recorded conversations I had with various

research contributors (described in section 6.2 Methods). Three participants asked for specific statements to be included in the song, while the rest of participants agreed that I could select statements from our conversations. I listened back to recordings and noted statements that had strong affective qualities, could work well as lyrics (e.g. poetic), and that touched on major themes of the research. Once I had selected statements, I shared these with the relevant participants by email for their approval. I also chose to include a Xhosa translation of one of the key chorus lines which mirrors the song title, *Please Don't Blow It*, to refer back to the diverse ways of knowing that are embodied in language. Singer, Zanele Mbizo, translated this lyric. Cilombo and I then workshopped the statements together to construct the full lyrics, in spoken word form, found in Table 6.1 below:

Table 6.1: *Please Don't Blow It* (2021) song lyrics

VOICE	LYRICS
F. Holliday	We are looking at nature through different angles Observing different characteristics The beauty has just, just been enhanced I can see things that I never saw before
S. McHugh	Think through your ears
M. Cilombo	*(Chorus)* *We've got an opportunity to learn much more* *Than we ever, ever, ever, ever had before* *Please don't blow it* *Please don't* *And whatever we're gonna' go for* *Has to be much more* *Than silver and gold, people we know this* *Please don't blow it*
D. Guinan	Throughout the world You have this European model of the university That's been imposed across all the continents That is replicating the capitalist system everywhere In a cookie-cutter sort of a fashion
I. Crowster	And everyone want (sic) to stay alive So, we better do the right thing, and not the wrong.
G. Coyes	Land and water as teacher There's no question The language of the stream It's telling us a different story every day
J. Johnson	Our kin that we think of as inanimate also teachers

G. Coyes	Everything that has ever been experienced on this Earth The water knows it The water has experienced it In that incredible cycle of water We're drinking the tears of our ancestors
M. Cilombo	*(Chorus) We've got an opportunity to learn much more* *Than we ever, ever, ever, ever had before* *Please don't blow it (Xhosa: Sukuy' imosha)* *Please don't* *And whatever we're gonna' go for* *Has to be much more* *Than silver and gold, people we know this* *Please don't blow it x4 (Xhosa: Sukuy' imosha)*
D. Guinan	We're all being human together Acknowledging who our ancestors are Putting ourselves in the context of the human story Understanding what being human is
F. Holliday	Trying to reconcile With every bit of myself
D. Guinan	I thank mother Earth for all of the things That we put in our bodies Which includes the water And it includes everything that we eat Everything that is Mother Earth We're bringing it into our body
F. Holliday	Trying to reconcile With every bit of myself
G. Coyes	The creeks that I've worked with ... They deliver information to us ... And if you think about water as a living entity Then the amount of information that's coming to us At one specific point With a camera That we're documenting in real time Is extraordinary
R. Bergler	That story and that personal connection that we get Is so impactful
G. Coyes	In that incredible cycle of water We're drinking the tears of our ancestors
M. Cilombo	*(Chorus) We've got an opportunity to learn much more* *Than we ever, ever, ever, ever had before* *Please don't blow it*

For recording/producing the song in audio form, I cut the audio files of participants' statements from the recordings, initially layered these into the music in terms of timing, and provided these to Cilombo. He then tweaked their timing, and composed melodies for each of the statements (sometimes singing all the spoken word lyrics, other times only part of them; sometimes singing alongside them, other times echoing them). We then recorded two vocalists, one in Cape Town, South Africa and one in Vancouver, Canada (the two study sites of this research) to sing these lines. Cilombo then edited these singing lines alongside the spoken lines, highlighting our always already entanglements with one another and the world. Our Vancouver-based artist also contribution traditional Indigenous drumming, which Cilombo also edited into the song.

In terms of the music video, I filmed the Cape Town singer, Zanele Mbizo, while friends/colleagues in Vancouver, David Brigden and Duane Woods, filmed the Vancouver singer, Russell Wallace. In Cape Town, I filmed Mbizo first in a friend's studio (Low Key Studio); and then on location at the Theewaterskloof Dam near Villiersdorp, about one-and-a-half hours' drive out of Cape Town. I chose to film there because, in 'thinking with water' (see Paper 3 for more details about this), the *communication* and *archive* (Neimanis, 2017) of the water and the dam tell of the colonial past and the impacts of ongoing settler colonialism linked to our watery relations and uses. Of the six dams providing municipal water to the city of Cape Town, the Theewaterskloof dam is the largest one and it was nearly empty during the Cape Town water crisis of 2018 (see Paper 1). When we filmed in early 2021, the dam was 85% full (Western Cape Government, 2021) and imagery of this provides a bitter-sweet reminder of the possibility of both scarcity and abundance at any moment, depending on how we choose to relate with each other. In Vancouver, Brigden and Woods filmed Wallace in studio, and outside on Burnaby Mountain. While I was hoping to have him filmed by the Cleveland Dam in Capilano River Regional Park (one of three watersheds providing potable drinking water to the city of Vancouver), costly film permit requirements from the park authorities meant it would not be feasible for my PhD timeline or out-of-pocket budget for this project. I endeavoured to find stock footage of Capilano river and the Cleveland dam as an alternative, and repurposed some footage I had recorded during a Capilano Watershed tour I had taken in 2018 after the pilot course for this study. I then edited this footage together along with the recorded Zoom conversation visuals of participants stating their contributing lines. Because the music video and song interact (e.g. the conversation visuals provide the spoken lines for the song), there was a bit of back and forth between Cilombo's editing of the song and my editing of the music video. For the Chorus sections of the video, which features Cilombo's original lyrics and voice, I edited in original footage I filmed of Cilombo along Cape Town's Atlantic coast in cinemagraph or 'living photo' style. This is a style

where everything in the image remains still, like a photograph, except for one selected area of the image which then seems to loop infinitely. In this case, the only moving subject in the frame is the water, with dynamic in-flows and out-flows, as well as waves crashing. While Cilombo is present in the foreground of the camera frame, he remains still and with his eyes closed (to symbolise connecting with the 'inner' world or inner knowledge), thereby metaphorically foregrounding the water and its agential qualities. The final music video was then uploaded to Vimeo (link available under 'Videos>Final Music Video 2021' on my thesis website at: bit.ly/svanborekphd).

6.4 Reflections

I undertook a process of creating several modes of multimedia, which are all entangled in procedure and intention, at various stages of my process. I am grateful for the opportunities this provided to emphasise the value of relationships I established and maintained throughout this PhD. I argue that the multimodality of my research representation is critical to my ethical commitment to decoloniality, and to strive for my research to reach a broad audience, along the research journey. I see this as a critical part of my contribution to knowledge, by producing a multimedia PhD thesis which can potentially open doors for others.

While I do not self-identify as being part of the Autism spectrum per se, I relate to Temple Grandin's concept of "thinking in pictures" (1995) which she describes, as "full-colour movies, complete with sound, which run like a VCR tape in my head" (Grandin, 1995, p. 3). For Grandin, this means that when something is described to her, she sees specific pictures of that thing which flashes up in her memory. It also means that she can develop something before having the language to describe it. When I look back at why I first began this PhD, it was largely because I was already starting to 'see' something in my earlier pedagogical practices that I did not yet have the language for, something I felt connected with discourses of reconciliation and decolonising education that were circulating around me. Engaging in an arts-based praxis process, learning-by-doing/creating podcasts, rhymed prose, videos, a song and music video, as well as working with video stills and audio and video hyperlinks in some of my academic papers, have been an integral part of my own ways of doing/being/knowing, and which have enabled my thinking and practice to evolve in a kind of reciprocal dance. This has also been an essential part of my affective learning and sharing of knowledge, cognisant, as I have described in all four papers, that affectivity is an essential part of relations towards reconc iliation.

CHAPTER 7: SUMMARY OF CONTRIBUTIONS TO KNOWLEDGE

This study presents a conceptualisation of what education, research and activism can look like and unfolds inside a doctoral research project that expands what doctoral education can look like.

7.1 Relational model of curriculum towards reconciliation

This study offers a relational model of university curriculum – site-specific, media arts-based, environmental education – with potential to cultivate relations (human and nonhuman) towards reconciliation while contributing to justice at the water-climate change nexus. This curriculum is based on a concept of reconciliation as *a practice towards thriving together*, where the 'together' is inclusive of both humans and nonhumans. This curriculum has been iterated three times: as a pilot in Vancouver, Canada in 2018; again in Vancouver in 2019; and then in Cape Town, South Africa in 2019.

The curriculum engaged students in de/re/constructing water narratives through making site-specific videos focused on local water bodies. Decolonising artistic approaches known as *slow media* and *soundscape recording* were strategically incorporated into audio/video mapping assignments where students observed water aesthetics in ways that shifted their perceptions about water and actors entangled with it. Students met with Knowledge Keepers (Indigenous and non-Indigenous people from outside the academy with existing relationships to water bodies). A photovoice methodology was used in these meetings with Knowledge Keepers to reconfigure traditional film director-subject power relations. Guest lecturers from non-traditional backgrounds contributed diverse perspectives. Ecomotricity, whereby students were in deliberate movement in/with water bodies through canoeing, immersed students in embodied water experiences together. The curriculum culminated in a public screening/education event where resulting videos, interspersed with educational games facilitated by students, surfaced emotions, knowledge co-production and new synergies amongst the event's temporary community.

This curriculum was shown to cultivate students' relational sensibilities and abilities oriented towards reconciliation, specifically: knowledge ecologies; intercultural understanding; empathy; reciprocity; embodied ways of knowing; a hopeful social imaginary; and [re]connection to place. Connections were made between the curriculum and Mi'kmaq elder Albert Marshall's 'Two-Eyed-Seeing' and I expanded the notion to 'Three-Eyed-Seeing' to include artistic approaches (see Paper

2). The curriculum underscored the importance of the narrative aspects of reconciliation education, strategically engaging students in understanding and engaging hands-on with 'narrative power' which juxtaposes dominant and personal narratives to create new narratives.

When viewed through a lens of posthuman theory, this curriculum decentred the human and foregrounded the nonhuman. This curriculum invited students to work with relational texts (audio/video) through student-water-technology intra-actions supporting the creating and shifting of affective relations more than the monumentalised verbal/written knowledge of traditional universities. Students' perspectives of themselves in relation to the world, particularly around their intra-actions with water, shifted through their experiences within the course to see the entanglements of water. While actual change beyond the course is not proven, such shifts in perspective may potentially contribute to change in students' views of themselves and their intra-actions with entangled entities in the long-term. Students observed theagential qualities of nonhumans amidst ongoing settler colonialism while experiencing their own ethical entanglements with it. As I outline in the Conclusion of Paper 3:

> Students changed from approaching water with a hierarchical sense of control and capture (e.g. traditional filming approach) to witnessing, listening to, and responding to nonhumans' enactments (intra-acting with the fixed slow media camera frame). As student-water-technology intra-actions, particularly those incorporating artistic approaches of slow media and soundscape recording, activated the senses and embodied ways of being, students' perceptions of water changed so that students noticed the non-verbal, affective communication of water aesthetics produced through water's performance in the world. Students' affective relations changed to experiencing deeper connections (entanglements) with water, aesthetic appreciation for water, and empathy and gratitude towards water. Students changed into response-able water protectors through the making of videos presenting narratives valuing water as important to animals, plants, and all peoples (including those marginalised by ongoing settler colonialism), and for purposes beyond consumption. This contributed to a reconciliation practice for higher education institutions by enabling relations that decentre humans and their ways of knowing/being/doing, de-essentialising identity, enabling more equal power relations between bodies (both human and nonhuman), and producing greater possibilities for shared-while-differentiated response-ability. (Van Borek, 2021b, p. 122-123).

Non-verbalisable, implicit learning – understood as part of many non-Euro/Western ways of knowing – took place in the *Making Waveforms* course, and influenced water-specific climate behaviours while contributing to a decolonised reconciliation practice for higher education institutions. Non-verbalisable, implicit learning primarily took place through: 1) site-specific audio/video mapping of water bodies; 2) meetings with Knowledge Keepers; and 3) an interactive public screening event. This non-verbalisable learning produced, in students, feelings of empathy for diverse peoples and waterways, as well as aesthetic appreciation of water, and this can contribute to more response-able water behaviours. This, as was argued in Paper 4, supports the valuing of implicit knowledge within a traditional educational setting, thereby pluralising knowledge, and is key to reconciliation/decolonisation in higher education. Iterating the curriculum for the South African context emphasised the importance of context-specificity of the course overall, and also of the relational work embedded in the curriculum.

7.2 Podcast as contextual profiling methodology

The *DayOne* podcast, which was part of an experiment in generative research in the early stages of this study, presented an experimental arts-based methodology for doing contextual profiling using socially-engaged podcast-building. It included a process of recording conversations with diverse residents to explore the lived experiences of a climate crisis (e.g. the Cape Town water crisis of 2018, in my case). It presented a methodology for contextual profiling that, building on relational and social movement learning, might work well for climate change education because it allowed one to evolve as the situation unfolded. The podcast episodes included personal narratives that, in turn, revealed diverse ideologies and polarisations in the water situation. Working with the audio medium highlighted possibilities for creating and shifting affective relations. Recording and editing soundscapes of water bodies began explorations of water's agential qualities. These were foundational dynamics to explore in building the reconciliation curriculum. The four *DayOne* podcast episodes resulting from this part of my PhD studies offer a cultural archive of context-specific water narratives around the lived experiences of the Cape Town water crisis of 2018. By covering four thematic areas that surfaced through the podcast-building process: (1) introduction to the water crisis; (2) water privatisation; (3) water augmentation; and (4) health in drought, the podcast series offers an essential framework for water literacy that can be applied to any context. Some of these episodes are also available with narration in the three main languages of Cape Town: Xhosa, Afrikaans, and English.

A significant learning from the *DayOne* project was that some of the relational sensibilities and abilities towards reconciliation I was aiming to foster in the main model of university curriculum I was developing, could surface in a learning environment that used the aesthetic of audio only (and not video), and through an informal, social learning process (as opposed to a university setting). The multimodality of this approach also created openings for my own affective learning (Riley, 2020; Zembylas, 2019) of lived experiences of the drought, where I felt emotionally connected to the people we were meeting and recording conversations with. I was spending significant time and attention with the stories they had shared, both in the script-writing and podcast editing stages. I was experiencing a lot of empathy for peoples' situations, while also experiencing a sense of shared humanity through living through the drought with them, albeit in my own experience of it. These deep, and sometimes challenging, feelings caused me to learn about the water crisis from a socio-ecological perspective, and from my heart-mind that developed a sense of responsibility alongside a deepening understanding.

7.3 Anatomy of decoloniz/sed curriculum

Through reflective analysis of my four papers, I developed a concept for an *Anatomy of decoloniz/sed curriculum* consisting of five key parts: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum. I described my conceptualisation of these five parts in the Introduction section of the thesis, herein summarised as follows:

Relationality in curriculum places the building and/or shifting of relationships as the primary course objectives. This disrupts the normativity of Euro-western universities which design and enact curriculum to uphold existing positions of power and related neo-liberal values that prioritise the economy. Relational curriculum also creates opportunities for building and/or shifting affective relations through affective learning. A relational approach, where we engage in a practice that affirms how we are always already entangled, can highlight the need for shared, while differentiated, responsibilities in social-ecological processes such as reconciliation and climate change.

Multimodality embraces a notion of knowledge as beyond cognitivism and linguistics alone, and opens to being inclusive of spirituality, emotions, intuition, and other ways of knowing that have traditionally been discounted by modern universities. Multimodality recognises that knowledge occurs inside and outside a diversity of languages, and invites knowing in multiple languages (including non-verbal ones expressed by nonhumans). Multimodality also creates openings for

knowledge which is silent or implicit, and which does not necessarily exist outside of one's self. This also allows us to move away from the colonial university model which segregates ways of thinking/doing into siloed fields and disciplines, which can help us to better unpack the intersectionality of issues. Any serious decolonisation project must address the ***narratives*** that colonisation so deeply entrenched in social constructions and that continue to dominate our lives. The narrative of colonialism itself must be scrutinised. Working with narratives means working with counter- narratives, that is, narratives which challenge dominant narratives. Narratives link back to relationality since there can be narratives about what knowledge is, who owns knowledge, and what knowledge is worth knowing; and through relational practices we can shift these narratives. Narratives can also exist as affective relations. When we change how we feel about a particular happening, we create openings for changing the ways we relate with those around us who we perceive to be (directly or indirectly) linked to that happening.

Disrupting epistemic injustice requires an education that is ***context-specific*** in its processes of knowledge production, and presentation of these. When knowledge is stripped of context, including of geo-political positioning of author, it is purported to be universal. The perceived universality of knowledge supports ongoing settler colonialism by normalising the imposition of one knowledge on others while silencing or making invisible other ways of knowing and knowers.

By ***unhidden curriculum***, I propose that decoloniz/sing curriculum requires making visible the hidden curriculum (thereby surfacing the null curriculum), and strategically enacting an unhidden curriculum which supports decoloniz/sing aims (thereby reversing the null curriculum). Eisner (1985) identified three types of curriculum: explicit, implicit and null; and the implicit, or what Le Grange (2016) called 'hidden', refers to the dominant institutional culture including its values while the 'null' refers to what is not yet there. This reframes access as more than passing entrance exams or getting access to funding for tuition to include factors influencing senses of identity and belonging. The hidden curriculum, which works silently yet ruthlessly, and perhaps even unknowingly, to reinforce the null curriculum, must be treated with the greatest of care. To offer a reconciliation curriculum without attention afforded to the hidden curriculum would be like apologising to someone without realising you are still standing on their foot (continuing to cause them harm while also preventing them from moving forward). Giving careful attention to the hidden curriculum means taking into consideration the relational context which, as mentioned earlier, Donati (2016) asserted to be essential to social change. The unhidden curriculum, which works audibly and knowingly to reverse the null curriculum, is like the lungs of this *Anatomy*, breathing life into the four other key

parts. Where legislation enacted cultural genocide through efforts "to kill the Indian in the child" (Young, 2015, p. 5) in Canada, and, similarly, to kill the African in the child in South Africa (Mzamane, n.d.)., imagine what might be possible with an unhidden curriculum which breathes life in the Indian, African and/or any other culture or cultural combination(s) in emerging generations.

7.4 Decoloniz/sing my own PhD process

Four metareflections have been included in this thesis, each corresponding with one of the four papers written as part of this PhD-by-publication, and presented chronologically according to the stage of the praxis process with which they correspond. In these metareflections, I apply Kolb's (1984) Experiential Learning Cycle model for reflective writing, based on the premise that through experiences we can expand our understanding. As part of this process, I critically analysed my concrete experience and reflective observation to determine which, if any, of the five key parts of the *Anatomy of decoloniz/sed curriculum* that I outlined in my Introduction (of this thesis) related to the various phases of my PhD praxis process. I made conclusions about the extent to which each stage of my PhD embraced decoloniality in practice, and built on this new understanding to make recommendations for myself and others committed to the decolonial project. I found that my PhD journey did indeed embrace decoloniality throughout the research process, herein summarised as follows:

Relationality was expressed through establishing, building and shifting relations throughout the research project. This began with the *DayOne* podcast context profiling methodology through to the representation of research findings as podcasts, a song, and videos. The relationships, which expanded in a rhizomatic way, were essential parts of the curriculum. I was learning from and with everyone I engaged with, including activist-scholar collaborators, participants, scholars of literature I was reading, and editorial teams from journals I had submitted publications to. Through multimodality, including stories and canoeing field trips, I was developing/shifting affective relations in a variety of ways. Building on existing connections and networks helped expand possibilities for enriching the course, and for developing collaborative relationships for relational work on social and environmental justice in the long-term.

Multimodality was expressed through the many modes of learning and research dissemination that I engaged with. The multimodality of this process created openings for me to engage in affective, embodied learning and left me feeling more water literate, connected and responsible. Working with podcasts, videos, and a song/music video opened up new possibilities for engaging a broader public

in the research, as well as in knowledge co-creation through the creative responses. I also experienced these as ways of tapping into other ways of knowing in my mind/body/spirit/intuition. Learning to adapt technologies and software to suit the context (e.g. using smartphone filming and open source editing software in South Africa) was challenging but proved to be very important. The writing of the academic papers was also an important part of this multimodality, as it challenged me to develop the concepts and language to begin articulating methodology and aims, and the papers became tools in sharing research back with participants towards the end of my PhD process. My growing appreciation for possibilities afforded by slow media, soundscape recording and water aesthetics, made me more closely attuned to the importance of multimodality. I recognised how historical legends rooted in an Indigenous worldview can provide a unique point of reference for exploring water issues, and this inspired my unlearning of a familiar place.

Narratives/counter-narratives were essential to my learning. Experiencing the ways that personal narratives can reveal different ideologies and polarisations in a water situation afforded openings for developing a context-specific reconciliation pedagogy. I experienced first-hand the shift in power that can be experienced in creating an alternative narrative, for example, when we chose to name our podcast *DayOne.* I experienced the importance of reflecting critically on dominant narratives I carry as an educator while enacting a curriculum meant to challenge dominant narratives. I learned that some narratives exist as silent narratives, and that video/audio tools can help to give voice to these. Access to historical narratives, e.g. *Legends of Vancouver* (1911), contributed to my reconstruction of personal narratives. I learned that dominant narratives can be drawn out of students through a facilitated workshop, and these can become an anchor point from which to start building alternative narratives that can disrupt the dominant narratives. I experienced how the context in which the narrative unfolds adds to the meaning that the narrative contains. I also learned how narrative plays an important role when it comes to linking policy with practice, for the 'narrative power' of legal language ultimately lies in how it is interpreted. I experienced how storytelling can help to create affective relations (e.g. feelings of empathy) towards the storytellers.

Working across contexts in this study meant that my work needed to embrace ***context-specificity*** at every moment. Podcast-building, which supported an engagement with the Cape Town context, was more immediate and affective than some more traditional academic approaches, for example, a literature review. While the overall concept of a watershed and water management may have component parts which can be carried across contexts (e.g. water sources, waste/water treatment, water provision, etc.), my experience in making *DayOne* showed me how context-specific those

components are to each watershed and/or water management situation. Supporting students in the making of site-specific videos was also a highly affective way for me to learn more about each context in which the videos were made. Canoeing field trips contributed to embodied, affective, contextualised learning. Writing an academic paper also surfaced context-specificity, for example, differences in meanings of notions like ‘Indigenous’ between Canadian and South African contexts. The context-specificity of knowledge and learning became tangibly felt when introducing peoples and experiences into the course across diverse heritages (e.g. Squamish and Tsleil-Waututh in Canada, or Khoisan and Xhosa in South Africa). This was extremely important in recognising that “Indigenising/Africanising” curriculum meant much more than one thing. It was essential to recognise that narratives could be dominant and harmful in one context, yet alternative and helpful in another context. When enacting the courses across contexts, I needed to factor in the safety of learning spaces and processes, suitable technologies, climate/weather conditions, access to transportation, acknowledgements for working on traditional territories, etc.

My approach to this doctoral research project made visible what is otherwise referred to as ***hidden curriculum***. In this emergent process, it also reversed the null curriculum by bringing collaborative, generative, multimodal, relational scholar-activism into being. The ways I was relating with others in the process, how I was fostering (and suggesting the value of) knowledge co-production, how I was sharing co-produced knowledge publicly, and how I was bridging between my positions as a PhD scholar and arts-based scholar-activist, made explicit my values and aims to disrupt traditional institutional cultures. Thanks to the academic freedom afforded to me by ECUAD and not being employed by UCT, I was able to experiment with redefining my role as a university ‘instructor,’ taking up activities likened more to project coordination and facilitation than ‘lecturing’. Often I was participating in the learning experience with the students, seated at the same level as them, engaged in the same activities as them. I supported students’ actions towards reconciliation (e.g. including Indigenous names of water bodies in their videos; and students sharing their videos as public education), and argue that this can reinforce an institutional attitude of respect and reciprocity. I exposed students first-hand to new institutional cultures, and argue that this can encourage critical awareness and possible disruption of the institutional culture(s) of the institution(s) hosting this course. By endeavouring to set up a new university course, I uncovered the thick, complex processes required to do so. Including some working professionals alongside registered UCT students in the course suggested that learning could take place both inside and outside the academy, and could be a lifelong process which one engages with even as a working professional. Hosting a short course that was not for credit, and where there was no grading involved, enabled a breaking down of hierarchies

between teachers and learners to support a greater sense of co-learning.

7.5 Theoretical and methodological developments

Through the generative nature of this PhD-by-publication, a variety of theoretical and methodological developments were produced which advanced knowledge in a range of academic fields, including: posthumanism, reconciliation, arts-based research methods, decoloniality, curriculum theory, and theories of explicit and implicit knowledge.

This study advanced posthuman theories by: conceptualising audio/video as 'relational texts' through student-water-technology intra-actions supporting the creating and shifting of affective relations; proposing a posthuman concept of reconciliation "as a material-discursive practice, with water, (re)configuring relationality to decentre humans and their ways of knowing/being/doing, and to co-constitute more equal power relations between bodies (both human and nonhuman)" (Van Borek, 2021b, p. 99); defining posthuman activist research as "perform[ing] diverse material re/configurations across the here-and-now with an openness to change presenting itself if, when and how it does from each assemblage, while dancing with emerging agential qualities of other bodies" (Van Borek, 2021, p. 102); and building on water's hydro logics of communication (Neimanis, 2017), by proposing audio/video mapping of water aesthetics as a methodology for engaging with this.

This study advanced reconciliation theories by: showing evidence to support the importance of decentering humancentric, language-based knowledge and ways of knowing; defining reconciliation as "a practice towards thriving together, where the 'together' is inclusive of both humans and nonhumans" (Van Borek, 2021a, p. 9); outlining a set of sensibilities and abilities towards reconciliation; and underscoring the importance of engaging with the hidden curriculum through enacting an unhidden curriculum.

This study advanced arts-based research methods using: socially-engaged podcast creation and media arts-based curriculum as contextual profiling; song/music video creation as part of member checking; and multimodality in representational aspects of this thesis. Arts-based methods were further advanced by expanding the concept of Two-Eyed Seeing to Three-Eyed-Seeing to include artistic approaches; and adapting photovoice methods for shifting power relations in teaching, research and filmmaking.

This study advanced curriculum theory by applying a media arts-based praxis process across two continents as part of curriculum design.

This study advanced decolonial theories by proposing an *Anatomy of decoloniz/sed curriculum* shown to be applicable across Canadian and South African contexts and consisting of five parts: 1) relationality; 2) multimodality; 3) narratives/counter-narratives; 4) context-specificity; and 5) unhidden curriculum. While most of these have been part of discourses around decolonising education, in this study I proposed them as an 'Anatomy' based on what is made possible through their synergy.

This study advanced theories of explicit and implicit knowledge by expanding such theories to include embodied, multi-sensorial experiences and affectivities of knowledge expressed through multimodalities that extend beyond human language, including but not limited to storytelling and audio/video mediums.

Through my personal journey in this PhD process, deeply enriched by the reflexivity required in writing the metanarratives in this thesis, further developments emerged which contribute to the advancement of knowledge. Embarking on this praxis process, as a form of activism through research, teaching and art making, required careful attention to what unfolded as it unfolded, rigorous interactions between practice and theory, and an openness to adapt the design of the curriculum and the approaches of the research. Iterating between different and evolving contexts numerous times demanded that I confront my own assumptions about various aspects of the work and my expanding positionality. The multimodality of this work meant I was affectively learning (e.g. through lived experiences of the water crisis, the pipeline protest camp, canoeing, etc.) and this deepened my commitment to the work. My choice of undertaking a PhD-by-publication presented opportunities for: reflexivity and theoretical engagement at strategic stages in the research; rich dialogic exchanges with reviewers which drew me to delve deeper in my ideas and executions; and bringing readers meaningfully inside my praxis process. At the same time, the PhD-by-publication format presented challenges in terms of maintaining theoretical and methodological coherence across the research project and Dissertation. Through exploring ways I might decolonise my PhD process, I became acutely aware of the significance of this with regard to the integrity of my entire PhD project. At the same time, I gave myself permission to bring a playfulness into these approaches, all the while experiencing my own affective shifts in allowing for more parts of myself (body, spirit, intuition, etc.) to be expressed in the learning process. As the Introduction section of this thesis shows, taking up the project of creating openings for reconciliation as part of environmental education, especially across two contexts of different colonialities, was complex.

