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Place-responsive higher education at a distance

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Doctor of Philosophy

The University of Edinburgh

2023

Abstract

This thesis explores what effects place-responsive distance education could have on postgraduate students and programmes, addressing specific challenges for animal and veterinary scientists.

Online, part-time, postgraduate education provides a flexible approach for veterinary and animal sciences professionals to achieve their requisite continuing professional development. For the majority of students, studying "at distance" may mean visiting the campus for graduation only, whilst those living nearby or on programmes that include "summer schools" or placement options may visit more frequently. In the main, these online postgraduate programmes focus on theoretical knowledge with some opportunities for practical work, such as during the dissertation project. Online distance postgraduate education in veterinary and animal sciences at the University of Edinburgh provides the context for this research.

Central to the veterinary and animal sciences disciplines is the concept of "One Health". This recognises the inter-related nature of human, animal and ecosystem health; however, this conceptual understanding has not translated into the curriculum design. Instead, a primarily objective view of the researcher as separate from their observations prevails. This contradiction, coupled with impact-driven, time-limited research funding has led to a form of research where scientists spend short amounts of time in the field to observe and gather data before returning to the campus. This disconnected "fast science" research culture limits the opportunities to develop an ethics of care for communities and ecosystems. It may also be perceived as an element of the hidden curriculum for postgraduate students, encouraged on the one hand to be reflexive in their academic work, while on the other observing their academic mentors driven to chase grant funding and "publish or perish". This fast culture disregards a central challenge in addressing the climate emergency; that Global North researchers should operate locally and connect remotely to other local researchers, rather than relying on air travel to sustain global research practices.

Operating from a feminist, postdigital perspective to understand and theorise place-responsive higher education at a distance, this thesis examines how place-responsive educational principles could work to resolve this disconnect. Applying an ecohermeneutic lens to the research and data centres the entangled nature of research, embedding the importance of attuning to places and listening to more-than-human participants in a spirit of respect, reciprocity and relationality. Qualitative data are primarily drawn from semi-structured interviews with postgraduate students studying animal and veterinary sciences online at a distance, and staff interviewed from a range of disciplines. Additional data are drawn from an assessment inquiry group and small student survey. The methodology and analysis is explored in depth as part of an autoethnographic review of what it means to be an ecohermeneutical researcher, proposing a method of learning to listen to the world at a distance as part of a slow research approach. Specifically, this research considers the affordances of place-responsive, low-tech approaches within postgraduate part-time study in relation to truly sustainable conservation research.

Lay summary

This thesis explores how to design higher education differently, combining online and place-responsive learning to minimise harm to the planet while ensuring collaborative, grounded and connected ways of sharing knowledge and skills. In a time of multiple complex global challenges impacting all parts of the world, it is necessary to change practices to minimise the damage human actions cause. To achieve this, it is necessary to transform higher education to focus on the common good. This requires staff and students to work together, sharing knowledge, skills and finding strength through collaboration and co-creation. It is also necessary to rekindle our interdependent relationship with all species that inhabit this planet.

Veterinary and animal scientists have a key role to play in addressing global super-complex problems, but changes are needed. Research and teaching practices are required that support socially-just research that operates within safe Earth boundaries to reduce pressures on limited resources and ensure equal access for all.

This thesis takes a degrowth perspective, considering the most appropriate ways to connect and collaborate as part of a global teaching and research network that celebrates diverse ways of knowing. It addresses specific challenges that animal and veterinary scientists face in their education and research practices. Speculative methods present stories that imagine a different future for higher education. Place-responsive teaching activities emphasise the importance of learning-with all beings, where caring for places and beings comes through the process of attentive listening. The thesis develops listening methods that can be used in both teaching and research. Outcomes from the research includes a set of activities to develop place-responsive listening skills for students and staff engaged in online distance learning. These activities invite learners to listen to the world, and in so doing, to develop an ethics of care, whilst being attentive to places and planet.

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Acknowledgements

My thanks to Jen Ross and Beth Christie, inspiring researchers, superb supervisors, amazing people and my friends. They have stood with me through the last six years, giving me encouragement and advice, laughter and support, wisdom and patience. They have supported me in the face of difficult times, including a pandemic. I count myself as a fortunate person to have had them both by my side.

My thanks to the wonderful participants who gave generously of their time and shared their worlds with me. Gratitude to my colleagues, friends and family who have waited patiently while I balanced full-time work with a part-time PhD. My thanks to Robert, Hooch, Wotan, Cooper, Hedwig, Max and Rudy for bringing me coffee and joy, and taking me a-walking to clear my brain fog and find new inspiration.

My thanks to James, Michelle, Nathan, Cara, my Mum, Ann Marie and my Dad, Declan. Thanks to my ancestors, the healers, farmers, craftspeople, wise women, archers, computer wizards and doctors who brought me to this point, and hello to future generations.