From challenges I experienced in locating constantly moving water bodies within traditional territories of specific Indigenous nations, to inconsistencies I encountered in expectations or protocols for practicing reciprocity with Knowledge Keepers, to being confronted with the non-applicability of land acknowledgements in the South African context despite their emphasis (and problematics) in the Canadian context, to working towards socio-ecological transformation from within institutions of ongoing settler colonialism, limitations to the study's focus—reconciliation—surfaced throughout. Nevertheless, this research dealt with these ethically by taking on the work of reconciliation (and approaching it as a collaborative process based on voluntary participation of collaborators); considering the theoretical aspects alongside the teaching practice through a commitment to praxis; and moving away from symbolic actions towards substantive actions by carefully considering respectful ways to integrate non-traditional (non-academic) knowers and ways of knowing in the process, and by focusing on the importance of healthy waterways.

This research began by building on a hunch that had started nearly a decade ago in my post-secondary teaching practice. It has been a remarkable, often humbling, experience to co-develop the tools, language(s) and relations through which this work has evolved and expanded, particularly with regard to its central transformative aims. The PhD journey was traversed by engaging my heart-mind with every step and water drop. I emerge from this process having transformed from a self-proclaimed water-illiterate individual once blindly positioned in the Anthropocene, to an entangled entity continuously becoming-with water. The Acknowledgements section at the start of this thesis hints at the many relationships established and reconfigured in this process.

This project is my offering to the world, with a combination of practical, theoretical and methodological tools that have shown to be meaningful across contexts and may be useful to your community, especially as we continue to strive to live peacefully within a diversity of species, both human and more-than. As this thesis and its many modalities go out in the world, I trust that where, how and with whom this work may live on, in whole or in part, will unfold as it may.

"If there is magic on this planet,
it is contained in water"

- Loren Eiseley

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APPENDICES

PAPERS 1 - 4 TO FOLLOW

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(Toward) Sound Research Practice

Podcast-Building as Modelling Relational Sensibilities atthe Water-Climate Change Nexus in Cape Town

SARAH VAN BOREK AND ANNA JAMES

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(Toward) Sound Research Practice: Podcast-Building as Modelling Relational Sensibilities at the Water-Climate Change Nexus in Cape Town

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Anna James, Rhodes University, South Africa

Abstract: With roots in past injustice and a future of complex social-ecological-economic-political situations, climate change calls for innovative ways to understand the evolving issues in real time and to continue to mobilise action, resources, and community around this. We, as arts-based researchers, focus on the climate change related drought in Cape Town, the city that almost ran out of water in early 2018. We embarked on a praxis process of co-producing a socially-engaged podcast series. We harnessed this medium to facilitate a form of social learning about this water crisis and as a device for uncovering the contested narratives of lived experiences of this water crisis. Our overarching goal was to support a more just and sustainable relationship with water in and beyond the crisis. We took an arts-based, relational approach to inquiry, with inquiry being both research and learning. This paper constitutes an important critical reflection on the process thus far to inform how we take this podcast into the future. We provide some context to the Cape Town water crisis and describe the building of DayOne's foundational four episodes as our research methodology. We then analyse the podcast-building process with support from literature on the podcast genre, social movement learning, and relational pedagogy. We outline why we feel relational sensibilities can contribute to social and ecological justice and how social practice podcast-building might help to cultivate these. We conclude by presenting three tensions to explore the question: how do we build podcasts in and with Cape Town as a tool for relational research-communication-education-action around urban water while best utilising the unique strengths of the podcast genre? These tensions are: listener-host intimacy versus sufficient contextual information; the affective power of raw audio versus the mediating power of editing audio; and the disruption versus reproduction of dominant narratives through sharing personal stories.

Keywords: Podcast, Water, Climate Change, South Africa, Relational, Social Movement Learning, Contested Narratives, Arts-Based Inquiry

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Introduction

The City of Cape Town took a lead role in the story of climate change in early 2018 when it became a major city at risk of drying up. "Day Zero" was the term used by the city's communications team to refer to the estimated date when the city would turn off the water running to most taps.[2] This was due to unprecedented and dangerously low levels in the majority of dams supplying water to Metro Cape Town and surrounding farms. The predictions were apocalyptic of up to 3.74 million city residents lining up at only 200 water collection points to get their daily allocation of twenty-five litres of water. Some of the city's main strategies (revealed through a drought timeline) responded to supply: preparing for alternative source water (e.g. digging boreholes, creating desalination plants, developing groundwater projects, and recycling storm water and wastewater), fixing leaks, and adjusting water pressure. Other city responses related to demand: installing water management devices across select neighbourhoods, increasing water tariffs and water restrictions, and intensifying requests for individual citizens to save water. Regardless of whether or not it had been their intention, the city's communications about the water situation shaped a distinct public narrative of doom and gloom. March 13, 2017,

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[2] The term "Day Zero" first emerged from the city's disaster management, according to a drought timeline created by Greencape: https://cdn.knightlab.com/libs/timeline3/latest/embed/index.html?source=1WAVNeLOMvctf3CgipLmCxXF_E7tl15jgTmG7XCefYMI&font=Default&lang=en&initial_zoom=2&height=650.

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Mayor Patricia de Lille declared the city's water situation a local disaster and by February 2018, at de Lille's request, it had escalated to a national disaster (Tandwa 2018). While such decisions were meant to liberate funds for emergency responsiveness, the message sent to the public may have contributed to the panic. City communications aimed at water conservation behaviour changealso framed a story of blaming and shaming, with a tacit message that this problem is, simplistically, made and solved at the individual household level. In February of 2017 the City ofCape Town publicised "a list of the top 100 water consumers in the city" (de Villiers 2017). By November 2017, the city published an online water dashboard showing water sourcing and usage and then, by January 15, 2018, an online water map. The city encouraged its citizens to report anybreach of the water restrictions (Evans 2017). Will shining a spotlight on suspected water culprits inspire cooperation and solidarity towards water resiliency?

Leading up to and during the crisis, the press presented stories about some of the local response that may, at first glance, suggest a straightforward narrative about scarcity and conservation. There were reactive responses such as a surge of "panic buying" of bottled water that emptied many shops of stock and saw shops increasing prices for bottled water (Gosling 2018). There were behavioural shifts like shorter showers and the collection and reuse of greywater, particularly by catching shower water and using this to flush toilets (Poppick 2018; Mahr 2018). Some people purchased and installed rainwater tanks and sunk boreholes. There were also reports framing a kind of water delinquency. For example, "water police" issued fines for water "misuse" such as attaching a pipe to a spring or for informal car washes without access to a well (Saal 2018; Pijoos 2018; May 2018). The arguably more progressive media presented some of the opposition to the city's pressures to save water; for example, the formation of a CapeTown Water Crisis Coalition made up of around seventy organisations protesting water privatisation in front of city hall (Dougan 2018). These varied responses, reflecting differences inmaterial realities from people across the city, can be considered a sort of social movement amidsta relational problem. How best might that movement be documented and shared, while it is unfolding, with the people of Cape Town so that we can develop and expand ways to learn from and with each other?

We are Cape Town residents who participated in carrying buckets between our showers and toilets. We are also among those Cape Town residents who have showers and toilets. We understand our relative privilege as being a product of historical, material relations that are perpetuated in part through the unequal distribution of water. It is for this reason that we commit to a standpoint from which we see knowledge building as necessarily collaborative and non-hierarchical. Acting on this, we embarked on a podcast-building project.A podcast is an audio story that you can download or stream online and listen to in your own timeand on your personal digital device.[3] A podcast can be seen as a form of democratised media in that what, why, and how audio stories are created, told, and shared are far more accessible than those of commercial media. Podcast stories can reveal important cultural information about context, relations, ways of knowing and being, values, and worldviews. Through initiating and driving a podcast-building process, we were able to draw out stories of lived experiences of the water crisis and ways of storytelling that were not featured in city and press communications. These stories reveal the competing ideologies around water and the polarisations that exist across a city where the architecture of apartheid laid foundations for an ongoing legacy of controlling the movement of water as much as people. What unfolds is a more convoluted narrative of scarcity asa social and political construct mediated by elected custodians of water.

We heard how going off the grid by digging a borehole is not a solution for everyone. The city relies on water bills for funding water services (Etkind 2018c, S1 E4) and this may harm the

[3] Ben Hammersley first conceived of the term "podcast" in an article for *The Guardian* in 2004 (Drew 2017, 203). The audio file is delivered by an RSS feed that the listener subscribes to, prompting listeners with new episodes of a serial program as they are available. "Podcast" can refer to a series or an episode.

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aquifer some farmers depend on to ensure the city's food security (Etkind 2018b, S1 E3). Some people began or increased their frequency of lining up at a natural spring collection station (Etkind 2018a, S1 E2). That the spring surfaces on the property of a commercial brewery (Etkind2018a, S1 E2) suggests competing interests. One NGO member pointed to the complexity that comes from having different tiers of government (that even represent different political parties) responsible for different stages in the water supply chain (Etkind 2018c, S1 E4). Overall, the tone of panic throughout the city was intense with little to no recognition by most government communications, businesses, and working-class citizens of the many poor communities for whom basic water and sanitation services have been a daily crisis for many years (Lucas 2018, S1 E1).

One strength of podcasting for action-based research is its ability to uncover and juxtapose both dominant public and personal narratives, and in doing so simultaneously reconstruct new public narratives. In the context of South Africa, ideally those new public narratives would enable us to consider competing ideologies and move past polarisations to co-create more just and sustainable water co-management strategies. In referring to a water allocation reform processthat took place in South Africa, Toye (quoted in Movik 2012, 140) outlines the problem in "The Idea of Scarcity in Historical Perspective" (2005) that "scarcity [is presented] as a natural phenomenon. But scarcity emerges as a consequence of the relations between means and ends and a social process that makes this relationship communicable." Even though Day Zero has been called off for 2018, the same cannot be said of the true water scarcity that faces the city of Cape Town in thelong term. Climate scientists revealed models showing that dry years will become more common (Wolski, Hewiston, and Jack 2017). When will we next see a Day Zero?

In many ways, climate change is a function of our global history and as it accelerates in urgency—through the increase in frequency and intensity of climate-related challenges—it presents us with "a historic opportunity because to solve it we need radical transformative change in how we produce, consume and organize our lives" (Cock 2018, 210). The need for radical alternatives to the current climate crisis, rooted in and exacerbated by capitalism (Satgar 2018), is becoming evident. The pressing necessity for transformative change to the current relationship between humans and our environment echoes across glocal landscapes.[4] Are we listening yet?

Podcasts in the Global South

Despite the birth and growth of podcasts in the global north in the early 2000s (Drew 2017, 203), podcasts in South Africa are still relatively new and not widely listened to. However, some podcasters have acknowledged that there is a need for what the podcast has to offer in the South African context. Reddy, the founder of Sound Africa podcast, notes, "despite how popular traditional radio is in South Africa, there's a dire lack of high-quality long-form content. For some reason, we have no shortage of talk shows but audio documentaries aren't much of a thing"(Media Update 2017). The literature on the podcast genre supports our agenda in this paper of reflecting on the research and pedagogy potential of our podcast-building.

Like radio, using the "grammar" of the audio medium, podcasts employ the "intimacy and authenticity that can be conveyed by the human voice," and the powerful ways that carefully crafted sound effects, the layering of sounds, and the choice of tools from the audio palette of timbre, pitch, tonality, and timings can be manipulated to play with listeners' imaginations and bring stories to life by pulling listeners into the story world (McHugh 2018, 7). Audio also containsaffective power where the emotional expressions conveyed through the human voice combined with the empathic ways of relating made possible through intimate listening can profoundly engageand influence listeners (2018).

[4] We apply the word "glocal" based on a definition by Victor Roudometof (2015, 776): "to connect the global and the local in order to create awareness and enhance rethinking of frames of action."

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Podcasts have qualities unique to their media genre. Podcasts are categorized by a strong host-listener intimacy, which contributes to their engagement and accessibility and a "narrowcast delivery style that engenders...empathy" (2018, 4). Podcasts are often listened to actively with intent, from start to finish, on personal headphones (Drew 2017). They have played a role in democratising media and creating a platform for marginalised voices. The podcast is to radio what YouTube was to television (which is a decentralised outlet for media self-publishing). This is largely due to technology making the process for podcasting more affordable and accessible.

Podcasts are increasingly becoming a tool for social change, largely due to their form, which combines personal storytelling with research (McHugh 2017). While podcasts might be considered on-demand radio—primarily made available for listening by streaming online throughsites like podbay.fm or iTunes—their form offers more than just catering to listeners' schedules. Podcasts also offer a platform that is simultaneously local and global, offering possibilities for expanding the reach of social movement and solidarity building. The disadvantage in the South African context currently is that web-based sharing of podcasts excludes a significant, and racialised, sector of the population who do not have ready access to network infrastructure like internet, smartphones, or personal computers, and in some cases even electricity. This is exacerbated by ICT services being the most expensive in Africa (Bornman 2016), and a lack of ICT skills amidst worsening infrastructure in South Africa (Bornman 2016). Reddy, however, notes that the cost of connecting will inevitably reduce (Media Update 2017).

What podcasts may lack in numbers of listeners, compared to radio, they make up in the quality of engagement and ways by which listeners can build a sense of relationship with the podcast host(s) and, in some cases, with other listeners (Perks and Turner 2018). Drew (2017, 216) outlines Wrather's (2016) view that "podcasting targets small but specific fan groups based on community interests rather than aiming for broadcast for the masses." Podcasts offer "time- shifting" and "place-shifting" (Bottomley 2015, 166; Perks and Turner 2018, 100), meaning the versatility of being there *with* you, *when and where* you want to listen, whether that's driving in the car, washing the dishes, or jogging on the promenade. They are unmediated by programming schedules or policies that may restrict certain types of commentary in radio. Podcasts, like literature and film, as a form of cultural production can be seen as an "intervention into producing meaning" and have the potential to serve as resources providing information and influencing action (Klaus and Zobl 2012). To date, some standardised formats seem to be emerging for the podcast genre. These include but are not limited to: personal/crafted narrative oraudio memoir (McHugh 2018, 2), "chumcast (where two or more experts or pals riff on a theme) and the performative interview" (2018, 5).

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Figure 1: Day Zero Moved Forward
Source: Sarah Van Borek 2018

From Day Zero to DayOne: Arts-Based Method of Inquiry

Our Thinking behind DayOne: Reflective Praxis

We see this paper as a reflective act that is an essential part of our praxis. We are drawing on our experience of podcast-building and literature in the areas of the podcast genre, social movement learning and relational pedagogy in order to critically reflect upon our praxis thus far. We acknowledge that podcast-building (with minimal focus on distribution to date) is an incomplete but important first phase of this process.

We herein apply the concept of "inquiry" as a hinge concept between research and social movement learning. Our standpoint is one that views the actualization of research as a collaborative, public good that not only shares outcomes but invites participation in the question framing stage. Knowledge is not only held within books and institutions formerly "producing knowledge," but we think of knowledge occurring in the struggles of lived realities and collective actions responding to injustice (Choudry 2015). This resonates with the emergence of the arts-based inquiry research community that formed to address the need for supporting socially engaged research, widening participation, and realising dialogue and transformation amongst researchers and participants in the process (Wang et al. 2017). The use of arts practice can take research engagements beyond the restrictions of positivist science where the researcher claims authority on the topic. Arts-based inquiry allows for research into complex phenomena that straddle the social and ecological worlds. Our interest in understanding the potential of this podcast aligns with the idea of inquiry, as Freire (1970, 72) argues, as a process of knowledge production that emerges through "hopeful inquiry human beings pursue in the world, with the world and with each other."

Arts-based inquiry allows us to engage with a dimension of knowledge production that relates to what can be represented, felt, or sensed in aesthetic forms beyond the text; in our case, the aesthetic of sound. In DayOne (Etkind 2018a, S1 E2), mural artist CareOneLove shares her knowledge of the Khoisan—the indigenous peoples of Cape Town—and their lost waterways by describing to listeners, in vivid detail, a mural portraying this knowledge visually, while she is painting it. In this same way, CareOneLove "teaches" listeners about playful innovations to

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saving source water like turning an umbrella upside-down. Through her calm, casual demeanour she brings listeners into her "classroom," which is an otherwise tucked away urban alley in the fairly poor neighbourhood of Salt River.

In addition to the utilisation of aesthetic modes, our method includes phases of praxis: the elements of surfacing questions grounded in/from experience (ours as podcast co-producers and that of our broader community), generating data through seeking answers to questions (through background research and having conversations and recording them), analysing and digging deeper into that "data" (organising the interview recordings into emerging themes), choosing the important parts that speak to the research goal and questions and knitting them together sensitively (editing field recordings and scripting narration), sharing the learnings in some representational form (as audio stories), getting peer feedback, and arriving back at the questioning phase (inviting the audience to question as well) (James and Van Borek 2018). Not necessarily distinct (Norris 2009), these phases combined make up a reflective and collective research praxis (James and Van Borek 2018).

Building DayOne's First Series: Our Methodology

We chose the name DayOne for our podcast series as an alternative to Day Zero, in an attempt to counter the rather paralysing fear and short-term thinking that a water crisis can bring and to look forward towards a long-term, solutions-oriented approach for radically reimagining the city's relationship with water. We sought to fill a gap in the existing drought communications: to be primarily audio-based and multilingual so as to better reach,[5] represent, and bring together the city's diverse perspectives; to be a ground-up initiative produced collaboratively in the spirit of participatory democracy; to explore the political, economic, cultural, historical, and ideological factors contributing to the situation; and to convene, as far as possible, an inclusive, non- polarised conversation within a deeply polarised situation across a city with vast inequalities.

Primarily an audio resource, DayOne borrows from the podcast genre but was moulded to particular goals and as a result grows another branch of this burgeoning genre. The content for each episode takes the form of four-to-five interviews with relevant actors across the city, carefully crafted as personal narratives or conversations, connected by a narration. These various elements are woven together by soundscape recordings of source water bodies (e.g. a river, wetland, ocean, and spring). Each narration script, which we co-wrote, was then performed by dedicated hosts with professional radio or theatre experience. There are three versions of each episode, with each narrated in one of the three main languages of Cape Town: English, Afrikaansand isiXhosa. The Afrikaans and isiXhosa hosts also translated the scripts, adapting the language to be more culturally relevant wherever possible.

DayOne is a co-created, social practice product. What we mean by this is that DayOne has a public engagement directive where, as the co-producers, we strive to mobilise themes, respond to questions, and recruit participants based on input from the broad community either through comments submitted to a website hosting the podcast or through in-person interactions. In the spirit of social practice art, which strives to enable positive social change (Frasz and Sidford 2017), we allowed the characteristics of the medium and the context to shape the format and scope of the project. Committed to being responsive to and within a crisis, we did not have the time nor the budget to carefully craft a product with as high a production value as some mainstream podcasts. Consequently, remaining aligned with the context and our project goals meant that we diverged from some podcast characteristics. Many mainstream producers use podcasts for entertainment or edutainment and include interviews, for example, The Joe Rogan

[5] A high prevalence of illiteracy persists in the country. For example, "78% of South African children in grade 3 still can't read for meaning" (Davids 2019).

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Experience.[6] Such producers largely determine the content of the podcast. Where many mainstream podcasts aim to build an audience, through DayOne, we aim to build a community ofcollaborators from within our audience.

DayOne currently consists of four episodes. These episodes cover four themes (and titles) that surfaced prominently amongst the people and organisations we engaged with: Day Zero, Privatisation, [water] Augmentation, and Health in Drought. The episodes are not exhaustive of the themes, nor do they engage solely with "traditional" experts in these areas.[7] This was not our aim. These episodes present an entry point into these issues through a range of perspectives and onthe ground experiences of this crisis. With the podcast we aim to unearth and share the knowledgeof diverse city residents and facilitate a "call and response" between the questions asked and responses offered from a variety of people, including local inner-city farmers, taxi drivers, community organizers, permaculture gardeners, and more. Participants were invited to be interviewed by us, and were sourced through a combination of online research, networking, and referrals. We aimed to include a diversity of demographics and perspectives across different neighbourhoods. Through a website hosting the podcast, we invite listeners of the podcast to submitmore questions and comments, which can serve to enliven the podcast as a public inquiry into thewater-stressed city.[8] The website URL was shared with podcast participants and our existing networks as a starting point to building an audience. The website is also mentioned at theend of each podcast episode. With our focus being initially on the podcast-building, we recognizethat thesharing aspect was limited.

Cultivating Relational Sensibilities for Social-Ecological Justice

We are working towards solutions to the way in which this water crisis is a relational problem resulting from multiple interrelated causes. Since society is constructed of relations, and relationships themselves determine their own conditions, social change can only truly be possible when we change the "relational context" (Donati 2016). This context presents a challenge not only for raising awareness or inspiring behaviour change across diverse cultures and languages, but for engaging, as Gaztambide-Fernández (2012) suggests, relationally, actively, and creativelyin a context that is radically polarised and yet interconnected. We see relationality as being at the heart of this work. To borrow from Gaztambide-Fernández (2012, 52), a relational stance is "to acknowledge being as co-presence, by deliberately taking as a point of departure that individual subjects do not enter into relationships, but rather subjects are made in and through relationships." We therefore apply an approach based on Ken Gergen's relational vision of education as "a set of processes intended to enhance relationships [with] an emphasis on individuals as woven into contexts and knowledge as produced in relations, a view of knowledge as contextualised, and a view of knowledge and action as heterogeneous" (Wortham and Jackson 2012, 164).

Podcasting, which combines story with sound, is essentially relational. Through voicing and listening, sound stretches our concepts of self in space and creates an embodied, connected experience with place and other bodies. It is relational in the ways that it reveals, forges, and has the potential to transform relations (Stewart 2018). Applying storytelling to sound further deepens our relational potentiality. "Stories [themselves] are relational—both in the creation and the telling...Stories are a method, in their own right, and a rigorous one at that. The creation, performance, re-narration, and sharing of stories provide opportunities for both researcher and participant to deconstruct and recalibrate experience and knowledge" (Todd 2018, 161). The

[6] The Joe Rogan Experience was chosen for comparison as a mainstream podcast because it ranked top three podcast overall by live iTunes ratings when accessed August 25, 2018.

[7] By "traditional" experts here we are referring to people who have been trained through academic institutions and accredited by these institutions in recognition of their expertise.

[8] At the time of writing this paper, the DayOne podcast is hosted on the website www.dayonewater.wordpress.com.

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narration scripts that we co-wrote illuminate relations between the various actors represented across one podcast episode (and across the podcast series) by weaving oratory threads from one to the next. With the narration, we invite listeners into relation with us, the podcast co-producers as well as the host and community of DayOne participants, by asking questions and suggesting they get involved.

Van Borek's primary PhD project involves using a praxis process to build a relational model of curriculum towards social and ecological justice. More specifically, she is exploring teaching and learning processes, tools, and spaces that can cultivate in students a distinct set of sensibilities that emerged from her initial literature review on relationality. The DayOne podcast provides an opportunity for Van Borek to pilot pedagogical processes aimed at cultivating these relational sensibilities. In the table below, she outlines how she sees various aspects of the podcast-building process might link to, and therefore eventually have the potential to contribute to, these sensibilities:

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Table 1: Relational Sensibilities from Podcast-Building

Relational Sensibility	*Podcast-Building Aspect*
Valuing **knowledge ecologies,** meaning there is a recognition, inclusion, and valuing of a diversity of knowledges. This can be realised through the co-production of knowledge (Ahluwalia et al. 2012). Gerger suggests it is important to acknowledge that knowledge is contextualised and "produced in relations" (Wortham and Jackson 2012, 164).	Documenting and presenting stories/storytellers/story contexts across different fields (e.g. science, arts, farming, etc.) and demographics equally Inviting a broad demographic to participate as co-investigators Encouraging a non-traditional form of knowledge production and sharing (e.g. sound/podcast)
Fostering **intercultural understanding** which may potentially be supported by focusing on the "[p]erception of…the interdependence between the many manifestations of life" (Lange 2018, 283).	Documenting and sharing content across three languages, wherever possible Documenting and presenting stories/storytellers across the spatial separations of the city
Fostering **empathy**. Broome (1991, 224) suggests that empathy involves a process of one person developing an understanding of another person's worldview and feelings and that it is particularly valuable between two people of vastly different "subjective worlds."	Encouraging the practice of active listening Creating opportunities for storytellers to be "safely vulnerable" in sharing their stories
Fostering **reciprocity** including the "[v]alorizing [of] 'free-giving' reciprocal relations" between people (Archer 2011, xii), as well as "[r]ecognizing the reciprocity between oneself and the [wider-than human, such as the]…water…[students] inter-act with" (Lange 2018, 293).	Encouraging the practice of dialogue and listening Providing opportunities for people to contribute to and receive from a knowledge commons
Engaging embodied ways of knowing, meaning learning that "addresses the whole person—body, mind, emotion, spirit, and will" shows up as a key theme in relational pedagogy (Lange 2018, 292).	Personalising and creating an affective experience between people in varied positions of power who are behind the narratives
Cultivating a **hopeful social imaginary**, beginning with "[a]n increased awareness of the reasons why social relations…can make society better or worse…just or unjust" (Donati 2011, xvi); and building towards "[o]pportunities for students to name the systems they are nested within, their positionality, the porous boundaries between systems, and to experience these connectivities" (Lange 2018, 291).	Uncovering and juxtaposing public and personal narratives to create new public narratives Framing the podcast project with the title "DayOne" to be more optimistic and forward-thinking than, for example, Day Zero
Cultivating a sense of **[re]connection to place.** In *A People's Ecology* from 1999, Cajete (quoted in Lange 2018, 292) suggests that "[o]rientation to place is essential for understanding what it means to be related."	Cultivating a practice of recording, sharing and listening to soundscapes Documenting and presenting stories/storytellers that speak to a connection with local water

Source: Van Borek 2018

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A Praxis of Consonance and Dissonance: Unearthing Three Tensions

How do we most effectively build podcasts in and with Cape Town as a tool for relational research-communication-education-action[9] around the issue of urban water, while best utilising the unique strengths of the podcast genre? To answer this, we critically reflect on three tensions that exist between DayOne's current form and our research and pedagogical goals. The conceptof tensions is engaged in a similar way to Luckett, van Kotze, and Walters (2016), acknowledging that we will not be able to achieve perfection as we grapple in a context of injustice. These tensions are:
1) listener-host intimacy versus sufficient contextual information;
2) the affective power of raw audio versus the mediating power of editing audio; and 3) the disruption versus reproduction of dominant narratives through sharing personal stories.

Tension 1: Host-Listener Intimacy vs. Sufficient Contextual Information

The first tension relates to intimacy of the host-listener relationship. The notion of host-listener intimacy in the podcast form resonates with us as a resource that can support our goal for DayOne to be a tool for social learning that holds the potential to shift traditional notions of teacher-learner relations. However, a number of circumstances present in the context of DayOne's birth jeopardised this resource from being properly utilised.

Firstly, DayOne was created with a sense of urgency in order to be responsive to the experience of panic and frenzy of a crisis. We were working in a tension between the rigour thatis asked of us when sharing information carefully and sensitively in academia and the urgency that is necessary in activism. The context of the water crisis showed us how important it is to engage with information, as it raised questions for us and some of the Capetonians we interacted with in our day-to-day activities. Where are the dams? How full are they? Who is in charge of managing our water? What are some alternative water sources? How do we save water in a way that is safe? Wefelt that the podcast needed to provide rigorous insight into the questions surfacing. We wanted tobe sure the podcast provided enough background information for listeners to be able to contextualise the various stories that surface in it and to be empowered themselves to join the conversation. The result was that our "writing voices" may have inhabited a bit too much of the script while the important elements of a connective, relatable, intimate podcast slipped through the cracks. During DayOne recording sessions, our hosts commented on the long sentences and heavyjargon in our narration scripting. While we adapted some of it then and there to be more conversational and believe that some improvement is evident as you listen through to our later episodes, the message from listeners is that we did not adapt enough. Siobhan McHugh, an internationally recognized oral historian, writer, podcaster, documentary- maker, podcast critic, and Associate Professor in Journalism at the University of Wollongong, generously listened to DayOne's first episode and provided important feedback. In a personal email sent on August 31, 2018, she remarked how the heavy narration failed to draw her in: "That's partly poor delivery andscripting...but also, why is HE the person taking me on this journey?? Better to open with a personalanecdote...This person should be speaking to ONE listener, one person at a time, who he can be sure cares—because they have OPTED IN to listen specifically to this. Write and talk conversationally at all times."

Secondly, our choices behind who hosted the podcast created some obstacles in this area. Committed to offering content in the three main languages of Cape Town (isiXhosa, Afrikaans and English), we had three hosts for each episode instead of one. We are extremely grateful for the donated time of experienced radio hosts to perform the narration of DayOne. However, their time was limited so we were frugal in the requests we placed on them. We wrote the narration

[9] By applying "research-communication-education-action" as a noun, we are referring to a process that simultaneously engages all of these.

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scripts without involving the hosts and then handed them the scripts a few days prior to recording. For the isiXhosa and Afrikaans scripts, hosts were also asked to translate the English scripts. Hosts were encouraged to adapt the language to make it more culturally relevant, however they were still starting from our original scripts, so where we set a less-than- conversational standard, they followed our lead. There was minimal time for prepping or coaching host delivery of the scripts. As a result, the narration leaned to the side of being read rather than spoken (with the exception of a conversation with musicians in episode one).

In thinking about pedagogies for learning/listening across a divided city we turn to Razack, a feminist postcolonial scholar who, in *Looking White People in the Eye: Gender, Race and Culture in Courtrooms and Classrooms* (1998, quoted in Butterwick 2012, 59), writes, "to reach each other across our differences, or to resist patriarchal and racist constructs we must overcome at least one difficulty: the difference in position between the teller and the listener, between telling the tale and hearing it." This blurring between teller and listener alludes to the blurring of teacher/learner boundaries, an important principle in the praxis of social movement learning. We think of intimacy being built on trust and invitation. Fostering trust and inviting participation in the conversation helps to realise a kind of power relation that is not authoritarian but that aspires to be liberatory. The podcast has an "authority through freedom" based in a Freirean sense on a trust that is built rather than a bureaucratically assumed authority (Irwin 2018, 57). In a teacher- learner relation, this trust can greatly facilitate the co-production of knowledge and shared learning experiences. Information being shared within this relationship of trust may contribute to a kind of pedagogy of solidarity by contributing to a sense, from both host and listener, that they share a common goal and are participants in a common struggle.

If we create yet another media artefact that speaks information *at* people, we will be obstructing our own aims of building a collective dialogue through creating an information authority that fails to invite others into the conversation. We will essentially fail to harness the value of podcasting as a method of inquiry. Conversational, anecdotal, and metaphorical strategies are needed to adequately present information without alienating listeners. An example of where we managed this was when we used a glass with many straws as a metaphor for boreholes in an Aquifer (Etkind 2018b, S1 E3). Striving for the advantages of host-listener intimacy speaks to a broader call for participatory democracy as a response to the deep-rooted water crisis in South Africa.

Tension 2: Affective Power of Raw Audio versus Mediating Power of Editing

The second tension relates to the affective power, and therefore potential for embodied ways of learning, of the audio form. We begin with a transcription of a quote from DayOne's episode one:

> How did we get to this point? What happened? Where is the community that stands up for their rights, for the issues that are close to our hearts? Let us stand together!

This is a transcription of a statement made by a woman at the Cape Town Water Crisis Coalition's march outside city hall in January 2018. It represents a powerful moment in the conclusion of DayOne's episode one. The act of reading it as written words may elicit some of its power. However, when you listen to this in the podcast, there is an immensity of additional substance. You can hear that the voice belongs to a woman from Cape Town with a Cape Coloured accent. Her slightly rough vocal qualities suggest someone slightly weathered by life's storm. She might be a mother or a grandmother. She might be telling off a group of children. With extreme passion and positive hysteria, she delivers these words, as though her life dependedon them. Her voice echoes over a loudspeaker and absorbs into a gathering of comrades. Her voice lands deeper than just our ears. It reaches inside our psyches, triggering associations and memories, summoning stark emotional responses. It pulls us inside the story world, powerfully

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lingering in our minds and hearts afterwards as if we were witnesses to the moment when she first proclaimed this message.

Where does this power come from? This is something known as affective power, and in this case, we refer specifically to the affective power of audio that Susan Douglas in *Listening In: Radio and the American Imagination* (2004, quoted in McHugh 2012, 188) suggests; it "envelopsus, pouring into us, whether we want it to or not, including us, involving us." This is something that is unavailable through the written word onto which the reader imposes their own interpretation of tone, pitch, intonation, pauses, and character. As exemplified by some podcasters who are choosing the podcast genre to communicate social and political concerns, likewith Noetic (Angaza2017), the affective power of audio can be extremely effective in engaginga broad public arounda particular issue.

Just as DayOne included important updates on the latest projected date(s) for Day Zero, occurrences of rainfall and official declarations of being in a state of emergency, it also included personal stories told with levels of intimacy and emotionality that people can relate to and that can potentially mobilise people into action. It is DayOne's attempt at combining story with information and interpretation—through the framing narration—that provides the personal stories with a platform for gaining socio-political traction. In McHugh's (2017) interpretation of the podcast genre, it embeds the stories within the historical context of the social movement reflectedin the podcast. The combination of being informative yet emotional (and therefore harnessing affective power), and factual while imaginative, offers possibilities to contribute to the multidimensional learning that happens in social movements. Chovanec, Lange, and Ellis (2008, 186) argue that "learning in social movements is multidimensional (e.g., spiritual, cognitive, ethical, emotional, physical, psychological, socioeconomic, political and cultural)." This leads us to another example relating to this tension.

Swosh splosh splash. Splash swooosh splash. Drip drop slop.

This is an attempt at transcribing, in a sort of onomatopoeia, a soundscape of the Khayelitsha wetlands in the introduction of episode one (0:14–0:25 minutes). As a more extreme example of the difference between hearing content versus reading content, the meaning and impact of nonlinguistic sounds becomes ever more visceral in the audio form. One example of where we have harnessed affective power well in DayOne is the way we included soundscapes from local water sources. Giving voice to this dynamic element of our environment may conjure up a variety of associations for listeners, which may vary depending on a listener's access or lack of access to water, and depending on the state of the water situation in that person's community (i.e.drought, flood, adequate flow, etc.).

Despite the affective effectiveness of source water sounds in DayOne, we may have sacrificed some of the affective power of pauses, tonal variances, and inflections in human speech by editing sound bites from interviews into more succinct micro narratives. We have identified a number of reasons for these editing choices. The first was to shift from real-time interviews to edited interviews to be able to curate a diversity of perspectives into one episode. Since each episode represents a particular theme, including this range of voices and perspectives was an important way of acknowledging and valuing diverse knowledges. For example, in episode four, we include retired university professor Dr. Jo Barnes and a group of youth from a non-profit organization known as the Children's Movement. Building on this, we edited out stutters and extreme pauses, which is common in documentary practice, as a way of representing a person as being more articulate and/or confident. This editing function was applied equally to all interviewees. The contradiction however is that part of the podcast strength is gaining listener trust and intimacy through personal narratives, which include pauses and moments of uncertainty. This might also undesirably suggest notions of what forms of speech should be listened to.

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The other main reason we applied editing power was to mediate the conversation in order to maintain, as much as possible, a degree of depolarisation in a highly polarised situation. For example, in gathering material for episode one, we recorded aspects of the Cape Town Water Crisis Coalition's march in January 2018. At that time, the coalition's primary slogan was, "water for all or the city must fall," which pointed blame to the city for the crisis. With the aim ofbridging relationships and dialogue between citizens and the municipality, we intentionally edited these slogans out of the podcast. We are not neutral in our position and specifically acknowledge our commitment to a just transition on the homepage of the website hosting our podcast. While we invite critical discourse, our editorial guidelines consistently avoid explicit blaming or shaming of any one particular individual or group. We exercised our editorial power towards this aim.

The affective power of the audio medium is one that, if harnessed with more careful craft, may be able to support our goals of engaging listeners, building an audience and inspiring audience members to participate in the conversation on water justice.

Tension 3: Engaging and Disrupting Dominant Narratives

Uncovering and juxtaposing public and personal narratives in podcasting can provide "[o]pportunities for students to name the systems they are nested within, their positionality, the porous boundaries between systems, and to experience these connectivities" (Lange 2018, 291). This is key to fostering a hopeful social imaginary in relational pedagogy. Day Zero perpetuated the dominant narrative that the city would run out of water, that low rainfall was the cause and that a reduction in residents' consumption was the solution. According to this narrative, there was one water crisis shared by Capetonians across race, class, gender, and geography. This narrative has since concluded with an official statement from the city confirming the end of the water crisis. DayOne, a podcast launched at the peak of the crisis, contains counter narratives (made up of social movement rallies and activist, citizen, and farmer lived experiences) expressed through audio storytelling that, one by one, cumulatively challenge the validity of the Day Zero narrative.

While most communications, admittedly even our framing of DayOne, refer to the Cape Town water crisis as one crisis shared by Capetonians, personal narratives shared through our podcast reveal what might more accurately be considered micro-crises. One person at the Cape Town Water Crisis Coalition march of January 2018 stated, "We've been experiencing Day Zero for 20 years" (Lucas 2018, S1 E1). The Day Zero that was called off for 2018 is only applicable to those who currently have access to tap water provided by the local municipal supply or off grid solutions like boreholes and rain tanks. Stories shared in the crisis, particularly by community members from the Cape Town Water Crisis Coalition (Lucas 2018, S1 E1), revealed how Day Zero is not only a reality for some, but that it has been so for some for decades already. Meanwhile other parts of the city enjoy green golf courses and functioning swimming pools. The layers of the water crisis sit deeply within the historic inequalities of the city of Cape Town, exacerbated by the rise of capitalism and consumerism.

As we aim for a creative pedagogy that can promote water justice, creating a space in which dominant narratives can be engaged and disrupted constitutes a kind of learning that we are hoping for. Refusing simplistic understandings of the causes of drought and reimagining how we,as a city, might engage with water are essential. Remembering that our listeners might come with preconceived notions of the drought and its causes and thinking about this tension is important in order to "challenge...the colonial present, social hierarchies and injustices" present in this dominant narrative (Choudry 2015, 49). Deepening our understanding of the story of the water crisis is central to us designing meaningful and effective arts-based research practices.

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Conclusion

Following abundant winter rainfall, combined with a record drop in resident water consumption and shifts in the city's water management strategies, it appears Cape Town will continue to have water at least through the summer of 2019. However, claiming "the water crisis is over" is contentious. Capetonians who were living on less than 50L per day prior to city-enforced water restrictions, and those who were listening carefully at the time of the "crisis" will know that our water troubles are not over.[10] According to filmmaker Simbi Nkula, drought survival skills can be documented by simply taking a field trip to a day-in-the-life of an informal settlement (Etkind 2018b, S1 E3). We are left with continued attempts to privatise and commodify water, ineffective infrastructure in low-income settlements, inequality across race and gender in terms of access, and let's not forget our changing climate. The water situation is a clear illustration of competing agendas between social development and nature conservation despite their interdependency and how "urban nature conservation practices...are relationally constructed through social and political practice" (Katzschner 2013, 202). South Africa retains some hope for democratic water governance in at least so far as the government is still involved in some of the water service provision rather than everything being run by transnationals who are not accountable to any particular community. The key is for us to find constructive ways of supporting that government (Strang 2018). During the time of crisis when DayOne was launched, we documented and "broadcast" some of the social movement around the tackling of the water crisis. As a form of audio memoir capturing some of the goals and spirit of this movement, DayOne has the potential to be an important way of maintaining the momentum of this movement beyond the 2018 crisis.

With DayOne we have achieved some important pedagogical and research goals and have some essential tools that we can draw on for increased impact. We recognised these tools in the form of three main tensions that need to be considered if you want to be a critical social practice podcast producer: getting an effective balance between important things that need to be communicated and building an intimate relationship of trust with your audience; sufficiently harnessing the affective power of audio to engage an audience while providing enough contextual information; and unraveling dominant narratives through personal narratives to understand more complex and intersecting issues.

The DayOne podcast has received modest listenership due to our initial focus on podcast-building. Making this podcast live more widely as a public resource for dialogue and engagement is the next challenge. We feel encouraged to explore what are called "radio listening clubs." This is a creative use of radio as a catalyst for gathering people to collectively listen and dialogue within communities and in some cases between communities and policy makers (Mhagama 2015). This shifts slightly from the podcast as a personalised listening experience and is worth exploring in the South African context where network infrastructure is more readily accessible when shared. As a first step, DayOne attended a woman's assembly held by a local environmental NGO and played the podcast as a catalyst for conversation on water. Many listeners' immediate responses involved sharing lived experiences of issues related to water, as well as frustrations around a lack of response from the municipality. This revealed a challenge for our podcast to help in bridging conversation between civil society and government. This also revealed the potential for maintaining an informed conversation amongst civil society who, as wehave learned, are as important as government when it comes to developing and implementing solutions to the water situation. Cape Town is not the first, and likely not the last, city to experience major challenges with water in the near future. Other major cities across South Africa are experiencing water insecurity. Johannesburg, for example, is currently dealing with delays in the Lesotho Highlands Water Project that provides 21 percent of the city's water and

[10] At the peak of the Cape Town water crisis, the city implemented level 6B water restrictions that amounted to fifty litres per person per day (Head 2018).

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deteriorating infrastructure (Mhlanga 2017). The United Nations have recognized that water is likely to be one of the most significant climate change related stressors globally and, because of this, convened a High Level Panel on Water that, in 2017, developed an official document titled the Bellagio Principles on Valuing Water (Strang 2018). DayOne responds most essentially to Principle 5 in this document: "Promote education and public awareness about the essential role of water and its intrinsic value."

As we have seen here, podcast-building is a potent method of investigating socio-ecological issues while illustrating and shifting relations. This readily positions its content (in the form of stories, storytellers, and storytelling contexts) to become a tool for a cycle of relational research-communication-education-action that the flux of climate change demands. Socio-ecological issues are complex, conflicted, and political, and we have experienced how this tool can be particularly useful in its non-polarising potential and in essentially cultivating some of the relational sensibilities towards social and ecological justice that we have outlined previously.

The path to water sovereignty is a long one, best taken by paddling together on a water source that we can reconnect with, microphone in hand and ears open and ready to listen with open hearts and minds to diverse perspectives. Each person's story, just like the qualities of their voice, is unique and, when included in constructing a new public narrative of the root causes of water insecurity, can bring us closer to creating solutions together.

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A media arts-based praxis process of building towards a relational model of curriculum oriented towards reconciliation through water justice

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Abstract

This research shares a process of developing a relational model of curriculum that is based on media arts praxis and is oriented towards reconciling peoples and waterways that have been historically entangled in unjust power relations and related social and ecological mistreatment in Canada and South Africa. I provide a window into this process by reflecting on a pilot course on 'Making [form]s' which I presented at a Canadian university in 2018. This site-specific, media-arts-based environmental education course is intended for universities committed to 'walking the talk' of decolonising education. Centred around water as a mirror of the state of our relations, which it seeks to transform, the curriculum facilitates public education and dialogue around the importance of healthy waterways. In my analysis, I outline the three most prominent relational sensibilities and abilities towards reconciliation cultivated by students through the programme, namely (1) knowledge ecologies; (2) a hopeful social imaginary; and (3) embodied ways of knowing.

Keywords: water, relational, reconciliation, media arts, decolonising education

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Introduction

It is alleged in one story that our planet is becoming warmer and that this could be the beginning of an irreversible catastrophe. Other sources offer hopeful solutions. While one story suggests that water is a commodity for human consumption,another story, rooted in what Rita Wong (2011: 86) calls a 'watershed mind', suggests that it is a living element at the heart of all life. There is a story that tells how I am separate from you, and from wind, water, soil, fire and the creatures—both human and wider than human—around me, and another that suggests that we are all interconnected and interdependent. 'Storytelling is one of the great arts of witness' (Van Dooren & Rose 2016: 91) ... and responding affectively to what we witness. It is 'a dynamic act of "storying" ... an ethical practice ... [where] the stories we tell are powerful contributors to the becoming of our shared world' (Van Dooren & Rose 2016: 89). Listening to stories connects the teller and the listener with each other andthe story world. The creation of stories through careful witnessing and responding results in the establishment of a relationship between the witnessed and the witness. 'Stories [themselves] are relational—both in the creation and the telling' (Todd 2018:161, in Van Borek & James 2019: 15). The full potential of stories for creating and transforming our world through creating and transforming relations lies not only in *what* story is shared, but *how* it is created and shared.

Reconciliation in practice: A framework for socio-ecological justice

The story of reconciliation takes on different forms and meanings for different people in different contexts. In the case of the Israeli-Palestinian conflict, reconciliation has been explained as

> *decolonisation within a transitional justice framework ... [which] begins with acknowledging the power structures and asymmetry between colonized and colonizer as the point of departure, with the explicit goal of transforming them into structures of equality and reciprocity in a new democratic political order.* (Rouhana 2018: 657)

In Sweden, a white paper project (2012-2017) aimed at a reconciliation between the indigenous Sami peoples and the Church was influenced by what Tore Johnsen

proposed as four phases of reconciliation, which are (1) acknowledgement; (2) repentance; (3) restoration, including the restoration of the relationship between the two parties involved in the past injustices; and (4) forgiveness (Lindmark & Sundström 2018). In their report titled 'The state of reconciliation in Australia', Reconciliation Australia (2018) outlines what it views as five key aspects of reconciliation, namely (1) race relations; (2) equality and equity; (3) institutional integrity; (4) historical acceptance; and (5) unity. In her research around reconciliation in Rwanda, Hodgkin (2006: 200) refers to Minow's (1998) definition of reconciliation as 'a process that involves the rebuilding of relations—both individually and collectively'. In examining the meanings of reconciliation for teachers across mixed schools in diverse conflict-ridden societies, Zembylas, Bekerman, McGlynn and Ferreira (2009) emphasise links to inclusivity and point to Cole's summary of five essential aspects of reconciliation:

> *(1) Reconciliation is a dynamic, complex and long-term process; (2) it is a spectrum rather than a definition; (3) it is an ongoing struggle to engage and manage difference rather than harmony; (4) it is not synonymous with amnesia and forgetting; and (5) it should be seen in realistic and practical terms rather than in idealist and sentimental ways.* (Cole 2007: 408)

The most common meanings of reconciliation in the two contexts on which my PhD studies were focused—Canada and South Africa—were identified by both Reconciliation Canada in The National Narrative on Reconciliation Report (2017) and the South African Reconciliation Barometer Survey[1]: 2019 Report. Those meanings are listed below, starting with the highest ranking in terms of national public perception, according to these surveys:

1 'The South African Reconciliation Barometer (SARB) is a cross-sectional, iterative public opinion survey conducted by the Institute for Justice and Reconciliation (IJR) since 2003. It is the world's longest-running public-opinion survey on national reconciliation and provides a nationally representative measure of South Africans' attitudes to reconciliation and several other important social and political indicators' (Potgieter 2019:19). South Africa's Truth and Reconciliation Commission evolved into the IJR in 2000.

Table 1: The meaning of reconciliation in South Africa 2019 and Canada 2017

SOUTH AFRICA	CANADA
Forgiveness[2] – past victims forgiving past perpetrator	Create opportunities for all people to reach their full potential
Peace – the reduction of violence and establishment of peace	Embrace diversity of worldviews and **respect** differences
Moving on – **moving forward** from the past	Acknowledge and work to eliminate stereotypes
Truth – establishing the truth of the past	**Move forward** as **equals**
Respect – respecting people and their humanity	Work together to overcome social and economic inequalities
Justice – redressing injustice / creating a more **equal** society	**Revitalize relationships** between indigenous and non-Indigenous Canadians
Democracy – building a democratic culture	Move beyond the past
Relationships – **improving relationships** between past enemies	**Forgiveness**
Making amends – past perpetrators taking responsibility for their actions	Indigenous control of economic activity
Race relations – addressing racism	Move away from dependence on government systems
Compromise – two sides make compromises	
Nothing - it has no meaning	
Dialogue – finding ways to talk about the past	
Memorialising – remembering the past	

(**Source**: Potgieter 2019: 24) (**Source**: Reconciliation Canada 2017: 2)

My research is rooted in the concept of reconciliation as *a practice towards thriving together*, where 'together' includes both humans and non-humans. This aligns closely

2 Note: The words printed in bold in the above table indicate similarities in the approaches to dealing with reconciliation in the two countries.

with Cole's (2007) concept of reconciliation as a *process,* Morcom and Freeman's (2020) concept of reconciliation as '[moving] forward in a spirit of right relations', and what Platz describes as an 'aesthetico-ethical concept of reconciliation' (2004: 257), which he credits environmental poet Judith Wright to have conceived of through her poetry practice. Platz (2004: 257) defines this concept as a reconciling of humans and nature through 'aesthetic appreciation of nature'. I see reconciliation between peoples and ecosystems profoundly damaged through colonisation as essential to current climate justice and social justice since, through colonisation, distinct narratives were constructed and ceaselessly proliferated—then and ever since—about who/ what is valuable and who/what is disposable (Chamberlain 2003). Settlers viewed the territories that they had occupied and claimed ownership over, now known as Canada, as 'vacant or under-utilized' (Johnson 2016: 1) and 'wild untamed nature' (Preston 2017: 354), and disregarded the indigenous occupants and their valuing of the land/water that was not merely contingent on its productivity.

The pilot course presented from 2018, on which I reflect in this paper and which was intended as a form of reconciliation education, was an important step in preparing to design and teach two courses as iterations in 2019—one in Vancouver, Canada and one in Cape Town, South Africa. Both the abovementioned courses would share key elements of the pilot course's curriculum with the details of each course customised to be contextually relevant. A comparison between these two courses will allow me to assess which aspect(s) of the curriculum may or may not be applicable across contexts. I am not interested in a technicist form of comparative analysis, but rather in identifying dimensions from each context that could potentially inform curriculum in both, and also in other contexts.

After careful consideration, I chose two countries for my study. When it comes to the treatment of institutionally marginalised peoples, the colonial project in Canada shows strong similarities to the South African situation. This includes legislated racism, forced relocation, exploitation of land and natural resources, and depriving children of their languages and cultures through alienating educational systems (residential schools in Canada and Bantu Education in South Africa). This institutionalised oppression, which Wolfe refers to as 'cultural genocide' (2006, in Baijius & Patrick 2019: 270), has been facilitated through government laws such as South Africa's 1913 Natives Land Act (Government of South Africa 2017) and Canada's 1876 Indian Act (University of British Columbia 2009). Both Canada and South Africa adopted Truth and Reconciliation (TRC) processes 'to discover the

truth about our respective pasts', in recognition that 'addressing this history is ... a fundamental necessity that is required for the future well-being of society' (Wilson-Raybould 2017). Despite both countries' TRC efforts having since concluded—South Africa's in 2002 and Canada's in 2015—reconciliation, conceived of as a deliverable, seems to not have been achieved since populations in both countries that have been historically marginalised remain as such. Manuel draws a direct link between poverty and land dispossession, where 'in B.C.[3] all Indian reserves make up [only] 0.36 per cent of all B.C. lands' (2017: 209). In South Africa, according to a Land Audit Report by the country's Department of Rural Development and Land Reform (2017), whites own '72% of … farms and agricultural holdings' (ibid.: 7), '49% of … erven land' (ibid.: 12), and '45% of … sectional title units' (ibid.: 16).

Environmental challenges remain equally intact. Both Canada and South Africa have increasingly toxic waters due to pollutants from resource extraction, for example the oil tar sands, 'the world's largest industrial project' (Leahy 2019) in Alberta, Canada and the mining industry across South Africa (Olalde & Matikinca 2019). Both countries have been experiencing extreme weather conditions. Cape Town's extreme drought of 2018 (Joubert & Ziervogel 2019) is a counterpoint to the record-breaking snowfalls in British Columbia, Canada in 2020 (Lirette & Kurjata 2020). Preston (2017: 356) describes a key force influencing such kinds of climate impacts as 'racial extractivism', which

> *... positions race and colonialism as central to the extractivist projects under neoliberalism and underpins how these epistemologies are written into the economic structure and social relations of production and consumption.* (ibid.: 356)

An eco-authoritarianism restricting whose expertise gets to be part of creating solutions exacerbates the problem. Baijius and Patrick (2019: 269) point to the corruption of cognitive power in Canada's water sector where 'water resource management in First Nation communities has long been a technocratic and scientific mission controlled by state-led authorities … [with] limited engagement of First Nations'. A technocratic approach means key decision-making is restricted to experts in science and technology (Machin & Smith 2014) without acknowledging

3 B.C. refers to the province of British Columbia, Canada.

the importance of local knowledge in creating lasting environmental solutions. Local knowledge is now the commonly used term that includes traditional or Indigenous knowledge. Brush (1996: 4, in Fischer 2000: 195) defines local knowledge as ‘the systematic information that remains in the informal sector, usually unwritten and preserved in oral traditions rather than texts’. Similarly, in South Africa, Roussouw and Wiseman (2004: 33) outline how, ‘[during] the apartheid era, environmental policy-making processes were technocratically driven and broader civil society was excluded from policy deliberations’. The shift to democracy in 1994 included aims for greater citizen participation in environmental policy as expressed in the Environmental Management Policy for South Africa (Republic of South Africa 1998, in Roussouw & Wiseman 2004). However, without clear ways for local government and civil society to be involved, this has not been optimally put into practice (Roussouw & Wiseman 2004). Since social and ecological injustices are entangled with each other and historical relations, solutions can be possible when engaging in a *practice* towards reconciling social and socio-ecological relations. I argue that reconciliation, when applied to education, offers the potential to be one such practice and I endeavour to create evidence of this through designing and enacting a curriculum to this effect.

Despite an increase in higher education institutions’ determination to *Indigenise, Africanise* and/or *decolonise* education (which I see as linked to reconciliation), there are limited examples of what reconciliation education can look like in practice. In *Reconciliation and Pedagogy* (a book of essays from South Africa, Canada, USA, Australia, Cyprus and Israel), Robert Hattam (2012: xv) states that ‘the pedagogical potential of reconciliation processes has yet to be adequately elaborated’, while Hattam, Atkinson and Bishop (2012: 4) point out that ‘while ideas about reconciliation are proliferating, few scholarly accounts have focused on its pedagogies’. The current South African higher education landscape has revealed a growing demand for decolonising higher education (Heleta 2016: 1). Potgieter (2017: 7) reports that reconciliation ‘in South Africa’s current and historical context requires a nuanced approach to overcoming and preventing social division’. In my opinion, this relates to decolonising education at least insofar as creating opportunities to engage with and develop appreciation for knowledge(s) and Knowledge Keepers originating outside academic institutions. Based on Siemens’ (2017: 132) suggestion that ‘education

for reconciliation must find a way to connect Western and Indigenous systems of knowledge … and must offer new ways of being and learning that promote a new relationship', and Potgieter's (2019: 55) assertion that 'more just and equitable power relations would create a more fertile environment for reconciliation', I argue that education for reconciliation requires a relational approach. In an article detailing my praxis process (Van Borek & James 2019: 15), I argued that:

> *… since society is constructed of relations, and that relationships themselves determine their own conditions, social change can only truly be possible when we change the 'relational context' (Donati 2016). I therefore apply an approach based on Ken Gergen's relational vision of education as 'a set of processes intended to enhance relationships' (Wortham & Jackson 2012: 164) … [with] an emphasis on individuals as woven into contexts and knowledge as produced in relations, a view of knowledge as contextualised, and a view of knowledge and action as heterogeneous.* (Wortham & Jackson 2012: 164)

The fluidity of reconciliation: A focus on water

> *'Contemporary notions of environmental and social justice largely hinge on how we come to think about water in the twenty-first century'.* (Mascarenhas 2012: 1).

The relational and reconciliation potential of this curriculum is further enhanced by a focus on the water-climate change nexus. While water is a public good, the fact that water follows the ebb and flow of (often racialised) economic and political opportunities more than geophysical features in a city prevents water from being such a good. In both South Africa and Canada, in addition to a rising demand for drinking water as a result of population growth compounded by droughts related to climate change, the unequal access to clean water seems to be largely due to legacies of colonisation and current neo-liberal actions where water is valued through a global economic lens. These legacies and actions include, but are not limited to land distribution, privatisation, resource extraction, institutionalised racism, lack of infrastructure, water service fees, global water trading and oppressive educational practices, which silenced cultural practices that contained keys to living in harmony with the natural world. The profound damage done is effectively described by Preston

(2017: 353) as 'a normalization process, whereby free market ideology deeply anchors settler claims to Indigenous lands [and waters] in the rhetoric of individualism, private property and capital power that is state-supported'. Washburn (2012) points to Schreiner's (2010) view that today's poverty—and, I would add, relative power—barometer can be measured according to a person's access to clean water. For example, despite Canada having 'more fresh water per capita than most countries' (Suzuki 2018), government-issued Boil Water Advisories (BWAs), which indicate a severe degree of chronic, limited access to clean drinking water, have been endemic to '100 First Nations[4] communities … for years, or even decades' (Suzuki 2018). When trying to explain the impact of BWAs, Lukawiecki (2017: 8) highlights how '[these] challenges are compounded by, and partially a result of, historical injustices First Nations face as a result of a legacy of colonialism, forced relocation, residential schools and systemic racism in Canada'. We can draw similar conclusions from Cape Town, which in 2018 narrowly escaped being the first major city to run out of water (Ziervogel 2019) when it referred to the extremely low dam levels and the impending possibility of shutting off the municipal water supply to taps as a water *crisis.*

The multitude of conflicting ideologies at play in this highly polarised situation (V. Strang, personal communication, 6 September 2018), a legacy of mistrust between government and citizens, and a lack of clear communications to the public around a rapidly evolving scenario fuelled debate over whether or not this really was a crisis (Enqvist & Ziervogel 2019). For example, while on one side you had a city relying on water service fees as a main source of income, which meant that increasing water tariffs was more desirable than reducing consumption (Enqvist & Ziervogel 2019), on another side there were activist groups like the Cape Town Water Crisis Coalition who, in their inaugural protest outside Cape Town's Civic Centre on 2 February 2018, shouted the slogan 'Water for all or the city must fall', which demonstrated their view of drought-related economic gains, such as companies drilling boreholes and selling bottled water. While this crisis received international media attention, the same cannot be said of many city residents in mainly poor communities who had experienced inadequate water services for many years (Lang 2018; Smith 2004; Tafirenyika 2018; Von Schnitzler 2008, in Enqvist & Ziervogel 2019). According to Beck, Rodina, Luker and Harris (2016) and Pengelly, Seyler, Fordyce, Janse van Vuuren, Van der Walt, Van Zyl and Kinghorn (2017, in Engqvist & Ziervogel 2019),

4 Canada's Indigenous peoples are referred to as First Nations, Métis and Inuit.

'[a]bout 10% of residents in Khayelitsha[5] have neither access to running water nor any form of toilet' (ibid.: 9). The roots of Cape Town's water tensions can be traced back to the apartheid era's racial and economic segregation:

> *During apartheid, water was a relatively low-cost luxury for white South Africans, who had one of the highest levels of home swimming pools per capita in the world. In contrast, black South Africans were highly vulnerable to inadequate water supplies in both urban townships and the segregated 'Bantustan' system of rural homelands.* (Bond 2011: 1)

In both Canada and South Africa, private-public partnerships in water management mean individual financial gains are given preference over collective basic needs as citizens become customers. Bond (2011) points to a deepening state of water inequality in South Africa after the demise of apartheid in 1994 due to the country's adoption of global trends in commercialisation, including water commodification and privatisation in the form of long-term water management contracts with private companies. According to Maude Barlow, former UN Senior Advisor on Water (2008–2009), in Marshall's documentary *Water on the Table* (2010), the public perception is that there is an abundance of water in Canada because the government is discretely selling off the country's water to private corporations. According to Mascarenhas (2012: 3), Canada's worst drinking water contamination incident, which occurred in rural Walkerton in 2002, can be attributed to 'an increase in private sector participation, a commercialization of water management activities, and a diminished governmental association'. Rita Wong (2011: 85) suggests that 'oneway to move forward together [towards reconciliation] … is to cooperatively focus on the health of the water that gives us all life'. With this curriculum, that is preciselywhat I aim to do.

5 Khayelitsha is one of Cape Town's largest townships. In South Africa, a township is 'a suburb or city of predominantly black occupation, formerly officially designated for black occupation by apartheid legislation' (Oxford n.d.).

Relational sensibilities and abilities towards reconciliation

Due to the shift away from developing intellect or skills in individual actors towards building, enhancing and/or shifting relations amongst actors, expected learning outcomes, which often act as a starting point for curriculum development, might be better titled '*un*expected learning outcomes' in a relational model of education. For this reason, I decided to adopt the terms *relational sensibilities and abilities*to describe what I aim to develop or enhance in students through the course. I developed a set of questions to be used as an analytical tool to determine whether and how these sensibilities and abilities might surface in the course. This tool and itsapplication to my data analysis can be seen in Table 1 below. The questions emergedfrom first drawing main lines of argument from theoretical research on reconciliation and relationality, then selectively combining these lines of argument to arrive at a general theme that reflects the sensibilities and abilities related to reconciliation and relationality and finally more specific questions. This list is not exhaustive and is likely to expand as I move through the research process and the data shows up further nuances via the analysis.

In this paper, I argue that a relational, site-specific, university environmental education curriculum that is based on media arts and focused on water can cultivate students' relational sensibilities and abilities towards reconciliation in Canada. I have chosen a praxis process to align with my goal to engage in 'reflection and action upon the world in order to transform it' (Freire 2005: 51, in Given 2008: 677). I begin by describing the main elements of a pilot course I co- designed, facilitated and monitored. I then outline data collection methods and participant demographics, subsequently introducing my main data analysis tool, outlining the relational sensibilities and abilities towards reconciliation that I aim to cultivate. I conclude with a critical reflection on the pilot programme using observations, student reflective journals and narrative analyses of students' videos.

Method

Procedure and research design

For this research, I adopted a generative research approach that involved the co-construction of knowledge (see Djenontin & Meadow 2018; Lazarus, Taliep & Naidoo

2017; McAteer & Wood 2018) with participating students, NGO staff members, Knowledge Keepers, guest lecturers and museum audiences in project-based courses as a process within my method that developed through reflexive monitoring. This contrasts with a traditional, hermeneutical approach that analyses what has been done before. In 2018, I piloted a course on *Making Wave[form]s*. It was offered at theEmily Carr University of Art + Design (ECUAD) in Vancouver—the traditional andunceded territory of the Musqueam (xʷməθkʷəy̓ əm), Squamish (Sḵwx̱ wú7mesh) and Tsleil-Waututh (səl̓ilwətaʔɬ) Nations—in Canada, in partnership with the David Suzuki Foundation[6] (DSF), the Native Education College[7] and the Beaty Biodiversity Museum, as an undergraduate for-credit summer course in the Faculty of Culture and Community. Many Canadian universities, including ECUAD, now have as strategic priority to 'Indigenise the academy', in other words, to embrace and activate reconciliation processes across curriculum, staffing and campus life (MacDonald 2016). A 2017 report titled Eight Commitments to an Emergent Future: Emily Carr University of Art + Design's Strategic Plan to 2020, identifies the institution's most current vision and mission. It specifically indicates that ECUAD (2017: 13) 'will engage with Truth and Reconciliation recommendations and commits to intentionally understanding and embedding the role of art, design, and media in the reconciliation process' through 'expand[ing] upon … Aboriginal programming [towards] strategies of decolonisation and Indigenisation within curricula more broadly'. Vancouver is a particularly relevant site for this study as it hosts 'the third largest urban Aboriginal population in Canada' (Wilson & Henderson 2014: 4). I have been teaching media arts-based sustainability courses at ECUAD in partnership with DSF since 2012. Over the years, the meaningful collaborations that I witnessed unfold between Aboriginal and non-Aboriginal people through the course contributed to my realisation of the potential of this approach to become a form of reconciliation education, and I embarked on PhD studies to explore that potential.

In this course, students (who, after registration, self-identified as non-indigenous[8]) were taken through a relational process that unfolds through a combination of group and independent experiences. Through short screenings, exercises and dialogues, students were introduced to concepts of dominant public narratives, social systems

6 DSF is a Canadian science-based not-for-profit environmental organisation.
7 The Native Education College has been educating indigenous learners for more than 50 years (Na-tive Education College).
8 The course was open to both indigenous and non-Indigenous students.

and the intersectionality of water issues and climate change, and a number of class field trips (i.e. ocean canoeing and a creek-side soundwalk) were undertaken to explore our relationships with water. A local, indigenous-led post-secondary school called the Native Education College (NEC) hosted us for a class, which introduced students to their institutional culture (e.g. a traditional longhouse structure and welcome pole). As a paid instructor contracted by ECUAD, I was primarily responsible for deciding on and designing these activities. Wherever possible, I aimed for activities to be co-designed through collaborations I initiated a year prior to the implementation of this pilot course. For example, the NEC's former President Dan Guinan and former Dean of Academics Jason LaRochelle participated in multiple planning meetings and communications that led to shared decisions for the ECUAD class visit to the NEC. Alaya Boisvert (DSF's former Public Engagement Manager) contributed to choices around the focus on water and specific water bodies, Knowledge Keepers, guest lecturers and guides. She also suggested an artistic approach to film a narrative, *Slow Media,* that has proved to be a game changer. I will elaborate on this below.

A series of guest lecturers—indigenous and non-Indigenous persons from outside the university— shared their perspectives on topics related to water and storytelling. These guests were invited to choose the specifics of *what* and *how* they shared. Students then chose a specific site (a local water body of social/ ecological importance) to become the focus of their video project. A list of sites and associated Knowledge Keepers[9] were provided for students to choose from, sincethe recruitment of Knowledge Keepers can take more time than allowed by the timeline of one course. These sites and Knowledge Keepers were sourced and decided on by Alaya and myself, largely due to their accessibility during our coursetimeline. My aim was to reflect a diversity in water bodies and indigenous traditionalterritories. Table 2 below outlines the five sites selected according to these criteria:

9 The term 'local Knowledge Keepers' is used here to refer to persons outside of the university, in-cluding indigenous persons, artists and ecologists.

Table 2. Sites, First Nations' territories and Knowledge Keepers

SITE	WATER BODY	TERRITORY[10]	KNOWLEDGE KEEPER
False Creek	Ocean	Squamish Nation[11] Musqueam Nation1[2] Tsleil-Waututh Nation[13] Stz'uminus Nation[14] Stó:lō Nation[15]	Julie Porter Ecologist and Citizen Science Project Leader with Fraser River-keepers (testing water quality in False Creek)
Sturgeon Banks/ Lulu Island Fore-shore Marsh	Wetland / River/ Estuary	Tsawwassen First Nation Musqueam Nation Tsleil-Waututh Nation Kwantlen First Nation[16] Stó:lō Nation Stz'uminus First Nation Cowichan Tribes[17]	Eric Balke Ecologist and Coordinator of the BC South Coast Conser-vation Land Manage-ment Program
Burrard Inlet	Ocean	Musqueam Nation Squamish Nation Tsleil-Waututh Nation Stó:lō Nation Stz'uminus First Nation	Tarah Stafford Tanker-free BC
Squamish River Estuary	River / Estuary	Squamish Nation Tsleil-Waututh Nation	Randall W. Lewis President of the Squa-mish River Watershed Society

10 To the best of my knowledge, based on information available at the time of writing from B.C. First Nations' websites and the Province's First Nations Consultative Areas Data Base (http://maps.gov.bc.ca/ess/hm/cadb/)

11 Source: https://www.squamish.net/about-us/our-land/

12 Source: https://www.musqueam.bc.ca/wp-content/uploads/2018/06/MusqueamSOI_Map-scaled. jpg

13 Source: https://twnation.ca/about/our-departments/treaty-lands-resources/

14 Source: http://www.stzuminus.com/our-story/community-map/

15 Source: https://www.researchgate.net/publication/311768934_Sumas_Energy_2_Inc_Tradition-al_Use_Study_Phase_II_Stolo_Cultural_Relations_to_Air_and_Water

16 Source: https://www.kwantlenfn.ca/

17 Source: https://www.cowichantribes.com/about-cowichan-tribes/land-base/traditional-territory

SITE	WATER BODY	TERRITORY[10]	KNOWLEDGE KEEPER
Still Creek (via Renfrew Ravine Park access point)	Stream	Musqueam Nation Tsleil-Waututh Nation Stz'uminus First Nation Stó:lō Nation	Dave Scott Salmon biologist working on Still Creek with Still Moon Arts Society

Students were given the choice to work in pairs or independently. Two collaborated while the rest worked on their own. They undertook multiple independent visits to their sites, each time building on the previous visits. Using video and sound observation / documentation tools and semi-structured mapping assignments, they developed first-hand expertise of their sites and established meaningful connections with local Knowledge Keepers who had close relationships with the sites. They did this by meeting with their Knowledge Keepers and applying an arts-based, participatory research method called photovoice. In photovoice, 'research participants create, analyse and discuss photos that represent their community' (Strega & Brown 2015: 29). The students explored an alternative cinematic narrative model called *Slow Media* and experimented with sound art in nature through *soundscape recording*. Details of this component will be discussed later. Students were then asked to each translate all these experiences into a video and were supported by myself (as their instructor), their peers and our science partner DSF during two work-in-progress feedback sessions. At the end of the course, the final videos were screened as a catalyst for public dialogue at the Beaty Biodiversity Museum.

In respecting proper protocols, the event began with a welcome address from an official representative of the Musqueam nation (on whose traditional territory the event took place), referred to us by the Protocol Administrative Assistant of the Musqueam band office. This was followed by a song sung by a representative of Squamish nation and some opening remarks by project partners at DSF and ECUAD. The programme then unfolded in three parts, with each part consisting of three steps: (1) A screening of a few films linked by a shared water body or theme; *(2)* an interactive presentation facilitated by ECUAD students who had created the films that had just been screened; and (3) a discussion. Two *Making Wave[form]s* students acted as masters of ceremony (MCs) for the event by following an MC script I had prepared for them in advance. I had initiated and negotiated the collaboration with Beaty in preparation for the course. In my experience, there is

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a need for a third space, for example a museum, which, as Zembylas (2012: 59) suggests, 'opens possibilities for re-imagining the sense of community and identity' to bring together academia, civil society, scientists, artists and government increative dialogue to address the water-climate change nexus. In their call to action #67, which asks the federal government to fund an assessment of national museums' adherence to the United Nations Declaration on the Rights of Indigenous People, Canada's TRC identified museums as being key to the reconciliation process (TRC 2015). The videos continue to serve a purpose as they are hosted on DSF's YouTubechannel as public education tools to be utilised through social media.

Data collection methods and measures

Two main projects that were also data collection methods were integrated into the curriculum:

1. The students' primary project was creating a **video**. The process of producing their videos and the influence that it had on them was documented in their reflective journals. Aspects of the videos (i.e. narrative content and style and representations through sound, image, text and editing techniques), contain important data that enhances the influence of the curriculum on the students.
2. The secondary project involved maintaining a **reflective journal** throughout the course. Strampel and Oliver (2007, in Ivala 2015a: 37) define reflection as 'a form of contemplation that determines how one comes to act on new understandings … looking internally to one's thoughts and externally to the issues at hand … it leads to conceptual change, knowledge transfer, and action.' Students were asked to record their personal observations, experiences and ideas with regard to various aspects of the curriculum.

The other main data collection method used during this pilot course was my own reflective observations of the various ways in which the students responded to different aspects of the curriculum. This included their interactions, attitudes and behaviour towards their peers and the various guest lecturers and Knowledge Keepers who participated in the course, as well as the development of their ideas about and approaches to their videos.

Videos and reflective journals had been key parts of the courses I had taught at

ECUAD prior to this pilot course and that greatly influenced my thinking around the potential of these methods for use in reconciliation education. In addition to this,my aim was for the research methods to be embedded in the teaching/learning methods wherever possible. For these reasons, videos, reflective journals and my ownreflective observations—indicative of my entanglement in both the course and the research—became essential methods for both this course and my educational research.

Participants

This course was offered as an elective to ECUAD students from all disciplines and years who were enrolled for undergraduate degrees. The nine students who registered for the course included four Asians, one Latin American, one American and three Canadian students of European heritage.

Results

Data analysis

Table 1 illustrates my analytical tool, a set of questions developed from theoretical research on reconciliation and relationality, and includes my initial analysis of how various aspects of the curriculum respond to these questions. I am workingon surfacing these sensibilities and this paper is the starting point of this analysis. Since these sensibilities are quite complex in constitution, treating them technically presents a number of challenges and I find it both useful and important to use thick description to explore them.

Table 1. Relational sensibilities and abilities towards reconciliation through curriculum

SENSIBILITIES AND ABILITIES	ASPECT(S) OF CURRICULUM
Knowledge ecology: 1. How does the curriculum engage students with both western and indigenous/local knowledge so that they: a) recognise that there are diverse knowledge systems; and b) view diverse knowledge systems as having equal importance? 2. To what extent does the curriculum challenge ethnocentrism, and how does this manifest?	- Partnership with science-based organisation - Student-led photovoice process with Knowledge Keepers - Student expertise developed and shared through hands-on observation, documentation and video-making - Emphasis on storytelling as a form of knowledge co/creation and sharing - Learning about place and ecosystems through indigenous/local languages - Knowledge commons established through public event at museum - Guest 'lecturers' from different backgrounds, including non-academic perspectives - Embodied, experiential learning (i.e. canoeing and pipeline protest camp field trips) - Diverse learning spaces

SENSIBILITIES AND ABILITIES	ASPECT(S) OF CURRICULUM
Intercultural understanding: 1. To what extent does the curriculum build student capacity for intercultural understanding, and how does it manifest? 2. How does the curriculum contribute to student awareness of the interdependence of life?	- Students are introduced to inequalities in respect of access to water, and how these are racialised and gendered, and to the intersectionality of issues that contribute to this (through short screenings and/or readings and/or discussions, revealed through field trips/guest lectures/photovoice) - Meaningful opportunities for cross-cultural contact and interactions (i.e. ocean canoeing, photovoice, final event) - Exploring the indigenous cinematic narrative model known as Slow Media - Emphasising the interconnectedness of life through place-based, outdoor learning - Encouraging the use of diverse languages and subtitling in students' videos
Empathy: 1. To what extent does the curriculum encourage students to express empathy, and how does it manifest?	- Photovoice/interview processes with Knowledge Keepers and students becoming custodians of their stories - Independent student site visits to their chosen water bodies, using camera lens and sound recorder to pay attention, and developing empathy for wider-than-human elements of that place -Students using the stories of others (i.e. of plants, animals, water and local Knowledge Keepers) in constructing their own stories

SENSIBILITIES AND ABILITIES	ASPECT(S) OF CURRICULUM
Reciprocity: 1. How does the curriculum encourage students to express reciprocity, either with people or the wider-than-human, or both? 2. How does the curriculum support students to engage in both personal and social transformation?	- Photovoice as a participatory interview process that empowers participants to present issues and themes that are of value to them - Students create video projects that emphasise the value(s) of a water body through honouring a Knowledge Keeper's relationship and/or the wider-than-human relationships with that water body. - Students' videos are shared with the public through a final event and through social media to further promote the valuing/protection of these water bodies. - Students work on projects aimed at social and ecological change that have the potential to contribute to personal transformation

SENSIBILITIES AND ABILITIES	ASPECT(S) OF CURRICULUM
Embodied ways of knowing: 1. How does the curriculum foster critical dialogue, especially dialogues that support cross-cultural understanding? 2. How does the curriculum encourage listening, especially just and active listening? 3. How does the curriculum address the student as a whole person?	- (2 & 3) Outdoor field trips - (3) Independent student site visits to their chosen water bodies, using a camera lens and sound recorder to pay attention and build relationship with the sites - (2 & 3) Students engaging in active listening through soundscape recording and photovoice - (2 & 3) Site-specific creative work (experiential knowledge developed through observation, documentation and creative video-making) - (1, 2 & 3) Storytelling (with ocean canoeing guides, photovoice, creating videos) - (1, 2 & 3) Creative works used as catalysts for critical dialogue (work-in-progress critiques, final event) - (3) Diverse learning spaces

SENSIBILITIES AND ABILITIES	ASPECT(S) OF CURRICULUM
A hopeful social imaginary: 1. In what way(s) does the curriculum develop students' critical awareness of their surrounding social systems, seen through a lens of relations that can be shifted? 2. How does the curriculum encourage students to explore, think, speak and/or act from a source of hope? 3. To what extent does the curriculum encourage students to 'think, dream and consider [alternative] possibilities' for communities (e.g. inclusive, harmonious and just)?	- Tone of the course is solutions-oriented - Process of keeping a reflective journal built into course - Introduction to concept of dominant public narratives versus personal narratives, and how they are de/re/constructed - Learning hands-on (photovoice, site visits, viewing peers' videos) about restoration/conservation success stories - Direct experience of creating something (e.g. a video) that can have a positive impact - Convening a public dialogue event at a museum, thereby giving students a first-hand experience of a new way for science/local knowledge/arts/civil society to relate and share
[Re-]connection to place: 1. In what way(s) does the curriculum foster and/or expand students' connection to place?	- Outdoor field trips - Site-specific creative work - Students develop a deeper understanding of place through someone else's relationship with that place uncovered through a photovoice/interview process

Source of left side of table and additional literature review information: Van Borek (in Van Borek & James 2019: 17)

Some of the relational sensibilities and abilities outlined in Table 1 can be best identified through a narrative analysis of students' final video projects. Mischler (1995, in Strega & Brown 2015: 154) defines narrative research as 'a systemic approach to studying stories in context'. I apply two main models of narrative analysis: '1) *thematic analysis*, which emphasises what is said; [and] 2) *structural analysis*, which emphasises how stories are told' (Strega & Brown 2015: 155). Within this, I apply two

out of seven of Fraser's *phases* of narrative analysis: 1) '*Scan across different domains of experience*–including those relating to the intrapersonal, interpersonal, cultural, and structural,' and 2) '*Link the personal with the political*–this includes noticing references (explicit or latent) to popular dominant discourses' (Fraser 2004, in Strega & Brown 2015: 155).

Reflective observations

In this section, I present some of my own reflective observations of how students responded to various aspects of the programme. I intersperse these with quotes (included with permission) from students' reflective journals, printed in bold for emphasis, to elaborate on how certain aspects of the course encouraged some relational sensibilities and abilities towards reconciliation in students.

During a guided ocean canoe ride with an indigenous family from the Squamish Nation, students developed sensibilities and abilities around: a) [re-]connection to place, b) embodied ways of knowing, c) intercultural understanding, and d) knowledge ecology. DSF had referred me to a particular indigenous canoeing family with whom they had worked in the past. Fortunately they were interested and available to lead a field trip with the students attending our course. As part of class preparations, I discussed our aims with the family's main representative, who suggested the inclusion of cultural aspects during the journey, which I agreed would be very relevant and much appreciated. During our journey, our guides—who led us in paddling and pausing to listen at various points—took turns sharing stories about geographical features as they appeared around us and related stories about their people. For example, as two prominent mountain peaks known to many as The Lions became visible, we learned that the Squamish Nation calls them The Sisters, and that a story links these peaks to a historic peace treaty. They introduced us to some of their Nation's protocols for canoe journeys by engaging us in these practices at the appropriate points in the journey. Our main guide sang a lot during the trip and sometimes became very excited. His excitement would then be echoed by his relatives in the front. This spirited and contextualised learning offered an important contrast to conventional classroom lectures. Being out on the ocean and susceptible to the rise of waves, tide action and weather conditions was a humbling way to get away from any attempt to separate one's self from nature, as we tend to do in the city, and very quickly created a feeling of connectedness with the rest of the group.

'The canoe trip was an amazing, inspiring experience that connected me to the water, land, people, and this bustling city port of Vancouver. It was humbling to be on the water and enveloped in nature with the meaningful stories and songs shared by the ... family as I felt conflicted by the development, industrialisation [sic] of the area ... I am honoured to have witnessed the stories and beliefs of the Squamish people to learn and see first-hand their powerful words and actions to protect the land, nature and connections with people' (Ryanne Bergler).

'During our canoe ride, I clearly remembered I could smell their canoe's natural wood smell. I feel [sic] a sense of spirituality, making me even more connected to the land and water while paddling' (Jocelyn Chang).

'Today we went on a canoe trip. The experience was amazing as it made me realize my close inter-relationship with nature. In addition, I have gained more knowledge in the culture of the First Nations people. Their traditions, stories, and what land and water meant for them is definitely inspirational to listen [sic]' (Sophia Chen).

'It was a real joy to be out on the water! It is always an honour to hear the stories of First Nations peoples, because by being told the stories, we become witnesses and bearers of the story, keeping the story alive in us' (Susannah Hoffman-Mitscherling).

As is clear from their remarks, students' experiences of the field trip were extremely positive. The only moment of tension, which was felt more as part of escalating tensions in the city and country than within our group, was when a Greenpeace ship passed us on its way to a floating protest against the controversial Trans Mountain pipeline expansion (Parmar & Nassar 2018). A few weeks before this protest, Greenpeace activists had rappelled from Vancouver's Ironworkers Memorial bridge to block oil tanker movement and gain media attention (Ip 2018). This pipeline project was being driven by private enterprise and the state without proper consultation with the Indigenous peoples on whose lands it would trespass, and without adequate assessment of the potential threat oil spills would pose to coastal ecosystems.

Later in 2018, the Supreme Court of Canada overturned its approval of the project[18] (Kassam 2018). This encounter added a socio-historical layer to our contextualised learning.

Listening to place-based stories from Knowledge Keepers challenged students to expand their understandings and perspectives. This contributed to students developing sensibilities and abilities around a) [re-]connection to place; b) a hopeful social imaginary; c) embodied ways of knowing; d) empathy; e) reciprocity; f) intercultural understanding; and g) knowledge Ecology. Early in the course, students began forming their video concepts based on their video- and audio- mapping processes. Most of these concepts seemed fairly clear, with concrete plans for production. After listening to Knowledge Keepers in a literal *watershed moment*, some students adapted their original concepts as they grappled with the challenge of honouring the stories of which they had become custodians alongside constructing their own stories, which had been irreversibly changed by what (and how) they had learned:

'His [the Knowledge Keeper's] relationship is very different than mine because *of his cultural and spiritual connection with traditional food sources, medicines, and his* ***past ancestors and current peoples living on this land ...*** *Meeting with [him] has shown me more ways that the land and animals have been impacted and that one individual can make a very big and positive* ***impact'*** (Ryanne Bergler).

'It *was interesting to hear about the area from a man who was so deeply attached to it, and it gave me a* ***new appreciation for the land, that I did not know well'*** (Susannah Hoffman-Mitscherling).

Site-specific soundscape recordings contributed to shifting students' awareness of their relationship with the sound sources (humans, nonhumans and earth sounds) of a place and the interconnectedness that existed. Listening enhanced by a microphone and headphones, which do not filter sounds the way the human brain does, can draw a person's attention to sounds. In a conversation following a class sound

18 Prime Minister Trudeau and his government's support for the pipeline expansion is most evident from their purchasing of the project for approximately $4.5 billion in 2018 and their continued support of the project which, in 2020, gained traction from Canada's Federal Court of Appeal (Kennedy 2020).

walk, one student shared how she always walks around with earbuds[19] and had not realised that there are so many sounds in the world. This modality contributed to students developing sensibilities and abilities around: a) [Re-]connection to place, b) embodied ways of knowing, c) empathy, and d) reciprocity. Some of these sensibilities and abilities relating to place were developed by interactions between listening and recording, and direct interactions with the site to create sounds:

'As I put on the earphone [sic], I realized lots of interesting sounds that I've never** noticed before. I am more sensitive to tiny noises like birds, bees and winds. Wind is **the most interesting element since we can't see wind through visual [sic].' (Jocelyn Chang)

***'On the right side of the road, I recorded** close up sounds of the water, which was very quiet. So, I started throwing rocks in the water and running my hands through it to create sounds. It was interesting to interact with the physical environment specifically to better hear sounds!'* (Susannah Hoffman-Mitscherling)

Narrative analysis of students' videos

Clare Wilkening's video, *Sturgeon Bank and Orca* (2018), is exemplary of disrupting dominant public narratives. She presented her personal narrative, which dealt with why she cared about the declining Southern Resident orca population and what she was doing in her art practice to try to do something about it (she was making a ceramic tile dedicated to each of the 75[20] surviving whales). It was presented with a sense of intimacy created by her narration and point-of-view camera work. She wove her story together with YouTube footage of the orcas, with themes of connection and presence, and with critical commentary around consumption, capitalism, disconnection and speed as a counter-narrative to the dominant public narrative promoting the growth economy. In her narration, she shared how her 'goal is not so much to humanise the Southern Residents, as it is to cetacean-ise the Lower Mainland.[21] They cannot change who they are, but we can change how we live to

19 Earbuds, in this case, refers to headphones connected to a personal device.
20 Southern resident orcas, found only off the coast of Vancouver, were down to 75 members at the time of this course (Kines 2019).
21 The Lower Mainland refers to the region surrounding Vancouver.

make space for them to live and thrive' (2:53–3:07 min). In doing so, Wilkening revealed her understanding of some of the larger relations and systems intersecting around the issues with which she was engaging and exercised her ability to voice her ideas about how they could be changed. This message also suggests Wilkening's empathy with the whales. Her work exemplifies a valuing of a knowledge ecology through the integration of Western science (information gleaned from her ecologist Knowledge Keeper), indigenous/local knowledge (experienced through the protest camp field trip and guest lecturers, suggested by pointing to the whales as original inhabitants of the city), citizen science (knowledge she developed through her own site visits), and the arts (through the ceramic work she documented in the film, and in the making of the film itself).

Ryanne Bergler's video *Skwxwu7mesh, Squamish Estuary* (2018) is a great example of the possibilities for shifts in perspective when applying Slow Media. The unconventionally long, at times stationary or slow-moving shots across breathtaking landscapes pull the viewers into being more deeply present (and therefore [re] connecting) with the place. In his lecture presented to our class on 11 July 2018, Gregory Coyes, founder of the Slow Media community (a growing online libraryof decolonised media), pointed out how the Western influence on video editing is all about compressing time and that, in moving to real-time cinematic experiences and finding dramatic movement *within* the frame, as in Slow Media, we can create 'an indigenous sense of cinematic time and space'. For the artist and audience, engaging with this format can potentially contribute to intercultural understanding. In Bergler's case, this indigenous cinematic language inspired the inclusion of the Squamish language through text (which arguably may not have been a consideration if the pacing and visuals were moving quickly). Bergler used text on screen to highlight key concepts heard in the narration and to label ecological features of the place that appear throughout the video. The inclusion of both Squamish (shown first) and English (shown second) makes a bold statement about diverse ways of knowing and seeing, and the importance of treating them all with respect.

Discussion

At the heart of this 'teaching from the heart' curriculum (Denton & Ashton 2004, in Battiste 2013: 183) is an approach suggested by a Mi'kmaq elder, Albert Marshall, which is also called Two-Eyed Seeing (Abu, Reed & Jardine 2019: 4). Two-Eyed

Seeing combines indigenous and Western knowledge and awards them equal value for 'enabling triangulation' (ibid.: 4) and 'creating synergies' (Tengö, Brondizio, Elmqvist, Malmer & Spierenburg 2014: 579, in Abu et al. 2019: 3) that allow for 'a wider and deeper view' than when looking at something with only one 'eye' (Iwama, Marshall, Marshall & Bartlett 2009, in Abu et al. 2019: 5). Western knowledge is expressed in this course through input from science-based course partners, archival documents, and observations of sites. Indigenous knowledge is brought into the course through non-Indigenous knowledge Keepers pointing students to Indigenous knowledge, and Indigenous knowledge Keepers, guest lecturers and field trip guides sharing their water stories with students. As custodians of these stories, students use reflective practices in video creation to draw out synergies between the two forms of knowledge. In this time of climate crisis 'a combination of both seems essential' (Aikenhead & Michell 2011: 114, in Bartlett, Marshall & Marshall 2012: 331). The ways of seeing do not stop here. '[All] of the world's cultures … have understandings to contribute in addressing the local to global challenges faced in efforts to promote healthy communities. Thus, one might wish to talk about Four-Eyed Seeing, or Ten-Eyed Seeing, etc.' (Bartlett et al. 2012: 336). The *Making Wave*[form]s course employs what I consider 'Three-Eyed Seeing' as it combines Two-Eyed Seeing with artistic creation and is thus a multifaceted process that invites students to engage their whole selves and awaken the 'learning spirit' (Battiste 2013). Referring to Aboriginal education, Ottoman and Pritchard (2009: 12, in Battiste 2013: 181) suggest that 'learning is a multidimensional process and it requires knowing the visible (physical) and invisible (spiritual) aspects of oneself and of creation'. Artistic expression is a form of knowledge creation that taps into realms of spirit, intuition and imagination, and plays with existing knowledge in an affective way of knowing forward to possibilities of what might be, rather than representing what already is.

What this brings to the decolonial turn is that it is about changing *lenses*, changing the way we look at ourselves, each other, the world, and our place in it, and allowing this to change (or 'reconcile') how we relate to each other, not necessarily or only changing the positions of power in an educational institution. In recent years, universities in Canada and South Africa have made efforts to appoint more professors of diverse representation. In 2019, for example, ECUAD appointed four new tenure-track indigenous faculty members (ECUAD 2019). According to Cloete and Bunting (2000: 75, in Sadiq, Barnes, Price, Gumedze & Morrell 2018: 427), South Africa's

1997 Education White Paper articulated aims for increasing the 'proportion of blacks and women on academic and executive staff of institutions', but practical shifts to this effect have been slow (Sadiq et al. 2018). While diversifying access and opportunity to historically under-represented individuals is an important step in decolonisation, this focus on changing individual actors does not take into consideration the relational context which, as I mentioned earlier, Donati (2016) asserts to be essential to social change. For example, while professors may change, institutional cultures may intensify oppressive practices. This seems to have been part of the forces at play in the tragic story of the University of Cape Town (UCT)'s late Professor of Cardiology and Health Sciences, Dean Bongani Mayosi who, in 2018, 'had been battling depression for … two years, and ended his own life' (Isaacs 2018). Cairncross (2018) speculates that factors influencing Mayosi's death may have included a 'black academic tax' in the form of pressure to pave the way for future black academics; an alienating university environment; polarisation between the institution and black students, which was made especially visible in the #FeesMustFall movement in the years preceding Mayosi's death; and the university's performance-based 'unhealthy work ethic'. While these are speculations, Mnguni (2018) highlights one undisputable fact, namely that Mayosi 'attempted to resign from his position as Dean of the Faculty of Health Sciences not once but twice,' first in 2016 and then in 2017, but was denied his request by university management. In my opinion, this suggests that the UCT management required Mayosi to do the work of their institution's transformative change although, in fact, the institution as a whole should play an active role in transforming its relationality.

I support the idea that anyone engaged in a learning environment, regardless of race/ethnicity/citizenship/class/gender, can and should contribute to decolonisation and I undertake to learn and embody this in ways that evolve with the relationships in which I am entangled. First, as a Caucasian Canadian, I consider my 'teacher' role to be non-traditional as I am a project coordinator and facilitator of knowledge co-creation, rather than a lecturer. Second, my own ways of knowing have been strongly influenced by having studied African oral music traditions and living with rural communities across Africa throughout my formative years. Third, I agree with Marie Battiste, Mi'kmaw educator of the Potlotek First Nation, when she states that 'each educator has a role, if not a responsibility, in changing her own and students' conceptions about First Nations students, their heritage, and their contributions to society' (2013: 177). The challenge of *indigenising* academic institutions also lies in

recognising and considering how Indigenous peoples and knowledge encompass more than one thing (Battiste 2013). For example, '[there] are 203 First Nations bands in BC and 614 in Canada' (Wilson & Henderson 2014: 9). Inside these cultures there are of course also variations in experience with cultural traditions, gender, religion, sexual orientation, abilities, etc. Battiste (2013: 168) refers to Visano and Jakubowski's (2002) point of view that 'the pedagogical challenge of trans-systemic education is not just reducing the distance between Eurocentric thinking and Aboriginal ways of knowing but engaging decolonised minds and hearts'. How then do we disrupt the 'cognitive frameworks of imperialism and colonialism' that breed 'systemic discrimination?' (Daes 1991, in Battiste 2013: 185-186).

Bekerman and Zembylas (2012: 209) suggest there are three strategies to reconciliation education by means of creating 'dangerous memories'[22]: (1) '[De-essentialising] memory and identity;' (2) '[creating] opportunities for anamnestic solidarity'[23]; and (3) '[highlighting] common suffering and common humanity'. These three strategies surface in the *Making Wave[form]s* programme. The first appears through engaging students, guest lecturers and Knowledge Keepers in alternating between teacher and learner roles, and by inviting the reframing of memories through storytelling. The second occurs when Knowledge Keepers are invited to share their stories of past injustice regarding dislocation from land and water, and re-contextualising these as lessons for how to live cooperatively and with mutual respect in the future. The third is a focus on the shared (and heterogeneous) human experiences of climate change, relations with water and the interdependence between people and the natural world. This can be best understood by taking a closer look at each of these three aspects of the *Making Wave[form]s* course.

Memory and identity are strongly at play in the dynamics of this course. In a conventional university setting, participants register as students and a contracted teacher guides them through a learning journey. Power hierarchies are reinforced by using tools like project briefs, deadlines, evaluations and grading. Generally, there is an expectation that the teachers are the experts—as per their relevant academic credentials—hired to impart their expertise to less knowledgeable students. The ways in which people identify with these roles are typically reinforced by memories of

22 '"Dangerous memories" are memories that can counteract hegemonic narratives' (Bekerman & Zembylas 2012: 22).

23 '... it is not that the unjust past and the suffering are being forgotten. Rather ... the anger and the hatred' (Bekerman & Zembylas 2012: 203) attached to them.

such roles from one course to the next and from one year to another throughout a university degree programme. *Making Wave[form]s* disrupts these seemingly fixed identities when several people from non-academic backgrounds are invited to share their expertise, reinforced by lived experiences, with both students and the contracted teachers. When students conduct multiple site visits, they develop their own expertise about their sites, which is then further enhanced by their interactions with all those who share knowledge about these sites. Students share their new expertise with their teacher and peers through class presentations throughout the course. At the end of the course, they share their expertise in the form of videos and interactive presentations attended by their many 'teachers' and a public audience as they themselves take on a teaching role. This fluidity in teacher/learner roles, and the memories thereof, move participants away from identifying themselves and others with only one role towards respecting everyone for their potential to fulfil any role at any time.

In *Making Wave[form]s*, anamnestic solidarity manifests when memories—about waterways and past relationships related to those waterways—are reframed through the relational act of storytelling. For example, when a Knowledge Keeper shares a story about how their traditional territory was stolen and abused through colonisation, and how this links to the environmental issues currently experienced in that territory along with potential solutions, the interaction embedded within the process of storytelling lays the foundation for the growth of a common ground of solidarity between the storyteller and the listener. This is possible because the reframing of past injustices is done in a way that challenges past hierarchies (through positioning the storyteller as teacher/expert and the student as witness), and this interaction unfolds within a commitment to *thrive together* (relating back to my definition of reconciliation).

Since memories and identities, particularly in post-colonial societies, can so effectively reinforce oppressive practices linked to perceptions of 'otherness', creating memories that reinforce our shared human experiences, such as the impacts of climate change, and our dependence on the natural world, can help to counteract this attitude. This is strengthened when we acknowledge the heterogeneity of these experiences (such as varied levels of access to clean water), as seen in this course. In *Making Wave[form]s,* the stories that are created in the form of students' videos become digital archives, or memories, of the multitude of perspectives and relationships linked to a specific waterway. This 'memory' reinforces notions of

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interconnectedness by highlighting the ways in which each actor affects and/or is affected by the ontologies and actions of the others connected through this waterway, and points to how each actor relies on water as the fundamental source of life.

Why make use of a practice that is site specific and based on media arts?

Tasking students to make a video is central to this course. This activity involves three key elements, namely 1) visuals; 2) sound; and 3) narrative. When these three elements are combined with storying a place, all three aspects are extended to the realm of witnessing-responding outlined in the introduction above. In addition to meeting the 'digital native' (Tiba & Chigona 2015: 17), which refers to today's students, in their mother tongue, this takes all the benefits of digital storytelling (DST) in teaching and learning and ramps them up to a place-based, embodied and affective learning process likened to what Tisdell (2013: 42, in Battiste 2013: 184) refers to as 'spirited epistemology'. The author further explains that 'when one engages the cognitive, affective, and the symbolic domains of learning, learning becomes more holistic, thereby increasing the chance for learning to be transformative' (Tisdell 2013: 43, in Battiste 2013: 184).

Working with visual storytelling provides opportunities for students to see—and share that way of seeing—the world from multiple perspectives. While a wide range of considerations and possibilities exists when working with the aesthetics of video, I have, for the purpose of this paper, focused primarily on digital storytelling and aim to expand on this medium in what follows. Digital storytelling (DST) is definedby the Digital Storytelling Association (2002, in Tiba & Chigona 2015: 18) as a 'focus on the art of telling a story using digital technologies'. The book *Telling stories differently: Engaging 21st century students through digital storytelling* (Condy2015) places particular focus on the potential of DST to foster social cohesion in South Africa. Gachago (2015: 99-100) refers to Nussbaum's (2010) view that living respectfully with difference involves learners 'developing capabilities necessary foran empathic and critical engagement with the "other,"' and suggests that DST has the potential to be helpful in this regard. This is particularly relevant in modern-daySouth Africa where residual social segregation exacerbates 'deep-seated mistrust andfear of the "other", passed on from generation to generation' (Gachago 2015: 101). In their literature review on the subject, Tiba and Chigona (2015: 17) conclude that the

two main strengths of DST is its ability 'to give voice to learners and to encourage deep reflection'. DST is fundamentally relational in that it 'supports a learning environment rich with student-student, student-lecturer, and student-content interactions' (Ivala 2015b: 33). This enables learners to develop an understanding of themselves holistically and relationally, and to be seen for who they are through expressing languages—including non-verbal languages of imagery, sounds, movement, pacing, and the interactions between these various elements—as well as their cultural dimensions.

Working with storytelling through sound creates awareness—in both students and their audiences—of their relationship with nature and place, and helps to deepen that relationship. Soundscape recording and composition '[translates] acoustic data into sound meant for aesthetic appreciation' (Reich 2016: 5). The act of doing so equips composers to increase their audiences' '*qualitative* knowing from spiritual, emotional, and sensory-based perspectives' (Reich 2016: 5), thereby contributing to the development of a '"qualitative" relationship to nature' (Reich 2016: 5). Soundscape recording is a form of embodied learning. Hull (2001: 12) observes that 'you don't actually listen with your ears, you listen with your whole body … You no longer are aware that you are listening, because you have become absorbed in what you are listening to and so the subject/object distinction disappears'. Westerkamp (2019: 60-61) suggests that sound is essential to 'real reconciliation or de-colonisation [which] can only happen in an atmosphere of mutual respect and in safe conditions from which we can truly listen to each other'.

Working with narratives, particularly during the deconstruction and reconstruction of place-based narratives, when students become the 'custodians' of stories, enables students to directly disrupt hegemonic narratives and create openings for more interconnected ways of self-identifying and relating. In their book *Teaching Contested Narratives: Identity, Memory and Reconciliation in Peace Education and Beyond* (2012), Bekerman and Zembylas argue for the reasons why reconciliation education should do precisely that. Their theory aligns with Lederach's definition of reconciliation (1998, in Bekerman & Zembylas 2012: 57) as '[reframing] perspectives on "the others", thereby allowing for a process leading towards a renewed encounter between "us" and "them"'. Bekerman and Zembylas (2012: 59) highlight the links between narratives, memory and identity, suggesting that 'teachers and students in

conflict-ridden areas often remain stuck in certain self-identifications and collective memories' that get in the way of reconciliation. Identity and memory shape and are shaped by how we relate. They are 'interactional, contextualised and historicised processes rather than isolated inside an individual' (Bekerman & Zembylas 2012: 23). A person's social identity is constructed by 'what defines the "us"' (Hogg & Vaughan 2002, in Bekerman & Zembylas 2012: 45) in a given situation. Hegemonic narratives create and maintain concepts of otherness that can exacerbate conflict (Bekerman & Zembylas 2012), both physically and epistemologically. The task is not to erase memories or promote forgetting, but rather to 'remember forward'[24] (Chopp 2005: 260) in order to 'reconceptualise identity and memory as non-dividing constructs' through 'hopeful pedagogical interventions' (Bekerman & Zembylas 2012: 5). 'Teaching contested narratives … can create space for different affective relations with others' (Zembylas 2008a, 2010c, in Bekerman & Zembylas 2012: 41) 'to disrupt those regimes of feeling and thinking that perpetuate a conflicting ethos with others and to invent new practices of relating with them' (Bekerman & Zembylas 2012: 41).

Conclusion

The story of climate change is one told across a global waterscape of contested narratives. Some of these narratives argue over the original ownership of waterways while others question ownership altogether, debate who should manage water, and question management over stewardship practices. Each of these narratives purports to ascribe a particular value (or disvalue) to water. Since social and ecological injustices—mirrored by water problems—are anchored in and proliferate damaged relations, solutions can be possible when engaging in a practice of reconciling relations. In this paper, I argued that a relational, site-specific, media-arts-based, university curriculum focused on water can cultivate students' relational sensibilities and abilities towards reconciliation by providing examples of how this showed up during a pilot course I taught at a Canadian university in 2018. I identified the three most significant relational sensibilities and abilities developed by students through the programme, and *how* they were developed: (1) *knowledge ecologies,* where students were engaged in 'three-eyed seeing', a synergistic mode of perception at

24 To 'remember forward' means to imagine new paths of working together.

the interplay of Indigenous knowledge, Western knowledge and artistic practice; (2) *a hopeful social imaginary*, where students were involved in de/reconstructing contested narratives through story-based learning from local Knowledge Keepers and video story creation; and (3) *embodied ways of knowing*, where students took part in site-specific, creative and multi-sensory mapping activities, field trips and active listening and storytelling. All this contributed to the co-creation of 'dangerous memories' (Bekerman & Zembylas 2012: 209) where (a) institutional roles (and related memories and identities) are fluid; (b) memories of difficult pasts are translated into valuable lessons for the present and future; and (c) digital collective archives in the form of students' videos reinforce our commonality. Results from this reflective praxis suggest that one key strategy for creating reconciliatory openings in education lies in cultivating social identities of interconnectedness.

I acknowledge the potential conflict in my dual role as teacher-researcher, in which I may be looking for specific outcomes from the curriculum and students may hold back on sharing parts of their experience. For the next iteration in this praxis process I will work with a third-party researcher to administer questionnaires and conduct interviews with students with the aim of minimising this. The scope of this paper also did not allow for reflections around the enactment of this curriculum. Another potential study could look at how this curriculum is enacted at one institution by several different instructors to determine what kinds of considerations on the part of the instructors can impact on students' learning experiences.

This article examines a pilot programme that was presented in Canada. Important considerations will be needed for this curriculum to be applicable in South Africa. For example, in Canada the indigenous populations primarily impacted by residential schools are a minority. In South Africa, the indigenous/African[25] populations that were primarily impacted by Bantu Education are a majority. When we focus on water, issues around access are directly proportionate to these populations in the respective countries. As mentioned in the introduction, Canada is one of the world's countries with the most fresh water per capita, while most of South Africa is arid and struggling with varying degrees of drought. South Africa has a history of violent conflict between different races and a Truth and Reconciliation Commission (TRC) that is directly linked to processes that attempted to mediate these racial

25 Institutionally marginalised peoples in South Africa may include persons who are or are not indigenous to South Africa (e.g. indigenous to other regions of Africa).

tensions. Many South Africans feel that the TRC was unsuccessful in achieving reconciliation (Yates 2018) and therefore any mention of reconciliation processes in South Africa tends to conjure up associations with both the violent struggle and the unsuccessful TRC attempts. In Canada, the violence of the past residential schools and related racially motivated acts are undeniable. That said, Canada remains in a relatively[26] peaceful state physically (one could argue that the violence exists more epistemologically) and the TRC process was associated more with ideological and systemic processes like 94 Calls to Action (Truth and Reconciliation Commission of Canada 2015). The meaning of 'reconciliation' would need to be carefully unpacked prior to starting this action research in South Africa.

That brings us to the end of the story of this pilot program. There is a story that says that a university education is about getting a ticket to employment and that learning should be about preparing individuals' minds for their place in the growth economy. But then there is another story …

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26 By 'relatively peaceful,' I mean to say that there is not visible, widespread acts of brutality like what South Africa experienced during apartheid. There is ongoing, devastating violence (often hidden and silenced by media and the government) in Canada with regards to the treatment of Indigenous peoples, for example, through a history of missing and murdered women whose stories have not been adequately investigated by law enforcement authorities (Kubik & Bourassa 2016).

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(Footnotes)

1. Note: The words printed in bold in the above table indicate similarities in the approaches to dealing with reconciliation in the two countries.
2. To the best of my knowledge, based on information available at the time of writing from B.C. First Nations' websites and the Province's First Nations Consultative Areas Data Base (http://maps.gov.bc.ca/ess/hm/cadb/)
3. Source: https://www.squamish.net/about-us/our-land/
4. Source: https://www.musqueam.bc.ca/wp-content/uploads/2018/06/MusqueamSOI_Map-scaled.jpg
5. Source: https://twnation.ca/about/our-departments/treaty-lands-resources/
6. Source: http://www.stzuminus.com/our-story/community-map/
7. Source: https://www.researchgate.net/publication/311768934_Sumas_Energy_2_Inc_Traditional_Use_Study_Phase_II_Stolo_Cultural_Relations_to_Air_and_Water
8. Source: https://www.kwantlenfn.ca/
9. Source: https://www.cowichantribes.com/about-cowichan-tribes/land-base/traditional-territory

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About the author

Sarah Van Borek is a media artist, educator and PhD scholar in environmental education at Rhodes University, South Africa. She has been a faculty member of Canada's top art and design institute, the Emily Carr University of Art + Design, since 2012 and has designed and implemented project-based university courses towards social and ecological justice in collaboration with a wide range of museums: the Museum of Vancouver, the Vancouver Maritime Museum, the Courtenay & District Museum, the Gulf of Georgia Cannery, the Beaty Biodiversity Museum and the Apartheid Museum. She has been producing videos and social practice media works for more than 15 years and her work, which has won numerous awards, has been featured at film festivals, on television and in museums. Her passion for African music, film and sustainable development has taken her work to Gabon, Zambia, Uganda, Kenya, Tanzania, Mauritania and Mali. She provides customised training and support in digital storytelling through videos and podcasts for research, education and advocacy across a variety of sectors. For her doctoral research, Sarah is using a praxis process to develop a relational model of site-specific, media-arts-based environmental education aimed at promoting reconciliation in Canada and South Africa.

Reconceptualizing Educational Research Methodology

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Water as Artist-Collaborator: Posthumanism and Reconciliation in Relational Media Arts-Based Education

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Abstract

The global climate change-related water crisis, disproportionately affecting peoples marginalised by ongoing settler-colonialism, challenges us to take up a new ontology beyond the Anthropocene. Recognising universities as ethically entangled, my PhD praxis process aimed at engaging universities in reconciliation – of peoples and ecosystems – as a practice. This practice takes the form of a relational university course that involves intra-actions between students, water bodies and technology (audio/video as relational texts) to co-construct water narratives as films. In this paper, using posthuman theories to read the data, I uncover what/who is being changed in this course and how. Most notable of these changes is that of water as becoming collaborator in artistic/knowledge co-production, where students think with water. I argue this renders possible reconciliation understood as a material-discursive practice, with water, (re)configuring relationality to decentre humans and their ways of knowing/being/doing, and to co-constitute more equal power relations between bodies (both human and nonhuman).

Keywords: water, reconciliation, posthumanism, media arts, activist educational research, relational

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Reconceptualizing Educational Research Methodology.

Introduction to the study

The Price Tag of the Sea (2019), a video created for a university course called *Making Waveforms,*[1] illustrates Keinaenen,[2] its creator's sense of connection with and related valuing of the ocean that expanded through the making of the video. The narrative posits that proximity to water can affect one's valuing of water, and questions of who or what has access. According to Keinaenen, “now, instead of the Indigenous people of the land, the ones living by the water are the 1%” and “spending time by the water has been a luxury”. This is further emphasised by Keinaenen narrating the question, “Could this disconnect fuel [the] environmental annihilism that many people seem to partake in?” There is a visual of an Indigenous paddle displacing sea water to propel a canoe created with an underwater GoPro camera operated by Keinaenen during a class field trip led by Whonaok Dennis Thomas of the Tsleil-Waututh Nation's Takaya Tours (see Images 1 and 2). The course had intentions of exploring reconciliation as a practice towards thriving together, with the together inclusive of both humans and nonhumans, while working to support healthy waterways. While the course was planned/enacted from a relational sociology (Donati, 2011) ontology, I argue that reading the empirical material collected during the course from a posthuman theoretical perspective, reveals how Keinaenen's intra-actions (Barad, 2007) with water and technology in the course influenced her ideas for the narrative of her film. In this paper, then, I explore how a mediated art approach with water renders possible reconciliation, understood as a material-discursive practice, *with* water, (re)configuring relationality to decentre humans and their ways of knowing/being/doing, and to co-constitute more equal power relations between bodies (both human and nonhuman). And I ask, how, if at all, does this approach help to address a growing racialised global water crisis?

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[1] I originally created this title by combining concepts of "making waves" (or going against the status quo) and "waveforms" (the visual representation of sound, which varies depending on which entity is enacting sounds).
[2] Students and some Knowledge Keepers' real names appear in the text, with their permission, to acknowledge their contributions to the understandings that emerge in this paper.

(Image 1: Video still from Aino Keinaenen's *The Price Tag of the Sea* (2019) showing paddles from underwater GoPro camera)

(Image 2: Canoe trip led by Whonoak Dennis Thomas of the Tsleil-Waututh Nation/Takaya Tours. Photo by Sarah Van Borek)

Aim

In this paper, I analyse the *Making Waveforms* course held in Canada in 2019 using posthumanist theories. The aim is to apply a posthuman reading of the empirical material to focus the analysis on relationality, in order to see and perform co-constitutive knowing-and-being around who and

what is changing, and how. The enactment of the course initially took place with certain concepts of who/what might change (e.g. students) and how (cause and effect). However, considering the course through a posthuman perspective allowed for the exploration of the desired changes (e.g. institutional structure, culture and role; water narratives; etc.), who/what has changed (e.g. students, teacher, nonhumans, film viewers, etc.), and how (material-discursive practices) in a different way. Research questions asked in a posthuman reading of the data include: (1) How might the use of mediated art-approaches in educational settings entangled with water be tools to change reconciliation as a practice that takes place *with* water? (2) How might media arts-based teaching methods decentre human-centric ways of being/doing/knowing, and how can this contribute to reconciliation?

A posthuman activist approach

The teaching practice foregrounded in this study is part of an activist academic approach to educational research with a values-based/ideological offset. Activist educational research is a performative practice which seeks to change the world while studying the world and how it is changing. It is collaborative and “intentionally seeks to transform the social structures that reinforce social inequities” (Nguyen, 2019, p. 3). Drawing inspiration from “research as praxis” (Lather, 1986), activist research can be understood as “openly committed to a more just social order” (Lather, 1986, p. 258). In this paper, this activist/ideological approach is read through posthuman thinking. Posthuman activist research shifts away from the view of the scholar-activist as having agency and acting on or reacting to the world, towards emerging from entanglements as co-constitutive agents (Barad, 2007) and “acting-with the world, [where] we cannot fully predetermine or limit what those actions should or will be” (Verlie & CCR 15, 2018, pp. 2-3). A posthuman activist researcher performs diverse material re/configurations across the here-and-now with an openness to change presenting itself if, when and how it does from each assemblage, while dancing with emerging agential qualities of other bodies. While the curriculum in this study was enacted within an educational institution of ongoing settler-colonialism which privileges Euro-Western theory over Indigenous knowledges, applying posthuman theories allows for showing how Euro-Western theories and Indigenous theories, for example that of Haudenosaunee and Anishinaabe scholar Vanessa Watts' (2013) *place-thought*, can intersect.

Background

Despite the resurrection of swimming pools and sprinklers across Cape Town only two years after the major city nearly became the first to run out of its municipal water supply, a global water crisis, exacerbated by climate change, continues to prevail (UNESCO, 2020). Sao Paolo, Bangalore, Beijing, Cairo, Jakarta, Moscow, Istanbul, Mexico City, London, Tokyo, and Miami are amongst the capital cities considered at risk of water shortage within the next 10 years (W12 Congress, 2020). This material configuration of a world out of balance with one of the very elements it requires to live, is driven by the narrative of Anthropocentrism (Crutzen & Stoermer, 2000). From this position, humans see themselves as separate from those differentiated as lesser nonhuman entities (e.g. water) whose value hinges on the extent they serve human desires. Even the

environmental protection discourse, propagating narratives of 'save water', still positions nature as "other" (Taylor & Blaise, 2014). Peoples marginalised by ongoing settler colonialism – as Ferrando (2019) clarifies, excluded from the aforementioned "human" of the Anthropocene – are the most affected, and thus, the water crisis has racialised impacts. In Canada, Vancouver city residents flush potable drinking water down their toilets (Gomes, 2019) while, as of 9 January 2020, 57 boil water advisories (meaning water is unsafe for human consumption) still remain in First Nations communities (Government of Canada, 2020). The challenges posed by environmental racism (UCCCRJ,[3] 1987) press us with growing intensity to take a hard look at the very ontology that has gotten us here.

Universities can be likened to the ontological brick and mortar of the Anthropocene. Herbrechter argued that universities are "arguably the most humanist of institutions" (2013, p. 14). Some of this can be seen as expressed through the ways universities perpetuate "unthinking Eurocentrism" (Braidotti, 2013, p. 153), supported through using mainly academic language-based (writing/reading) tools for communicating learning (Boughey & McKenna, 2016). This Eurocentrism thus limits which ways of knowing might contribute to solutions, which does not help the global water crisis. Anthropocentric water narratives, for examples, those of water being valued according to how it can serve human consumption, may continue to dominate if these humanist institutions are left to continue business as usual. Seen from this vantage point, I argue, that a practice for universities to reconcile diverse peoples and ecosystems is required.

This article draws on my PhD in Environmental Education through which I developed a model of a relational media-arts based university curriculum, focused on water, towards reconciliation in Canada and South Africa. This involved co-designing/facilitating iterations of a university course across Canadian and South African contexts. This paper analyses the course that was enacted in Canada, and which was originally developed around Donati's (2011) relational sociology and Gergen's (2009) relational education theory. At the point of enacting this course, I defined reconciliation as:

> *a practice towards thriving together*, where the 'together' is inclusive of both humans and nonhumans. This aligns closely with Cole's (2007) concept of reconciliation as a *process,* Morcom and Freeman's concept of reconciliation as 'mov[ing] forward in a spirit of right relations' (2020), and Wright's concept of *aesthetico-ethical* reconciliation which Platz describes as a reconciling of humans and nature through 'aesthetic appreciation of nature' (2004, p. 1). (Van Borek, 2021, p. 9-10)

Cree[4] scholar Daigle (2019) called for reconciliation in the form of "course content and pedagogy

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[3] United Church of Christ Commission for Racial Justice

[4] Cree is a First Nations band, the basic unit of government for those peoples subject to the Indian Act, in Canada. Such distinctions have been included in the introduction of First Nations scholars to respectfully acknowledge the differentiation of Indigenous peoples.

[that] center[s] the experiences of Indigenous and other racialized students" (p. 713) and that takes into account ongoing settler-colonialism. Wilson (2020, p. 5) of Kwakwaka'wakw Nation[5] considered reconciliation as "moving the dial ... towards getting rid of systemic, inherent discrimination in our systems". Madden, a scholar of settler-Canadian and Indigenous (Wendat, Iroquois, and Mi'kmaw) ancestry, proposed a de/colonising theory of truth and reconciliation education (2019) that emphasises: processes of deconstructing and reconstructing to make visible, while engaging root causes of, inequalities and divisive relations; Indigenous land-based traditions; and counter-storytelling. Counter-storytelling involves challenging dominant and/or under-represented narratives (Madden, 2019). Concepts of reconciliation by various scholars (Hodgkin, 2006; Cole, 2007; Zembylas, 2012; Rouhana, 2018) across diverse contexts suggests a kind of reparation between separate human groups. From a posthuman perspective however, humans/nonhumans are "embodied and embedded entities" (Braidotti, 2013, p. 66) and "relata do not preexist relations" (Barad, 2007, p. 14). In this embedded, entangled existence there are no separate individuals or groups to practice reconciliation between, but rather a relationality which can be material-discursively (re)configured to co-constitute more equal power relations between bodies (both human and nonhuman). A focus on relationality renders it possible to see emerging identities as socio-material constructions and how they are constructed. Building on the way Indigenous peoples have traditionally been viewed by humanist institutions as less than human, this paper embraces a view of posthuman reconciliation as enabling relations that decentre humans and their ways of knowing/being/doing, and that support the creation and maintaining of equal power relations between bodies (both human and nonhuman).

Previous research

Student-water-technology intra-actions may open students to what several posthuman scholars refer to as "thinking with water" (Somerville, 2014; Neimanis, 2017; Rowan, 2015; Pacini-Ketchabaw & Clark). Margaret Somerville (2014) co-developed a collaborative methodology, with Indigenous researcher Immiboagurramilbun (Chrissiejoy Marshall), called "Thinking through Country" (p. 406) as a set of relational practices combining painting, story, translation of Indigenous languages, and digitised oral explanations, linked to a specific material landscape, for "researching water knowledges" (Somerville, 2014, p. 410) in the Murray-Darling Basin region of Australia. Some scholars have been working with concepts around water's agential qualities in early childhood education. Mary Caroline Rowan, for example, has been exploring how "thinking with land, water, ice and snow" (2015, p. 198) embodied in material-discursive intra-actions, such as snow carving, can reconnect Inuit children in Canada with their traditional ways of knowing and being. Veronica Pacini-Ketchabaw and Vanessa Clark have explored how a "relational watery pedagogy" (2016, p. 110) for early childhood classrooms might foster new ways of relating with and behaving towards water. My study builds on these approaches to decentering Western knowledges, by introducing relational (audio/video) texts, mediated art approaches of slow media

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[5] Kwakwaka'wakw is a First Nations band.

and soundscape recording, and a strategic focus on water aesthetics, to deepen student-water intra-actions (and relational/observational practices). Like these scholars, my research seeks to change perspectives on water towards healthier becomings-with water, however, my study further draws out the entanglements of waterways and human relations, emphasised through a focus on reconciliation (between bodies of both humans and nonhumans).

Theoretical framework

The posthuman reading of this paper draws on Barad's (2007) *agential realism* by applying the concept of *intra-action.* Intra-action changes how we might think about our relationships and our abilities to affect change. With intra-actions, entities emerge from entanglements, and emergent entities “lack an independent, self-contained existence” (Barad, 2007, p. ix). Thinking with intra-action means that identities, and inter-related properties of agency and responsibility, shift away from being viewed as pre-existing and naturalised, towards being viewed as emergent. With agential realism, agency is no longer seen as something any one entity can have but rather as entangled in intra-actions from which entities emerge with agential qualities that “are only distinct in relation to their mutual entanglement” (Barad, 2007, p. 33). Responsibility, which “entails ongoing responsiveness to the entanglements” (ibid., p. 394), is shared across constituted entities. As our ability to act emerges from within relationships, we use the term “response-ability” which Haraway (2016) explained as being, “about both absence and presence, killing and nurturing, living and dying – and remembering who lives and who dies and how in the string figures of naturalcultural history” (p. 28). Responsibilities remain differentiated, with “details link[ing] actual beings to actual response-abilities” (Haraway, 2016, p. 29).

To effectively apply Barad's agential realism, I gained support from Ceder's (2019) theory of educational relationality and related terminology used in his work. Simon Ceder's posthuman theory of “educational relationality” (2019, p. 21) is anchored in concepts he calls *post-anthropocentrism* and *intra-relationality*. Post-anthropocentrism is about decentering the human and recognising nonhumans as equal parts of an entangled world. Intra-relationality, “based on movement, process, entanglement, becoming, and transformation” (ibid., p. 22), and articulated through “an entanglement of Biesta's (2004) use of the term ‘relationality’ and Barad's intra-action” (p. 65), is about focusing on relationality itself (rather than the actors in relation). The view of reality consisting of human/nonhuman entanglements instead of human-centric self-identities is key to how reconciliation unfolds in the analysis of this paper.

Bekerman and Zembylas (2012) have argued that *de-essentialising identity* is necessary for reconciliation, since nation-states typically interweave their political agendas with the concept of identity, essentialising identity in the process. Drawing on an example of history education in Cyprus, Bekerman, Zembylas and McGlynn (2009) showed how, within communities in conflict, narratives centre on harm portrayed to be caused *to* one side *by* the other side, producing “dehumanized images of the other” (p. 218). This implies that responsibility for the conflict, and therefore conflict resolution efforts, lie with the dehumanised 'other'. The same can be said of the

reconciliation discourse in Canada which emphasises Indigenous/colonial government distinctions and which frames reconciliation as something needed to correct wrongs of the past. This does not consider the impacts of ongoing settler-colonialism, for example, the abuse and exploitation of waterways essential to Indigenous communities, nor the complicity of diverse residents in settler-colonialism and/or the mistreatment of waterways. Wong (2011) argued that reconciliation requires restitution where "the land and watersheds [are respected] as life-giving forces, not merely as resources to be exploited and controlled" (2011, p. 84). Wong further argued that one way to go about doing reconciliation in this way is "to cooperatively focus on the health of the water that gives us all life" (p. 85). As discussed in the Background section, from a posthuman perspective, I view reconciliation as a material-discursive practice, *with* water, (re)configuring relationality to decentre humans and their ways of knowing/being/doing, and co-constituting more equal power relations between bodies (both human and nonhuman).

Respecting water as a life-giving force, with watery ways of knowing/being/doing, may become possible when drawing on Neimanis's (2017) 'hydro-logics' of water, which Neimanis (2017) proposed as a feminist[6] means for looking to water's multiple modes and dimensions – "according to which bodies of water make themselves sensible and intelligible" – as important ways for learning that move beyond binaries and challenge power constructs, for example, developing an *epistemology of unknowability* (Neimanis, 2017, p. 58) through embracing water's *unknowability*; and for improving one's treatment of water through these learnings. Neimanis's specific concepts of *communication*, where water "articulates sounds, temperatures, and other matters between and across bodies" (2017, p. 55), and that of *archive*: "storing flotsam, chemicals, detritus, sunken treasure, culture, stories, [and] histories" (ibid., p. 55) resonate as potentially potent tools for analysing the *Making Waveforms* course which brings relational texts (audio/video) into a *thinking with water* dynamic. Through the water's communication, we might engage in water's aesthetics and produce affective relations with water which might change our feelings about and behaviours towards water. Through water's archive, we might come to see the health (or lack thereof) of the water and gain insights into the other bodies entangled in this over space and time. This might allow for us to further our intra-actions with water, and to shape narratives (as part of material-discursive practices) that might contribute to (re)configurations for healthier becoming-with water. Engaging with water's hydro-logics of communication and archive may be rendered possible by working with strategic media arts-based approaches. Intra-actions with technologies that can strengthen our attention and perception, in this case a camera lens to better focus our vision and a microphone, headphones and sound recorder to amplify our hearing, act as sorts of prosthetic enhancements that fine-tune our senses to water. Within this communication across bodies, meaning moves away from linguistics towards "ongoing performance of the world in its differential dance of intelligibility and unintelligibility" (Barad, 2007, p. 149). This embraces the

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[6] Neimanis proposes that thinking with water is a feminist approach because, as she argues, the water crisis has gendered effects (Neimanis, 2017).

posthumanist influence “to rethink our taken-for-granted modes of human experience, including the normal perceptual modes and affective states of *Homo sapiens* itself, by re-contextualising them in terms of the entire sensorium of other living beings and their autopoietic ways of ‘bringing forth a world’” (Wolfe, 2010, p. xxv).

Methods

Teaching methods

In 2019, I co-designed and led a course called *Making Waveforms* at the Emily Carr University of Art + Design (ECUAD) on the traditional, unceded[7] territories of the Musqueam, Squamish, and Tsleil-Waututh peoples, currently known as Vancouver, Canada. The primary task of this curriculum was the making of a site-specific video, where the ‘site’ of learning-creation was a specific water body. The *Making Waveforms* course engaged with media literacies using a conceptI refer to as 'relational texts' (audio/video). Audio and video are more relational than other texts, specifically human-centric language-based literacies (writing/reading) because audio/video real- time assemblages (e.g. images, sounds, colours, movements, pacing, etc.) enable non- verbal/affective communication (while recording, editing, and viewing/listening). This produces emotional connections (Sherman, Michikyan & Greenfield, 2013; Rasi & Vuojärvi, 2018) between entities and can thereby change affective relationality. Intra-acting with media literacies using 'relational texts' (audio/video) enable a kind of “material/discursive learning *with* the world” (Riley, 2019, p. 97). I selected four water bodies across Metro Vancouver to be part of the course: Deer Lake, Lost Lagoon wetland, Capilano river, and the Point Grey Foreshore (ocean/beach). I chose these water bodies to reflect a diversity in water forms and neighbourhoods, and because I had confirmed Knowledge Keepers[8] with pre-existing relationships to the water bodies mentioned,two Indigenous and two non-Indigenous, to participate in our course. Students each chose one of these water bodies as a focus for their videos. Key to the video making process, students had homework assignments that required them to conduct at least three site visits to their particular water body to engage in relational learning processes. In the first two, students were tasked with semi-structured video and audio mapping assignments respectively (see Appendices). The third site visit involved students meeting with a Knowledge Keeper to learn more about the water body through that person's relationship with it. The course culminated in a public screening event. Six undergraduate students, all of whom self-identified as being non-Indigenous and from a range of artistic disciplines, signed informed consent forms to participate in the research.

Methods for collecting empirical material

The research was designed to be embedded within, and therefore contribute to, the teaching/learning as much as possible. For this reason, data collection involved two main methods which were also assignments in the course: (1) videos; and (2) reflective journals.

[7] Unceded refers to lands never legally signed over to the government or Crown.
[8] Knowledge Keepers, in this context, refer to people outside the university who have pre-existing relationships with water bodies included in the course.

Questionnaires/interviews, as secondary methods with which to cross-check findings, were conducted before and after the course by a third-party research assistant to further intra-actions of the researcher and the empirical. As a teacher/researcher entangled in the teaching/research processes, I also documented my own reflective observations. The video-making process and resulting videos are the main aspects of the course analysed in this paper. I also analyse and, where relevant, reference students' journals and/or questionnaires/interviews to support the paper's argument.

Methods of analysis

To read the data through a posthuman lens, I intra-acted with the concepts in the theoretical framework from which an analytical framework was produced. To analyse students' videos produced through the course, I did a posthuman narrative analysis using Arndt and Tesar's (2019) post-qualitative conceptualisation of narrative as “dreaming/s” in combination with the aforementioned analytical framework. Arndt and Tesar (2019) defined dreaming/s as: “a way of becoming worldly with, by blurring notions of realities, and unsettling the stubbornness and apparent simplicity of discursive, narrative frameworks” (p. 136). Whereas traditional qualitative narrative methods foreground a humancentric voice as a distinct knower of a certain reality, dreaming/s foreground nonhumans, problematise the known/knower and “enable the emergenceof events and questionings that would otherwise remain invisible and silent in 'the real world'” (ibid., p. 136). To do this, I looked at both video content and style (assemblages of images, sounds,text, colours, pacing, etc.) and gave attention to practices and possible meanings produced at temporal moments within and across the video. I foregrounded both human and non-human voices, and applied my analytical framework, by asking in each moment of the video: What/who emerges as intra-acting? At what stage of the process? What happens through this intra-action? What changes? What is made in/visible and/or in/audible, how and why? What subject-positions are de/re/constructed, when, and how? What might this enable which actors to feel, and what does this render possible? What might this allow for, in terms of reconciliation? To build on what was emerging, I then read across my intra-actions with students' journals/questionnaires/interviews and my own reflective observations of the course (still using the analytical framework). The results in this paper were produced from such intra-actions. Video stills and links to video and audio excerpts are embedded into the paper to allow for the agential qualities of water, on its own terms, to be seen, heard and felt affectively by readers-viewers-listeners.

Analysis

Thinking with water through student-water-technology intra-actions

Going back to the first example of empirical material from the *Introduction* of this paper, student-water-camera intra-actions allowed Keinaenen to see water entangled with bodies producing and produced by capitalism (e.g. commercial cargo ships, cruise ships, oil tankers, and expensive housing, which appear as clips in her video – see Image 3), and the invisibility of lower-class residents and/or the original Indigenous inhabitants of the waters (that emerged through student-

Knowledge Keeper-water intra-actions). Showing who/what does or does not have access to water and introducing the colonial displacement of Indigenous peoples (through narration), renders visible the entanglement of race, class and ecology. This produces a view of settler-colonialism as ongoing and entangled in water inequality. Narration emphasises how intra-acting with water allows for an understanding of water which Indigenous peoples practise. Clips of water aesthetics reveal Keinaenen's student-water intra-actions performed in the making of the video, thereby enacting Keinaenen's performance of knowing-with that aligns with Indigenous ways of being/knowing. In an interview, Keinaenen described how thinking *with* water taught her how to see/feel water:

> I'd been there [water body] before ... But then, actually taking a step back or, well, more like a step forward into that place and actually seeing it, that's what ... made me feel a deeper connection with that place ... I was physically [close] to different water bodies and I realised there that I was experiencing it in a different way. Rather than just looking at it, I could like feel it ... And I don't really know how to describe that or put it into words.

"Actually seeing" the water body through the course in a way that made Keinaenen "feel a deeper connection with that place", means the student-water-technology intra-actions of audio/video mapping enabled the student to see/feel her entanglement with water, which rendered the water more valuable to her. This seeing/feeling was made visible by having been narrated in the video. This change in perspective allowed the student to become a water protector and make this video which enables audiences to interact with water (performed in the film). In an interview, Keinaenen admitted to previously having felt the environmental annihilism referenced in the video and outlined how a sense of response-abilities had been produced: "I've been kind of like, whatever, we're all gonna' die anyways. And now it's like, I can do something about it." Keinaenen's student-water-technology intra-actions contribute to reconciliation by decentring Eurocentric ways of being/knowing through thinking with water; and de-essentialising the identity of the student as knower, and water as known, by rendering visible ongoing entanglements. Keinaenen-film-audience intra-actions contribute to reconciliation by revealing ongoing settler-colonialism and enacting water protection as an agential performance towards substantive restitution.

(Image 3: Video still from Aino Keinaenen's *The Price Tag of the Sea* (2019)

showing the Point Grey Foreshore beach with intertidal organisms in foreground and oil tankers in background)

Observing water aesthetics as water's hydro-logics of communication

The mapping assignments students engaged with during their site visits focused largely on observation. The practice of observation presents specific openings. As Ceder (2019) explained, “observing is allowing sensations to make sense without having to actively or rationally handle them ... To only observe can allow us to experience aspects of the world that do not make sense, or do not appear to, when we try to put them into categories” (p. 200). Mapping assignments asked students to focus some of their observations on water aesthetics, both visual and auditory, which can be understood as what Neimanis (2017) referred to as water's hydro-logics of communication. Bergler, a student in the course, presented through her student-journal intra-actions, the visual aesthetics of water she observed while video mapping the Capilano River (Bergler, 2019):

> I recorded the images based on my sense of exploration and observation. I captured a variety of shot types while experimenting with rack focusing[9] and abstract or out of focus images of the water. I found that I was drawn to the light on the water, the light on the trees, reflections in the water and the contrast between the man-made structures (dam, walkways) and the natural canyon carved from the river along with the dense green forest. [see Images 4, 5, 6 and 7]

[9] To 'rack focus' means to quickly pull focus so that the object in focus jumps between the foreground and background.

(Image 4: Video still from Ryanne Bergler's *Reflection* (2019) showing abstract/soft focus of water rippling)

(Image 5: Video still from Ryanne Bergler's *Reflection* (2019) showing reflection of trees on water)

(Image 6: Video still from Ryanne Bergler's *Reflection* (2019) showing reflection of light on water)

(Image 7: Video still from Ryanne Bergler's *Reflection* (2019) showing water flowing down Cleveland Dam)

Bergler's use of adjectives, presented in her student-journal intra-actions, to describe the water aesthetics she observed, highlight the wide range of sound characteristics in water's creative

palette:

> ... wider sounds at the dam overflow capturing the loud[ness]...of the water flowing over-intense; close up sounds capturing a small stream that was flowing into a storm drain-quiet and mysterious; the steady flow of the river moving through the canyon -calming ...

Bergler's observations of water aesthetics, made possible through student-water-technology intra-actions, allowed water's agential qualities in artistic/knowledge co-production to be foregrounded. This decentering of human-centric ways of being/knowing, and co-constituting of both Bergler and water as knowers, thereby de-essentialising the identity of the student-as-knower and water as known, contribute to reconciliation. Bergler's aesthetic appreciation for water, made visible through Bergler's journal statement describing how she was "drawn to the light on the water ... [and] reflections in the water ...", rendered it possible for Bergler to lead by example in performing a valuing of water, by presenting these water aesthetics to film audiences, through the making of her video, *Reflection* (2019).

Slow media: A material-discursive reframing of the world

Incorporating particular artistic approaches that can further deepen our attention and perception, for example *slow media*, can extend the potential of camera and sound prosthetic enhancements to expand the frequencies of water's ways of knowing/being that our receptors can detect.

Slow media is an artistic approach to videography, coined by Métis[10]/Cree filmmaker Gregory Coyes, where the camera is locked in a fixed position and where the videographer is positioned to focus his/her/their attention on the visual and auditory nonhuman performance that unfolds within the frame. The term 'slow' emphasises the disruption to conventional, contemporary media production which typically employs fast pacing achieved through editing numerous, short clips filmed at various shot sizes and angles to direct the viewer's gaze in a particular way (Coyes, 2019). By stepping back and letting water direct our gaze within the frame, focusing our attention onto the visual cues of water, students are able to learn not only *about* but *with* water. In this becoming-with water, hierarchies change as students change from controlling and capturing the performance of nonhumans to witnessing, listening to, and responding to non-humans' enactments unique to each meeting. Adding slow media to student-water-camera intra-actions better attunes us to water's hydro-logics of *archive*, particularly the stories that water carries revealing where it has been, who/what it has intra-acted with, and how it has been treated.

Student Shi, in the making of the video *Xwmélts'stn/ Xʷməθkʷəy̓əma?/Capilano* (2019), used slow media to observe, document and, thereby, learn from the Capilano River. Initially, Shi recorded very aesthetically appealing clips of the river, dew, rain, plants, and reservoir, suggesting a pristine environment (see Image 8). These aesthetics clashed with the archive of the river, hinted at by the

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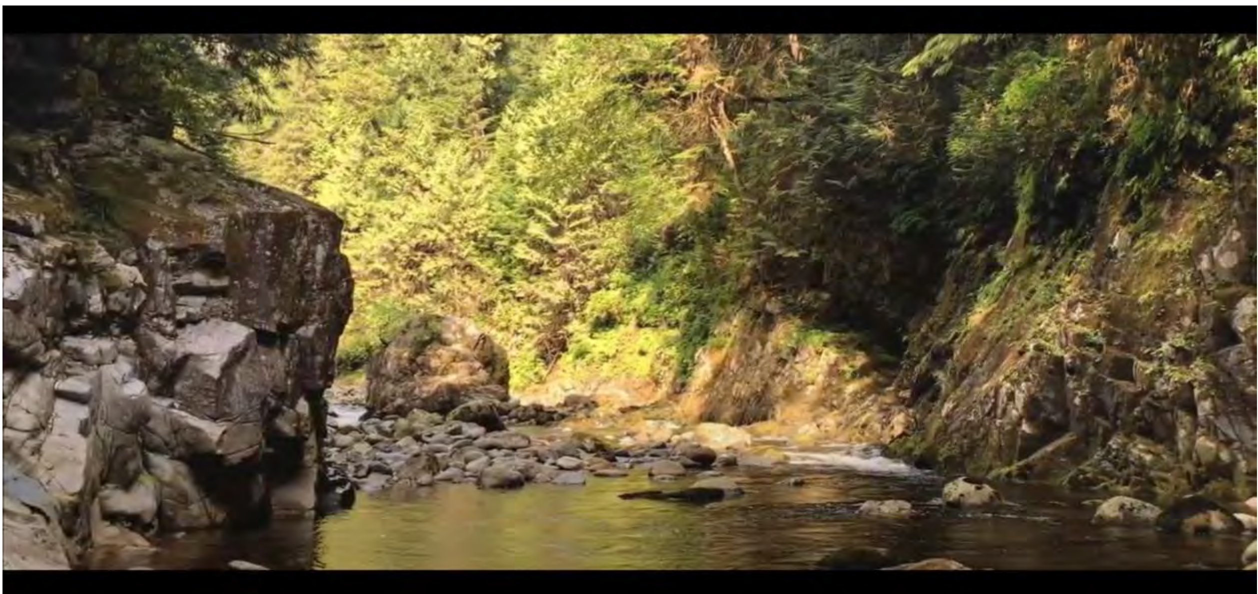
[10] Métis is an Indigenous group in Canada of multiple ancestries.

intra-action between the river and a human-made dam, and confirmed by Shi's Knowledge Keeper's emotional tone of anger and despair for the river. This enabled the student to reconfigure his view of the water as mistreated and to feel empathy for the water, as confirmed through his journal. The narrative Shi tells in his film, consequently, is about an ugly truth being hidden, where, “just beneath the surface lurks discrimination, abuse and contamination” (text on screen). Text presents the water as one of Vancouver residents' drinking sources, implying Shi also drinks this water, then expands to highlight an ineffective water management system. The silence of the river's past Indigenous inhabitants – also mistreated – emerged through student-Knowledge Keeper-water intra-actions. Shi confirmed, through his journal, how this inspired him to see/present the intersectionality of social/environmental issues and ongoing settler-colonialism, and for this to be performed in his video. Shi acknowledged his ethical entanglements with the river and Indigenous peoples by stating (using text – see Image 9): “we are selfish” ... “we neglect our Indigenous communities even to this day” ... “we treat our waterways with the same neglect” ... “environmental protection is not only about the preservation of species and ecosystems, it's also about how we treat each other.” Shi's acknowledgement of these ethical entanglements was produced through Shi having engaged in boundary-making practices that de/re/constructed (and, thereby, de-essentialised the identity of) knower/known subject-positions. This decentering of human-centric ways of knowing, and co-constituting of more equal power relations between bodies (both human and nonhuman), creates openings for the possibility of reconciliation. Shi-film-audience intra-actions also contribute to reconciliation by rendering visible ongoing settler-colonialism.



(Image 8: Video still of *Xwmélts'stn/ Xʷməθkʷəy̓əma?/Capilano* (2019) by Xian Da Shi

featuring Capilano river and surrounding riverbanks)

(Image 9: Video still of *Xwmélts'stn/ Xʷməθkʷəy̓əmaʔ/Capilano* (2019) by Xian Da Shi

featuring salmon in Capilano river fish hatchery – salmon are culturally significant to local Indigenous communities)

Through the process of applying slow media, several students started to witness stories of the entanglement of water with other species who moved into, out of and through the fixed-position camera frame. This enabled a material reconfiguration of the world in which these nonhuman actors affect the content, composition, pacing, other aesthetics, and affectivity of the video thereby becoming-with students as collaborators in artistic/knowledge co-production. For example, student Khandan-Barani, who used slow media in her video, *Deer Lake* (2019), enacts a caravan of Canadian geese swimming in a line between lily pads (see Image 10). Another clip in her movie presents an intimate encounter with a Pacific Great Blue Heron (see Image 11) who remains in the frame long enough to reveal some personal hygiene behaviours. In a third clip, three Mallard ducks perform intra-actions with water (e.g. eating, cleaning, swimming) before exiting the camera frame (see Image 12).

(Image 10: Video still of *Deer Lake* (2019) by Atanaz Khandan-Barani showing Canadian Geese swimming through lily pads)

(Image 11: Video still of *Deer Lake* (2019) by Atanaz Khandan-Barani showing Pacific Great Blue Heron)

(Image 12: Video still of *Deer Lake* (2019) by Atanaz Khandan-Barani showing three Mallard ducks)

Witnessing the stories, in this analysis seen as water's archive, of animals-lake intra-actions, reinforced by stories her Squamish and Leq'á:mel[11] Knowledge Keeper, Preissl, shared (in student-water-Knowledge Keeper intra-actions) changed the way the student sees water and her ethical entanglements with it. While, at the start of the course, her journal presented water as for her drinking and recreation, the student's video enacts a reconfiguration of water in its expansive entanglements and becomings (e.g. habitat, sanitation, food provision, etc.). An assemblage of slow media style visuals bring the student into what they narrate as affective encounters with water aesthetics and animal-water intra-actions as interconnected pieces held together by Khandan-Barani's voice-over. In her narration, she explained: "I was reminded that the water I use isn't just mine. It's for the animals. It's for the plants. It's for the whole Earth." This shifting away from a humancentric consumption orientation towards a relational attunement, and where power hierarchies are levelled and identity is de-essentialised through seeing entanglements, can contribute to reconciliation.

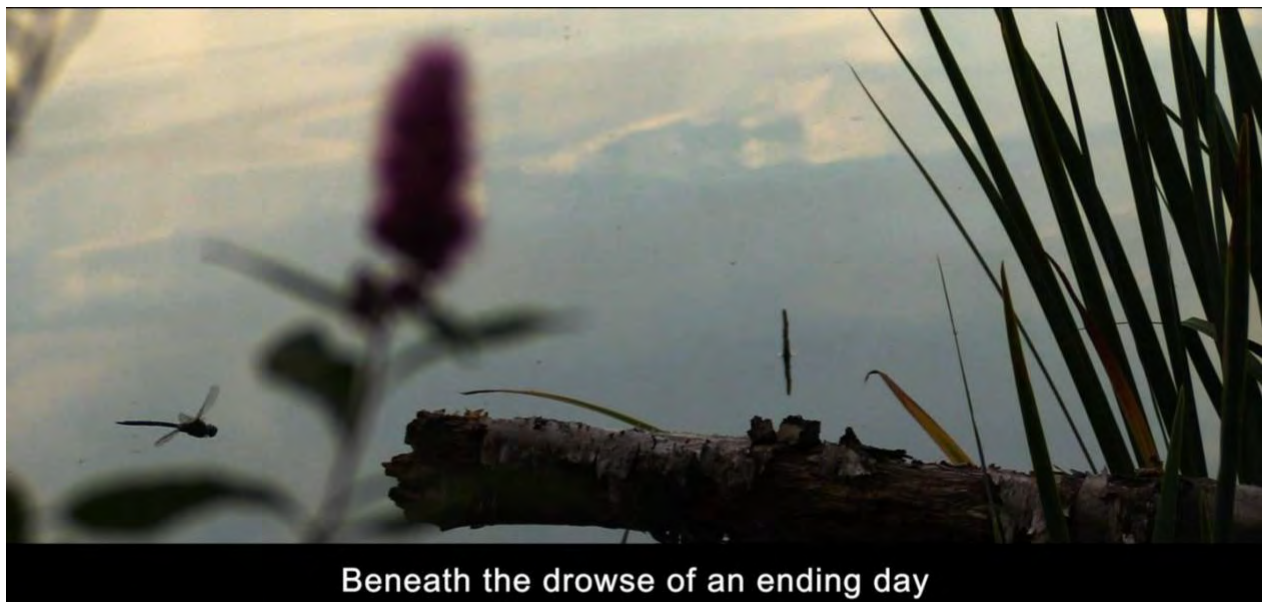
Soundscape recording: Adjusting the frequency of affective relations

Soundscape recording is a creative approach where the sounds of a particular landscape are recorded and, thereby, translated into aesthetic materials which can further be listened to out of context or reworked into sound compositions. More specifically, these compositions equip composers with tools for communicating and educating around environmental issues reflected in the growing extinction of sounds largely unnoticed by a predominantly visual culture (Akiyama,

[11] Squamish and Leq'á:mel are First Nations bands and herein refer to Preissl's ancestry.

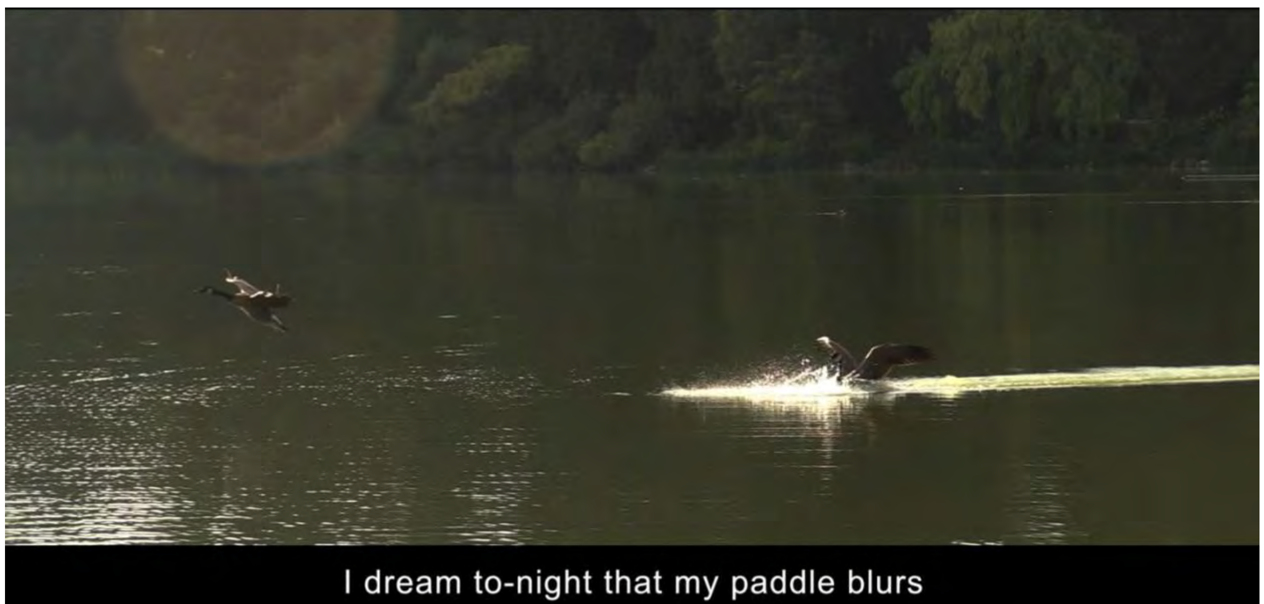
2010). Renowned soundscape composer Hildegard Westerkamp (2001) has emphasised how a microphone and sound recorder enable us to listen 'unfiltered', bringing to our attention sounds that our brains are hardwired to filter out. As relational texts, these audio clips can change affective relations during recording, editing and listening intra-actions. Embracing the hydro-logics of a water body, revealed through soundscape recording, can enable water to contribute to knowledge and video/narrative co-creation.

An example can be seen in student Gao's film 亡灵岛 (*Deadman's Island* in Mandarin, 2019), which illustrates Gao's thinking with water through student-water-camera/microphone intra-actions. Gao's use of slow media in video mapping allowed a material reconfiguration of the world in which nonhuman agential qualities emerged. Gao's video is a highly emotive juxtaposition of images of plants, animals and waterscapes that form Lost Lagoon's ecosystem: plants oscillating between foreground/background; a dragonfly flying across the frame and returning to linger on screen; a seagull swimming into frame; a Canadian goose flying across the frame; and a Pacific Great Blue heron flying into the frame (see Images 13, 14, 15 and 16). Contributing to the content, style and affective power of the video in this way, renders it possible for these nonhumans to become collaborators with Gao in artistic/knowledge co-production.

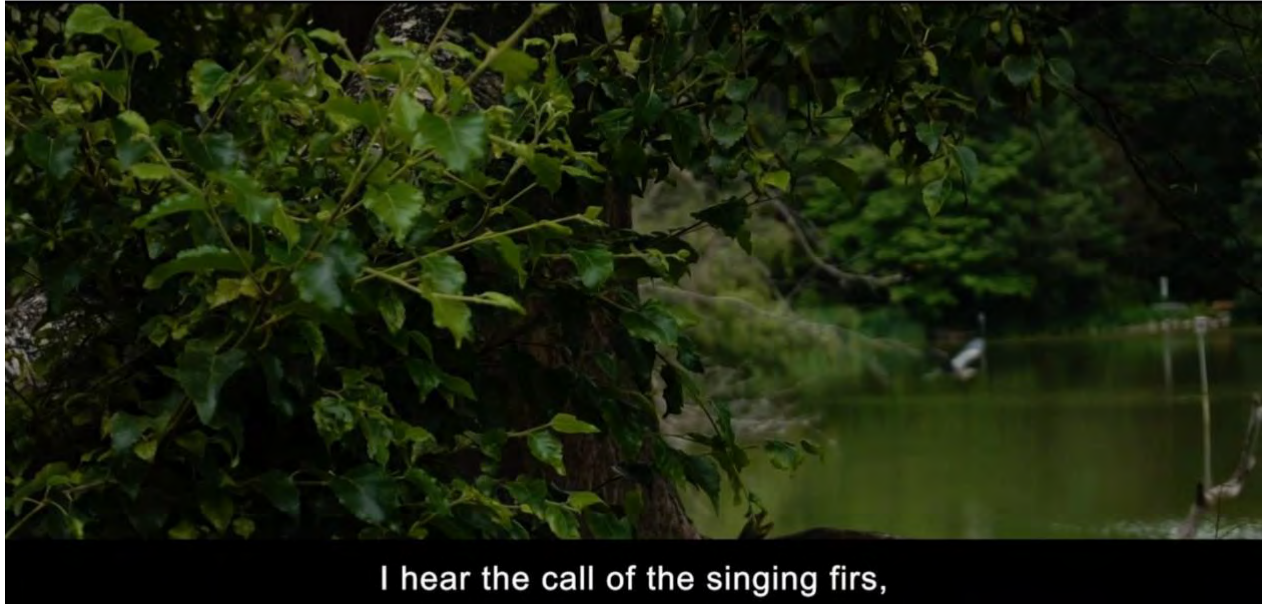


(Image 13: Video still from Andy H. Gao's 亡灵岛 (2019) featuring dragonfly flying into frame)

(Image 14: Video still from Andy H. Gao's 亡灵岛 (2019) featuring seagull swimming into frame)



(Image 15: Video still from Andy H. Gao's 亡灵岛 (2019) featuring Canadian goose flying into frame)



(Image 16: Video still from Andy H. Gao's 亡灵岛 (2019) featuring Pacific Great Blue heron flying into frame-

see blurred motion in background)

Gao's use of soundscape recording in audio mapping, which followed video mapping, provided his deepened material-discursive enactments with the wetland. In an interview, Gao described how his student-water-microphone intra-actions allowed for an amplified knowing-in-being: “Everything is so loud and clear, you realise, wow, there's so many things going on. There's a lot of small creatures and things in the shadow that you can't see.” This expansive boundary-making practice enacting what defines the lagoon as a water 'body' and what (re)defines the knower/known encouraged Gao's choice to insert himself in his video by delivering an emotional narration in his native language of Mandarin. What appear as subtitles, due to their placement at the bottom and centre of the screen, are actually English verses of Mohawk[12]/English poet E. Pauline Johnson's poem, *Deadman's Island* (1911), which is where the name 'Lost Lagoon' originated. The narration is a version of the poem adapted by Gao into Mandarin, and influenced by his experiences with the lagoon. This was confirmed through his artist statement:

> Within my video, I documented my relationship with Lost Lagoon based on my personal experience and understanding of the place ... I tried to stand in [Johnson's] shoes first and experience what she might have seen, heard and felt at this location back in the day. Then I went back to the location and tried to experience the same place as her, but in my own perspective, at a different time period.

This decentering of human-centric ways of knowing/being changed the way Gao enacted his

[12] Mohawk is an Indigenous tribe currently found in Canada and the United States of America.

response-abilities towards water – and potentially to others excluded from the notion of 'human' – which can contribute to reconciliation. He confirmed this in an interview by stating:

> Before I was taking this course, I don't (sic) really think about how precious water is ... I don't (sic) take actions or ... think really hard about it. But after I realised ... there's not only what I see and what I'm experiencing ... so that made me start taking actions and think about what's the right thing to do.

Gao's change in perspective, where he was seeing the entanglements of animals and plants with the wetland, allows for a de-essentialising of identity and for producing more equal power relations (between humans, animals, plants and water), which can contribute to reconciliation.

The potentialities rendered possible using soundscape recording were most evident in the development of student Snaden's video. What emerged was a way for water's hydro-logics of communication to participate directly in her video and creative process. In her video *Healing in Blue* (2019), Snaden composed and performed a song with water. This becomes the soundtrack, story and heart of the film. At the start of the video, Snaden appears on site at her water body with her keyboard (see Image 17). When she starts to play, visuals cut to a sequence of imagery mapping the surrounds. The music continues. Text on screen reveals that "this song was composed and recorded at Deer Lake". This intra-action makes possible new ways for the student and film viewers to see the lake as inspirational muse, composer, performer, performance hall and recording studio. The music and nature sounds (relational texts), featuring the sounds of water as lead 'vocalist,' intra-act throughout the piece in collaborative exchange. Snaden's description of her music composition process confirms the notion of water as part of artistic co-creation: "... as I was watching the people walk by and the water, it was very much just where my fingers went. And what the water was saying." The sonic inter-weaving of keyboard-lake-animals acts as a mirror to the artist's growing awareness of her entanglement with water, and of water's agential qualities, that are gradually revealed through the unfolding narrative. Text, which stamps the song like a lyrical gesture, shares how Snaden, "[grew] up being healed by the sound of water" and water emerges as healer with aural aesthetic values. Snaden's growing perception of water as becoming many things across her life and work allows her to feel gratitude towards water. This gratitude, presented as text in her video which reads: "to say thank you to the water for an endless cycle of healing, growth and love," enables Snaden to emerge as an advocate for water's well-being. Seeing water as artist-collaborator in these ways decentres human-centric ways of being/doing/knowing, de-essentialises identity, and creates more equal power relations between bodies (both human and nonhuman), which can contribute to reconciliation.

(Image 17: Video still of *Healing in Blue* (2019) by Tess Snaden showing Snaden composing/performing with Deer Lake)

Conclusion

In this paper, I applied a posthuman reading of empirical material enacted from a university course focused on student-water-technology intra-actions using relational texts (audio/video) to produce videos presenting local water bodies. The course aimed to contribute to reconciling diverse peoples and ecosystems in Canada. Using my posthuman analytical framework changed my reading of the empirical material whereby I noticed how the students changed in their reconciliation practices as emergences through intra-actions with water bodies. Rather than reading their change as changes in their cognitive understandings, I read these as emergences through material-discursive entanglements with water. This also changed my thinking and intra-actions, as teacher, in which my own subject-position, as teacher, was deconstructed through intra-actions embedded with processes of the students, and where I shifted away from hierarchical teacher-student relations and thinking of a pre-existing 'teacher' as having agency to 'teach', towards embracing educational processes as being produced between and across entangled bodies. This teaching practice takes an activist approach with a values-based/ideological offset which changes the students' perceptions, affective relations and response-abilities towards improving human-nonhuman-water relations while learning with water. My posthuman analysis emphasised students' perceptions changing through thinking with water. Students' perspectives changed to see the entanglements of water with other bodies produced by capitalism (e.g. oil tankers), animals, plants, and worlding practices that make original Indigenous inhabitants invisible. Perceiving the entanglements of race, class and ecology rendered it possible for students to observe the agential qualities of nonhumans amidst ongoing settler-colonialism while experiencing their own ethical entanglements with it. Students changed from approaching water with a hierarchical sense of control and capture (e.g. traditional filming approach) to witnessing,

listening to, and responding to nonhumans' enactments (intra-acting with the fixed slow media camera frame). As student-water-technology intra-actions, particularly those incorporating artistic approaches of slow media and soundscape recording, activated the senses and embodied ways of being, students' perceptions of water changed so that students noticed the non-verbal, affective communication of water aesthetics produced through water's performance in the world. Students' affective relations changed to experiencing deeper connections (entanglements) with water, aesthetic appreciation for water, and empathy and gratitude towards water. Students changed into response-able water protectors through the making of videos presenting narratives valuing water as important to animals, plants, and all peoples (including those marginalised by ongoing settler-colonialism), and for purposes beyond consumption.

This contributes to a reconciliation practice for higher education institutions by enabling relations that decentre humans and their ways of knowing/being/doing, de-essentialising identity, enabling more equal power relations between bodies (both human and nonhuman), and producing greater possibilities for shared-while-differentiated response-ability. A posthuman teaching practice can change students' perceptions of their learning processes to recognise, and value, the agential qualities of nonhumans in artistic/knowledge co-creation. This can shift students away from the anthropocentric logics of hierarchy and control over those perceived to be excluded from being ‘human’ (Ferrando, 2019), towards listening, witnessing and respecting. This can be further strengthened by continuing to embody an activist teaching approach rooted in a posthuman perspective, whereby one's teacher identity is de-essentialised through thinking-with and becoming-with various bodies entangled in intra-actions, particularly as this curriculum performs diverse material re/configurations across contexts. Haraway (2016) described “thinking-with” as “what beings evoke from and with each other that was truly not there before” (p. 7), and this rendering each other capable as “becoming-with” (p.16). This can have wider implications for global water equality, or other climate change issues, in terms of students’ and educators’ “responsibilities of intra-acting within and as part of the world” (Barad, 2007, p. 37).

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APPENDIX I: VIDEO MAPPING ASSIGNMENT

1) Explore your site through visual storytelling.
Be sure to visit with a video camera and video tripod (including charged camera batteries and SD card for recording). The size of sites may vary from one specific stream to an entire beach. Decide how far the "boundaries" of your site stretch. For example, consider choosing one section of a park that has particular appeal to you rather than the entire park.

2) Consider the visual aesthetics of water.
Look for water and water signifiers (i.e. empty ditch formed by water, water tap, etc.) at your site. Pay attention to the aesthetics of water. How do the characteristics of water (i.e. movement, cleanliness, access to light, size, shape, colour, texture, etc.) suggest different meanings and/or inspire different emotional effects? How many different kinds of visual aesthetics can you locate for which the source is water? How might you work with water as an artistic medium in your video?

3) Record a series of video clips to create a "map" of your site.
Apply concepts of slow media that you learned in class combined with a focus on water aesthetics to explore and document your site, as if your video clips will be the only way another person might learn about this place and how it relates to water. Please be selective when you record by pressing "start" and "stop" on your video camera with intention, and capturing only visuals that you want to include in this video map. Be specific with your choices of content and composition. How will you orient your viewer to the geography of the place in terms of how it is laid out spatially and how its various elements interact with one another?

Reflect on your own connection to this site. How do you interact with it? What impact does it have on you? What impact do you have on it? Anything in particular that stands out for you?

Does it seem like it might have changed over time? What can you imagine for its future?

Experiment with compositional elements of video documentation (i.e. wide shots, close ups, camera angles, etc.) that reflect your ideas and impressions about the place.

APPENDIX II: AUDIO MAPPING ASSIGNMENT

1. Explore your site through sound.
Visit your site with an audio recorder, shotgun microphone, headphones (including charged batteries and SD card for recording). Walk around the site with a spirit of adventure and discovery, listening with this amplified hearing. Observe your site aurally, hearing each sound and learning about each sound in its larger context.

2. Consider storytelling through sound.
Consider what the source of the sounds you hear are. Are they human-generated (anthrophony)?

Animal-generated (biophony)? Earth-generated (geophony)? Is there an interaction between the sound sources? Do any sounds dominate? Are any sounds surprising? Consider how and what sound can tell about: place, time, season, activity, state(s) of the environment. What can these sounds and the way(s) they interact tell us about the relationship(s) between humans, nonhumans and the environment? In other words, what (if any) social-ecological systems are present in this site?

3. Consider the aesthetics of the sound(s) of water.

In E. Pauline Johnson's written account of Chief Capilano's stories in *Legends of Vancouver* (1911), Johnson describes the Capilano river as "laughing," "restless," "sing[ing]" and "perpetually whispering." Listen for the sound of water at your site. Listen for the aesthetics of the sounds of water. How many different kinds of sounds can you locate for which the source is water? How would you describe these various sounds? For example, "dripping," "flowing," "roaring," "weeping," etc? Feel free to imagine them in languages other than English.

4. Record a series of audio clips to create a "map" of your site.

Please be selective when you record by pressing "start" and "stop" on your audio recorder with intention and capturing only sound clips that you want to include in this audio map. Apply concepts of soundscape recording that you learned in class to document your exploration of your site:

- Be specific with your choices of content, perspective and aesthetics (i.e. where you point the microphone).
- In the same way you might use a variety of wide shots and close-ups when photographing with a camera, consider recording some focused sounds and some ambient clips of a number of sounds in context with each other.

Apply at least one distinct "lens" through which to include a critical component to your perspective of the site. For example, your perspective could be that the site is very pristine so you may record sounds that suggest fresh, unspoiled nature. Point the microphone in the direction you want to focus your audience's attention so that this supports your critical perspective. You might even consider recording the same sound (source) from different perspectives to create a distinct effect for the listener. Can you document a water aesthetic that supports your perspective?

Title: Making waveforms: Implicit knowledge representation through video water narratives as decolonizing practice towards reconciliation in South Africa's higher education

Abstract

In this time of ecological precarity, a decolonizing practice pluralizing knowledge systems in higher education while reconciling relations between diverse peoples, and between humans and more-than-humans, is necessary. To address the global water crisis, for example, the cognitive empire of epistemologies of the North, driving climate change through capitalist-colonial logics of universality, and monumentalizing verbal/written knowledge, must be disrupted. Since this requires cultivating an *ecology of knowledges* inclusive of Indigenous and non-Euro/Western ways of knowing-where much of these ways involve implicit knowledge embodied in affective relations-there is a need for curricular shifts that reinforce the value of implicit knowledge. Since the relationship to representation is what privileges explicit knowledge over implicit knowledge in traditional education systems, emphasizing the value of implicit knowledge can only be possible with the application of an implicit knowledge translation/representation device. In this paper we draw on theories of implicit and explicit knowledge to explore the ways that video-making, in a relational university water education course in South Africa, allowed for the nonverbal representation of implicit knowledge. In our analysis, we first show how implicit learning primarily took place through: 1) site-specific audio/video

mapping of water bodies; 2) meetings with Knowledge Keepers; and 3) an interactive public screening event. We then illustrate how dominant narratives related to water, herein viewed as carriers of implicit knowledge, were de/re/constructed. This, we argue, supports the valuing of implicit knowledge within a traditional educational setting, thereby pluralizing knowledge, and is key to reconciliation/decolonization in higher education.

Keywords: reconciliation, decolonization, water, video, implicit and explicit knowledge

INTRODUCTION

Racialized water inequality

Cape Town may have survived the prospects of being the world's first major city to reach 'Day Zero' (insufficient municipal water service) in 2018, but its ongoing struggles for equal access to water remains starkly evident in the current COVID-19 pandemic where hand-washing is one of the key ways to prevent the spread of this virus. Many of the city's poorer (predominantly non-white) communities live without regular access to water (Ntseku, 2020). The situation is not unique to Cape Town nor to the global South is expanding worldwide. In Canada, for example, for decades approximately one hundred First Nations communities have been living with Boil Water Advisories (Suzuki, 2018) and many First Nations traditional territories, such as those of the Wet'suwet'en First Nation, continue to be threatened by the expansion of oil and gas projects driven by the

state and corporations (Temper, 2019). As COVID-19 so tragically reminds us, access to clean water is the wild card that trumps any other issue. The racialized nature of water inequality globally is evidence that solving water problems requires a deeper enquiry into the intersecting issues at its root. Higher education plays an important role in these intersecting issues. Universities are colonial architecture that perpetuates epistemic violence (Heleta, 2016) through capitalist-colonial logics of universality and monumentalizing verbal/written knowledge (Santos, 2018). These same logics breed commodification logics that perpetuate environmental racism. In our work, we look to address the global water crisis by disrupting these logics through the framework of a university water curriculum that foregrounds relations.

Reconciliation and decolonization in higher education

This article represents a snapshot into the PhD praxis process of [author1 surname], which aims to build a relational model of media arts-based water curriculum that can support reconciliation between diverse peoples and ecosystems while contributing to the decolonization of higher education in South Africa and Canada. While decolonization definitions vary across contexts, we adopt Zembylas's (2020) concept of decolonization as the 'pluralization of the knowledge field' (Barreiro, Vroegindeweji, Magali, Forte & Zembylas, 2020, p. 129) including 'affectivity' (ibid., p. 130) as a way of knowing.

In 2015, Canada's Truth and Reconciliation Commission (TRC), inspired by South Africa's TRC, issued a *Call to Action* that included a call for education to adopt

reconciliation processes, specifically 'to integrate Indigenous knowledge and teaching methods into classrooms' (p. 11). This greatly inspired [author1 surname]'s PhD project. [author1 surname] first piloted this curriculum in 2018 at the Emily Carr University of Art + Design (ECUAD) in Canada, then further developed it in 2019. This course represents the first of its kind to be adapted for and implemented within the South/African context.

While the concept of 'reconciliation' carries political and philosophical currency in South Africa distinctly different to that of Canada because of a different coloniality, the current South African higher education landscape has revealed parallels in a growing demand for decolonizing higher education (Heleta, 2016) catalysed by a 2015 nationwide student-led movement advocating for 'socio-economic redistribution (FeesMustFall) and cultural recognition (RhodesMustFall)' (Lucket & Shay, 2017, p. 5). Fanon (1961/2005), who theorized about colonization's de-humanity, and Biko (1978), who developed these ideas into a Black Consciousness in South Africa, informed the 2015 student movement (Lucket & Shay, 2017). At the Higher Education Summit of 2015, Blade Nzimande, South Africa's Minister of Higher Education and Training, called for universities to decolonize curriculum (Le Grange, 2016). Le Grange (2016) contends that decolonizing curriculum is a process of experimentation and should link with the Southern African concept of Ubuntu ('I am because we are' (p. 9)), a concept Santos (2018) argues influenced South Africa's TRC.

Scholars of reconciliation and decolonizing education around the world refer to a need for including more diverse ways of knowing in teaching and learning (Barrett & Wuetherick, 2012; Atleo, 2005; Battiste, 2017; Kawagley, 2006; Adjei, 2007). What do those 'ways' look like? We ask this because of our training in mainly Euro-Western knowledge systems. Since knowledge systems are embedded in cultural systems (Crawhall, 2009; Battiste & Henderson, 2000) it is impossible to generalize about their specifics. There are, however, three over-arching ways of knowing that surface across diverse cultural contexts:

1) relational (Cajete, 2009; Forsyth, 2017; Bishop, Vass & Thompson, 2019; Wildcat, 2013; Bang, Marin & Medin, 2018);

2) story-based (Galla & Goodwill, 2017; Archibald, 2008; Adjei, 2007; Cajete, 2000; Kawagley, 1995; Barrett, 2013; Corntassel, Chaw-win-is & T'lakwadzi, 2009; Biesele, 1993); and

3) land-based (Bartmes & Shukla, 2020; Wallin & Peden, 2020; Clarke, 2015; Wildcat, McDonald, Irlbacher-Fox & Coulthard, 2014).

In addition to the mind, these three ways engage emotions (Brown, 2004), intuition (Barrett & Wuetherick, 2012), and spirit (Battiste, 2010; Smith, 2012) which have historically been discounted by Western philosophers (Smith, 2012; Welch, 2019; Adjei, 2007). Since these ways of knowing link to unconscious, non-tangible and non-

verbalizable phenomena, similiar to what Santos (2018) refers to as 'anticognitivism,' we can view these ways as forms of implicit knowledge. Welch (2019) views Indigenous ways of knowing as 'embodied implicit procedural knowing' (p. 85) where 'procedural' encompasses 'the very vast range of actions and activities, both individually and in relations, that persons enact and explore in order to come to know through their bodies and through others and the world' (p. 90). Welch defends this view by stating that 'because knowledge is phenomenologically embodied and praxis-centered, it is intuitive and largely implicit insofar as the knowledge of knowing-how resides in the subjective, knowing body and is a well from which to draw understanding' (ibid., p. 90). Ingold reinforces this point through his concept of the 'embodied mind (or enminded body)' (2000, p. 171). How can we ensure these implicit ways of knowing are valorized by the academy or, better yet, that the academy's dominant epistemologies of the North[i] (Santos, 2018) are decentered by their inclusion?

Implicit and explicit knowledge: representation determines value

Dienes and Perner's (1999) theory of implicit and explicit knowledge posits that knowledge is either implicit or explicit, with varying levels of explicitness, depending on how that knowledge is represented. We draw on Dienes and Perner’s (1999) four distinctions for deeming knowledge to be either implicit or explicit: 1) procedural versus declarative; 2) unconscious versus conscious; 3) automatic versus voluntary control; and 4) non-verbalizable versus verbalizable. According to Kirsh, Polyani (1967) notes that non-verbalizable implicit knowledge exists because 'we can know more than we can tell'

(2009, p. 1). Since the representation of knowledge is essential to knowledge transfer in a teaching and learning environment, we focus on exploring the verbalizable/non-verbalizable aspects of explicit and implicit knowledge.

The relationship to representation is what privileges explicit knowledge over implicit knowledge in the traditional education system (Schilhab, 2007). Since implicit knowledge can be made explicit through explicit representation (Dienes & Perner, 1999), we argue that the task at hand is to breathe imagination into the modes of representation used in this implicit-to-explicit translation. Kirsh agrees that 'a more multimodal notion of consciousness, one that admits nonverbal and artefact use, would warrant calling them explicit' (2009, p. 400). In our analysis of empirical data, we will apply Schilhab's (2007) concept of *authenticity* (2007, p. 224) as a tool to better understand the value and applicability of implicit knowledge, thereby reinforcing the notion that 'implicit knowledge is not inadequate. It is simply differently related to its referent' (Schilhab, 2007, p. 225). In this paper, we respond to the question: how did video-making in a relational university water education course in Cape Town allow for the nonverbal representation of implicit knowledge acquired, thereby contributing to decolonization in higher education and to water/climate justice?

METHOD

Procedure & research design

We co-convened a graduate level, non-credit, certificate-granting short course in 2019 called *Making Waveforms*. The course was administered through Rhodes University and hosted by the University of Cape Town's Future Water Institute (FWI) as a five-week intensive with one day per week of contact time. The course engaged students in producing site-specific videos on local water bodies that de/re/construct water narratives. The process included audio/video mapping assignments (using relational artistic approaches known as *soundscape recording* and *slow media),* meetings with Knowledge Keepers[ii] using a *photovoice*-inspired method to shift power dynamics, field trips, guest lecturers, and drawing/mapping workshops to explore water-self literacies. The course culminated in a public screening/education event. [author1 surname] was the primary course designer/facilitator/researcher and [author2 surname] contributed key drawing/mapping workshops and conceptual/logistical support. This curriculum aligns with Barrett and Wuetherick's (2012) key teaching strategy, essential for effectively supporting epistemological diversity: 'making explicit the process of teaching *through*, rather than simply *about* different ways of knowing' (p. 5). At the same time, this involved detailed attention given to our intentionally not-so-hidden *hidden curriculum*, which Le Grange (2016) describes as dominant institutional culture and values. This was enacted through shifting our role of 'lecturer' to one more of facilitator, coordinator and knowledge co-creator.

Four water bodies were selected by [author1 surname] for this program: the Liesbeek River, the Zandvlei, the Hout Bay Estuary, and the Khayelitsha wetlands. These water bodies intersect with diverse social, cultural, and economic demographics across the city.

Four Knowledge Keepers contributed: (1) Isaac Crowster, a descendent of the Khoisan peoples who grew up around the Hout Bay river; (2) Neville Williams, a long-standing volunteer with the Zandvlei Trust who grew up alongside the vlei; (3) Mncekekile Klaas and Sivuyile Zidwe, employees of the Friends of the Liesbeek stewardship organization for over ten years; and (4) Siyanda Sopangisa, co-founder of the Khayelitsha Canoe Club (the only canoe club inside a township in South Africa) and neighbour of the wetland.

Guest lecturers and guides contributed to the course's *ecology of knowledges* (Santos, 2018). Anna James, a PhD candidate at Rhodes University, facilitated a soundscape recording workshop at the Liesbeek river. Siyanda Sopangisa of the Khayelitsha Canoe Club led us paddling down the Khayelitsha wetlands. Faeza Meyers and Ebrahim Fourie, co-founders of the African Water Commons Collective, spoke about the lived experience of limited water access by poor communities in the Cape Flats. Nella Etkind, Senior Editor with Beautiful News, shared her experiences in social impact video storytelling.

Data collection methods

Empirical data was generated through four main methods: (1) teacher-researcher reflective observations; (2) questionnaires with students prior to the start of the course and interviews after course completion; (3) students' reflective journals, and (4) students' videos. These last two were integrated as deliverables within the course. The bulk of interviews were conducted by [author2] to minimize response bias. The analysis for this paper required us asking: a) *what* was learned implicitly? b) *how* was it learned? and 3)

how was it represented/translated (either implicitly or explicitly) into students' final videos?

Participants

This course was initially offered to Masters students affiliated with UCT's Future Water Institute. The majority of students registered in the course were UCT Environmental and Geographical Sciences majors. The course was eventually advertised more widely via UCT's African Climate Development Institute newsletter and UCT's Water Forum, which resulted in three working professionals joining the course. Nine students participated in the course/research including: one Namibian student (in SA for eighteen years), one German student (in SA for seventeen years), one Dutch student (in SA for two years) and five South African students (two of European heritage, two of mixed race heritage, and one of 'Ubuntu[iii]' heritage). Two students self-identified as being Indigenous: one South African and one Dutch (with roots from Surinam/India/Indonesia).

RESULTS

A careful intersectional reading across all data revealed the three most significant aspects of the course through which implicit learning primarily took place: 1) site-specific audio/video mapping of water bodies; 2) interactions with Knowledge Keepers; and 3) the public screening event. Implicit learning through the course surfaces in the narratives students de/re/construct.

Narrative power in film: an explicit-implicit translation device

Film, as a dynamic tool for nonverbal communication, has included nonverbal art forms including dance, physical theatre and music, as well as scientific/wildlife storytelling such as Jean Panlevé's *L'Hippocampe*/*The Seahorse*[iv] (1934). Narratives in film are a potent translation device between explicit and implicit knowledge. Often the dominant narrative is hidden (implied) beneath the story that is explicitly being told. Similar to Santos' (2018) call for a 'sociology of absences' involving 'turning absent subjects into present subjects' (p. 2), when we use film language to reflect and speak back upon itself, we unleash an important mechanism for deconstructing dominant narratives and, thereby, diffusing the silent power they hold. By 'deconstruction,' we mean making visible dominant narratives by explicitly replacing them with alternative narratives that challenge them. In this way we use 'counter-storytelling' defined by Solórzano and Yosso (2002) as 'a tool for exposing, analyzing, and challenging the majoritarian stories of racial privilege' (p. 32).

The first workshop in this course was on *narrative power*. The short film *Cape Town: Life Without Water* (2018), portraying diverse water narratives, was shown. Students were asked to identify dominant narratives from the film, to select one for which to suggest an alternative narrative, and to present this back to the class in a creative form. Most groups pointed to a scene in the film where a wealthy, white couple were paying to have a private borehole dug in their yard. What surfaced in all groups was how the right

to water, which is enshrined in South Africa's constitution-'[e]veryone has the right to have access to sufficient food and water' (s. 27.(1)(b))-is getting twisted as a sense of entitlement that does not consider the impact on others. The alternative narrative students unanimously suggested is one of interconnectedness.

Water bodies as sites of learning aesthetic appreciation

Students were tasked to undertake two mapping site visits to water bodies in the course, one with sound and one with video. As one student pointed out in an interview, the act of audio/video mapping water bodies implies there is something worth seeing/hearing from the water body. The semi-structured mapping assignments required carefully chosen artistic approaches known as *soundscape recording*, where one directs a microphone to record sounds in a given environment, and *slow media*, an approach coined by Metis/Cree filmmaker Gregory Coyes, where the camera is fixed in position and where the video-maker and audience become witness to the dynamic movement that unfolds within the frame. Both approaches fine-tune the video-maker's perception to water's cues. Mapping assignments included an explicit instruction to listen/look for water aesthetics. With sound, this refers to the range of sonic qualities (i.e. rhythm, timbre, pitch, volume, pace, etc.) that might be expressed by water in a given situation. With video, this refers to the range of visual qualities (i.e. shape, texture, colour, movement, etc.) that water may present in a particular moment. As can be illustrated through analysis of students' videos, this process invites students to move beyond verbal/written knowledge and learn implicitly through creative engagement of their senses with water.

Ruth Brain's video *Zandvlei* (2019) is an emotive tapestry of the vlei[v]'s visual textures, colours and movements woven together: cross-stitched light rays painting fast-moving and shifting patterns over the golden sandy bottom of a section as clear as it is shallow; multi-directional streams intersecting at the tideline; reed shadows dancing across a mosaic of pockets and protrusions in the sand left by the water. The piece is bookended by images of her Knowledge Keeper, Neville Williams, first walking ahead as if to guide a tour, then ending with him looking contemplatively out at the landscape. This implies his aesthetic appreciation of the vlei while giving viewers an opportunity to experience their own affective relation to the vlei. Ruth[vi] described how 'focusing on aesthetics as a political statement rather than just a pretty ... video ... was really the thing that [she] was interested in,' and that the Zandvlei's aesthetics ' had all these emotional connections like peace and calm' with which she felt she could tap into, to support peoples' ability 'to celebrate through aesthetic pleasure.'

<Figure 1_Video still from Ruth Brain's *Zandvlei* (2019): water aesthetics>

<Figure 2_Video still from Ruth Brain's *Zandvlei* (2019): Knowledge Keeper Neville Williams looking contemplatively out at the Zandvlei>

Daniella Davies referred to her experience of water aesthetics through slow media video as peacefully 'drinking in her surroundings.' This contributed to her implicit knowledge of water's agency and artistic merit. In her video *The Language of Water* (2019), for example, she confirms how she positions 'water as a character.' As captivating slow media style visuals focus on the aesthetics of water (for example: the interplay of light diffracting along moving ripples; and the crashing ocean surf unfurling its path along the

estuary), implying water's artistic agency, some of the soundtrack consists of diverse peoples' voices describing what they propose the water is saying, for example: 'look away, I'm not what I should be;' 'help me, I'm hurt.' Representing water as a character, not just a background, implies that water should be valued and treated respectfully, as we would treat other living beings.

<Figure 3_Video still from Daniella Davies's *The Language of Water* (2019): light diffracting along ripples>

<Figure 4_ Video still from Daniella Davies's *The Language of Water* (2019): ocean surf unfurling>

For Kathryn Byrnes, she felt what she observed as a visually 'pristine' part of the Khayelitsha wetlands challenged narratives about low-income communities' lack of care for the environment. At the same time, she said the calming and rhythmic sound of the paddle lapping in the wetland implied the wetland's importance in stress-reduction. Kathryn's heightened awareness of the socio-ecological systems of the wetland were translated into a focus on interlinked personal, community and ecological transformation in her video *Channels for Change* (2019). The film opens with the sound of busy traffic set to a wide shot of Makhaza, Khayelitsha, a densely populated township, with a stretch of greenery and the hint of water in the foreground. The film cuts to Siyanda Sopangisa, a youth canoeing/stewardship mentor, recounting how a child shared at school that, 'I'm a paddler now.' This implies the child identifying as being a wetland ambassador too. Point-of-view clips showing the nose of a canoe moving through the wetland, introduced during 'breather' moments in the narration, imply that any viewers can also become a paddler (and wetland ambassador).

<Figure 5_*Making Waveforms* student Kathryn Byrnes canoeing on Khayelitsha wetlands with Knowledge Keeper Siyanda Sopangisa>

<Figure 6_Video still from Kathryn Byrnes's *Channels for Change* (2019): nose of canoe moving through Khayelitsha wetland>

Through affective relations with water bodies' aesthetics, students engaged in implicit learning which contributed to the de/re/construction of narratives that support the valuing of water.

Knowledge Keepers

Students met in small groups at their water body with the Knowledge Keeper who had a long-standing relationship with the water body. Including these non-academic perspectives in the course, which is based in an institution of ongoing settler-colonialism, and referring to them as 'Knowledge Keepers' was a strategic form of 'hidden-curriculum[vii]' to imply the presence and value of the knowledge they contain. One student commented on how the involvement and treatment of Knowledge Keepers in the course implied they were 'really important people.' Khadra Ghedi Alasow described her experience of her Knowledge Keeper's offerings as 'undocumented intelligence' that needs to be 'air[ed] ... out so people can see it.'

All Knowledge Keepers agreed to be filmed in these meetings with an understanding that this material may influence and/or be directly integrated into students' videos. This process included an adaptation of *photovoice*, borrowing from Wang and Burris's *photo*

novella (1994) visual research methodology whereby research participants are asked to photograph aspects of their lives that relate to the research field and which empower them to identify matters of concern (Budig, Diez, Conde, Sastre, Hernan & Franco, 2018). We integrated this approach to disrupt the traditional film interview power dynamic where directors control what is shared through asking questions. Instead, we invited Knowledge Keepers to bring photos to the meeting that spoke of their relationship to the water body and to speak to these, guiding what was to be shared before inviting students to ask further questions. One student, Kathryn Byrnes, confirmed the effectiveness of this method by describing her interaction with her Knowledge Keeper, Siyanda Sopangisa, 'The moment I told Siyanda I didn't have any set questions and would respond to the way he told the story, he visibly relaxed.' While the use of visuals were key in aiding the transfer of knowledge that exists outside of words (Mitchell & Sommer, 2016), students derived much implicit learning from Knowledge Keepers' emotions and the ways they related with students.

Fatima Holliday explained how she enjoyed watching Isaac's facial expressions as he reacted to the photos he was sharing, through which Fatima says 'nostalgia ... hope ... [and] his love came across.' She further acknowledged how his perspective came from a 'different place of living' referring to race/class differences where he is directly 'affected by pollution and the low quality of [municipal] services,' and how listening to his lived experience of this 'touched [her] heart.' This compassionate, empathic inter-connection with Isaac translates in the ways Fatima respectfully represented Isaac and his views in her video. Titled *The Hout Bay Estuary* (2019), Fatima's video features Isaac framed

sitting beside the estuary in the traditional documentary style of 'expert.' He begins by sharing that he has lived in Hout Bay for forty-three years and grew up next to the river. This implies that lived experience and one's relationship(s) with place are valorized as knowledge.

<Figure 7_Video still from Fatima Holliday's *The Hout Bay Estuary* (2019): Knowledge Keeper Isaac Crowster sitting next to the Hout Bay estuary>

Khadra felt that Isaac was kind and easy to talk to and that hope radiated through him. She was impacted by Isaac's surfacing of silenced issues around water access that he implied through short statements such as 'people need to decide if they want buildings or water.' As a result, Khadra's video *Unreachable Waters* (2019) challenges the dominant narrative of water shortage being due to scarcity by implying access to water is exclusive, and while once racially-driven, is now economically-driven. The video opens with a close up of a pristine-looking waterfall. It then cuts to a close-up of Isaac, represented respectfully in center-frame and at eye-level to the camera, stating that 'In Africa...... water is a very precious source of life .. ' Ominous music kicks in as text over black reads: 'exclusion through development.' New text introduces 'proposed development plans in the 1980s and 1990s' followed by a map showing holiday accommodation, a shopping centre, and 'intense recreation' plans encroaching on the Hout Bay estuary and coastal zone. Historical newspaper clippings are then introduced with headlines and images revealing this restricted access, for example a woman looking out of a shack window with the headline 'squatters with a sea view.' The camera then zooms out from a close up on the Hout Bay river to reveal a fence blocking access. If 'water is .... a source of life,' as Isaac suggested, then lack of access to water implies an infringement of peoples' right to life.

<Figure 8_Video still from Khadra Ghedi Alasow's *Unreachable Waters* (2019): Knowledge Keeper Isaac Crowster center-frame and eye level to the camera>

<Figure 9_ Video still from Khadra Ghedi Alasow's *Unreachable Waters* (2019): newspaper headline of 'Squatter with a sea view'>

Sharda Beerthuis felt her Knowledge Keepers, Mncekekile Klaas and Sivuyile Zidwe, were 'pleasant to be around' and says she 'could tell [the Liesbeek] was a very special place to them.' She further elaborated that the way they worked on the river showed her that it was their 'life's work', not just a job. In her video *Transformations* (2019), Sharda represents Sivu and Klaas in this friendly, casual demeanor. Dressed in street clothes (as opposed to uniforms), they skip playfully over rocks in the river. The audio, however, starts to imply a silent narrative, when Sivu and Klaas's voices explain that alien plants take water away from the Indigenous plants. Sharda seems to hone in on this silent narrative in her video. Close ups of black hands hold up Indigenous plants for the camera while Sharda's disembodied (implying systemic) voice begins listing Dutch names. In the credits it becomes clear that the Dutch names refer to land owners from documents dating 1657-1820. In this way, Sharda challenged the historical narrative of water as a resource to be exploited, with one of 'rivers [as] keepers of stories' (Sharda, 2020) and worthy of respect and preservation.

<Figure 10_Video still from Sharda Beerthuis's *Transformations* (2019): Knowledge Keepers, Mncekekile Klaas and Sivuyile Zidwe, dressed in street clothes on Liesbeek river>

From these examples, it is clear that hope, love and passion for these water bodies

emanated from Knowledge Keepers and was, in turn, instilled, to some degree, in the students they met with.

Public screening event starring local water bodies

Another significant occasion of implicit learning in the *Making Waveforms* course was our free public screening event titled *Water, Sweet Water.* The event took place at the Bertha Bioscope cinema in the Tshisimani Centre for Activist Education in Mowbray, Cape Town. The venue acted as a 'third space' bringing together academia and a range of demographics and disciplines from the wider community. The program consisted of screenings of students' videos resulting from the course interspersed with interactive group presentations, more appropriately deemed 'games.' Screening students' videos offered the implicit-explicit translation of students' experiences from the course for the audience in the form of water narratives. Showcasing local water bodies on the big screen implied their importance.

<Figure 11_Video still from Brendon Bosworth's *Intersections* (2019): Zandvlei estuary>

<Figure 12_Video still from Kathrin Krause's *Sweet and Salty* (2019): underwater camera breaking the surface>

Furthermore, having three separate films/narratives for one water body, multiplied across three water bodies, implied that there are multiple perspectives to consider when it comes to water issues.

The games interwoven through the event extended opportunities for knowledge co-

creation on water narratives through collective play. Students had developed these games in the course based on two objectives: 1) to transform a passive film audience into an actively engaged one; and 2) to reflectively communicate their learning from the program. For the first game, volunteers were invited to the front of the auditorium to 'ride' inside a cardboard boat named Khalie, and advance along squares taped out on the ground each time they correctly guessed the source of an audio clip. With the second game, non-English language words related to water were projected and the audience was invited to guess which language and meanings they represented. The third, and final, game was described as the 'ultimate Pictionary-meets-broken telephone.' There was an incredible amount of engagement and laughter during all games. The games imply that the students have expertise to share as they take up the role of 'educators', while simultaneously implying that the audience members also contain valuable knowledge to be contributed. The games also imply what Latremouille (2020) suggests: that the serious work of addressing ecological precarity can be a joyful undertaking.

Some of the audience's receptivity was implicit, for example, through their level of engagement and enthusiasm. We filled the auditorium and most people gave the impression of not wanting to leave, despite having already stayed an extra thirty minutes later than our advertised program schedule. As Daniella pointed out, 'hearing everyone laugh during her group's game was really fun.' Some of the audience impact was more explicit. For example, one person verbalized their incredibly positive takeaway:

> I think I'm leaving with a sense of an expansion of my relationship with the water in Cape Town ... now I feel like I have a much bigger awareness of all these other places, and I really feel it right now. And I think that's the power of watching these. And now I imagine when I drive through these other places I will feel different.

These enthusiastic responses made a significant impression on students, implying their own ability as change agents. One student said, 'seeing peoples' responses created a sense of hope.' Daniella said she 'realized it touched people, that they'll spread that, and that gave her hope.' One student confirmed that 'engaging the public made her excited that creative output can have a social impact.' The occasion and nature of this event implied: a) water as worthy of collective attention; b) nature/culture as a false binary; c) university coursework as a public good; and d) a hopeful way-forward together in this time of ongoing settler-colonialism.

CONCLUSION

We have now made explicit how implicit learning primarily took place in the 2019 *Making Waveforms* course at UCT through: 1) site-specific audio/video mapping of water bodies; 2) intra-actions with Knowledge Keepers; and 3) an interactive public screening event. By analyzing students' videos made through the program, we came to see how narratives related to water, herein viewed as carriers of implicit knowledge, were de/re/constructed. This disruption to the capitalist-colonial logics of universality, through

site-specific learning, and to monumentalizing verbal/written knowledge, through the multimodality of video-making, created openings to address some of the intersecting, root issues of the global water crisis. All implicit learning spoke to valuing water, and relationships with water and each other. All implied identities of interconnectedness, which challenge the dominant narrative of rights-to-water-twisted-into-entitlement students had identified in the first class. The play-full nature of the course and especially its culminating public event imply that addressing the seriousness of ecological precarity can be a joyful undertaking (Latremouille, 2020). Representing implicit knowledge towards less 'authenticity,' meaning greater levels of individual interpretation and abstraction from the referent, may have the potential to increase the value of implicit knowledge in traditional education (Schilhab, 2007). This was evident with students in the making of their videos. Since implicit knowledge is closely linked with an ecology of knowledges (Santos, 2018) that is regarded as key to decolonizing education, this concept is an important consideration for educators who are serious about reconciliation/decolonizing higher education. Kirsh (2009) indicated that scholars Polanyi (1967) and Chomsky (1965) both believed implicit knowledge influences behavior. While that discussion is beyond the scope of this paper, its possibility suggests that implicit knowledge, which enables us to share non-verbalizable knowledge beyond language barriers in our globalized world, may have important ramifications for climate change education.

Acknowledgements

[to be inserted after peer review]

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[i] Santos's concept of 'epistemologies of the South' refers to nongeographical epistemologies where knowledges are 'born in struggle against capitalism, colonialism, and patriarchy' (2018, p. 1).

[ii] 'Knowledge Keepers' herein refers to persons from non-academic backgrounds whose voices are traditionally under-represented within academia, each with long-standing relationships with select water bodies.

[iii] This is how the student self-identified in terms of cultural heritage.

[iv] While this film includes narration and subtitles, the visual evidence and erotic nature of male seahorses giving birth is what made it challenge social norms of its time (Cahill, 2012).

[v] 'Vlei' is the South African term for a shallow body of water, similar to a wetland.

[vi] While desiring to represent students as equal to other scholars cited, we chose to referto students by their first names after their full names have been introduced to acknowledge the very personal relationships that we developed with them through the course .

[vii] The 'hidden-curriculum' concept coined by Philip Jackson refers to values, beliefs and behaviours students may informally take away from a school experience (Gordon, 1982).

Paper 4, Figure 1. Video still from Ruth Brian's *Zandvlei* (2019): water aesthetics.

Paper 4, Figure 2. Video still from Ruth Brain's *Zandvlei* (2019); Knowledge Keeper Neville Williams lookingcontemplatively out at the Zandvlei

Paper 4, Figure 3. Video still from Daniella Davies's *The Language of Water* (2019): Light diffracting along ripples.

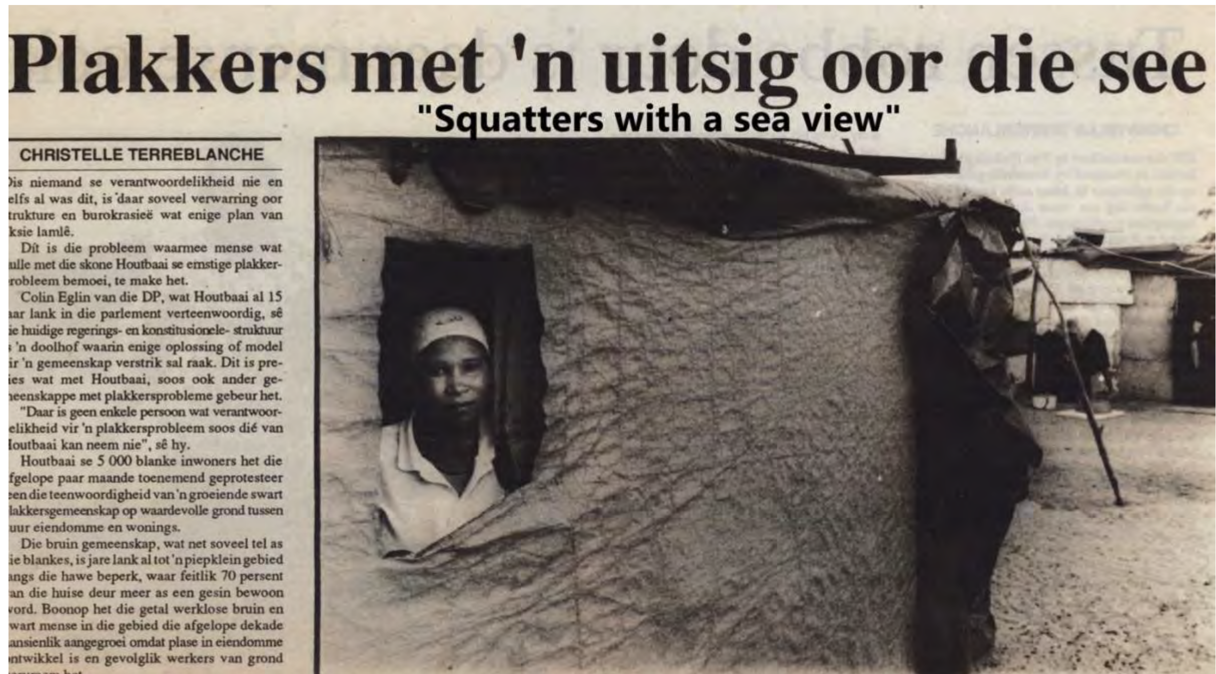
Paper 4, Figure 4. Video still from Daniella Davies's *The Language of Water* (2019): ocean surf unfurling

Paper 4, Figure 5. Making Waveforms student Kathryn Byrnes on Khayelitsha wetlands with Knowledge Keeper Siyanda Sopangisa.

Paper 4, Figure 6. Video still from Kathryn Byrnes's *Channels for Change* (2019): nose of canoe moving through Khayelitsha wetland.

Paper 4, Figure 7. Video still from Fatima Holliday's *The Hout Bay Estuary* (2019): Knowledge Keeper Isaac Crowster sitting next to the Hout Bay Estuary.

Paper 4, Figure 8. Video still from Khadra Ghedi Alasow's *Unreachable Waters* (2019): Knowledge Keeper Isaac Crowster center-frame and eye level to the camera.



Plakkers met 'n uitsig oor die see

"Squatters with a sea view"

CHRISTELLE TERREBLANCHE

)is niemand se verantwoordelikheid nie en elfs al was dit, is 'daar soveel verwarring oor trukture en burokrasieë wat enige plan van ksie lamlê.

Dít is die probleem waarmee mense wat ulle met die skone Houtbaai se ernstige plakkerrobleem bemoei, te make het.

Colin Eglin van die DP, wat Houtbaai al 15 aar lank in die parlement verteenwoordig, sê ie huidige regerings- en konstitusionele- struktuur ; 'n doolhof waarin enige oplossing of model ir 'n gemeenskap verstrik sal raak. Dit is preies wat met Houtbaai, soos ook ander geleenskappe met plakkersprobleme gebeur het.

"Daar is geen enkele persoon wat verantwoorelikheid vir 'n plakkersprobleem soos dié van loutbaai kan neem nie", sê hy.

Houtbaai se 5 000 blanke inwoners het die fgelope paar maande toenemend geprotesteer een die teenwoordigheid van 'n groeiende swart lakkersgemeenskap op waardevolle grond tussen uur eiendomme en wonings.

Die bruin gemeenskap, wat net soveel tel as ie blankes, is jare lank al tot 'n piepklein gebied angs die hawe beperk, waar feitlik 70 persent an die huise deur meer as een gesin bewoon vord. Boonop het die getal werklose bruin en wart mense in die gebied die afgelope dekade ansienlik aangegroei omdat plase in eiendomme ntwikkel is en gevolglik werkers van grond

Paper 4, Figure 9. Video still from Khadra Ghedi Alasow's *Unreachable Waters* (2019): newspaper headline of 'Squatter with a sea view'.

Paper 4, Figure 10. Video still from Sharda Beerthuis's *Transformations* (2019): Knowledge Keepers, Mncekekile Klaas and Sivuyile Zidwe, dressed in street clothes on Liesbeek River.

Paper 4, Figure 11. Video still from Brendon Bosworth's *Intersections* (2019): Zandvlei Estuary.

Paper 4, Figure 12. Video still from Kathrin Krause's *Sweet and Salty* (2019): Underwater camera breaking thesurface.