Most of all, my thanks to Gavin, who has patiently listened to me puzzling my way through this idea, with wisdom, support, good food, reminders to rest, and plenty of sweetly scented allotment roses.

This work is the culmination of everyone's support, kindness and good cheer as much as my study. Thank you all and thank you too for reading.

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1 ⊢ Introduction

The aim of the thesis is to determine how place-responsive educational approaches could be incorporated into online postgraduate distance education in veterinary and animal sciences and what effects this could have. To achieve this aim, what follows is both an investigation into place-responsive education at distance and an exploration of the methods by which researchers, including student-researchers, could come to know and connect with places and beings, both local and at distance. The result is a work that has a strong methodological focus, moving back and forth between the how and why of being attentive and responsive to place, and the lessons that may be learned, by students and teachers, through developing those skills.

Students and staff on cohort-based online courses and programmes spend time building relationships with each other. Beyond human-to-human contact, this research explores what could be learned from engaging with a wider learning ecology: the network of beings, objects and things within and outwith the course. It builds on ways of relating at a distance by proposing activities to connect with what we know and learn about what we do not yet know in a spirit of creative curiosity. For students and staff of animal and veterinary sciences, "you cannot really protect something you do not know much about" (Wilson & Laing, 2019; p.134), which is a prime reason why a place-responsive approach is necessary. For these and other fields of study, in the face of a climate emergency, scientists and researchers including student researchers have a responsibility to minimise impacts on the environment (Le Quéré *et al.*, 2015). Developing low-tech, convivial methods of research, communication and connection that minimise travel and centre on place-based engagement may assist, and this thesis adopts a low-tech, degrowth, place-centred model, presenting practical methods to contribute to emerging research in this area.

1.1 Focus

The focus of this thesis is on postgraduate online programmes in veterinary and animal sciences, the area in which I also teach and work. I teach on a number of postgraduate online programmes at the Royal (Dick) School of Veterinary Studies (RDSVS) at the University of Edinburgh, and the research was conducted with staff and students there. In a work centred on place, this sets the context as one of a Global North institution and a School whose purpose is to train veterinary surgeons. At the time of writing, the postgraduate portfolio included three online veterinary clinical programmes that were open only to veterinary surgeons; the remaining ten programmes have a broader animal science cohort which may include veterinary professionals. These ten programmes include topics such as behaviour, welfare, epidemiology, conservation and ecosystem health and cover a range of species including humans.

Veterinary surgeons and allied professionals are required to complete a set amount of professional development each year that is reported to the appropriate professional bodies. This does not have to include credit-bearing programmes or courses. Non-credit-bearing activities can include observation of senior colleagues' clinical practice, self-study and review of the literature, and attendance at conferences, workshops and seminars. In the last decade, remote forms of development have increased, including webinars and online

courses. While many courses are non-credit-bearing beyond a certificate of attendance to record the hours completed, some courses include the option to complete an assessment to gain higher education credit. The clinical courses at the RDSVS fall into this category, though the School also produces non-credit-bearing resources and courses, e.g. Massive Open Online Courses in animal behaviour and poultry care. It is these longer courses of five weeks or longer that this research focuses on.

1.2 Research Questions

This research addresses the following questions:

- How can place-responsive education at a distance be understood and theorised?
- What effects could place-responsive distance education have on students and programmes?

Place-responsive education is a well-researched concept that will be explored in more detail in the literature review (Chapter 2). The research questions seek to investigate what this concept can bring to online, distance education and what impact that might have. My investigation involved considering what elements of current teaching practices for online postgraduate students can be understood as being or becoming place-responsive. It also benefits from a speculative approach (Ross, 2023) to theorise what effects it might have on education in the present and the future.

1.3 Background

Once upon a time, I recommended The Peregrine by J.A. Baker (2017) to a postgraduate student, who responded to tell me that they could envision their home mapped to the locations described by Baker. This fascinated me, as they were in North America and the book is based in the south of England. My anniversary edition of the book talks about the work that has been undertaken by people to determine the exact location of the story. My conversation with the student caused me to question whether the relation of the student with the places that had meaning for them had a greater influence on their connection to the book; their land was mapped and integrated into the story, they had falcons in roughly the same locations, albeit on another continent. This questioning led in part to this study and my observation links with Somerville *et al.*'s (2011) research in Australia, which found that those at distance appreciate a location remote from them by linking it with land that they know. I observed this in my research field notes following an interview with Cat, who you will meet later, where I reflected on how Scotland was less lush than Vietnam; I used that as my frame of reference "like Scotland, but more". For this research, this emphasises the dual place-perspective of the student in their place, with others (staff and students) appreciating shared locations through self-reference to places they know or can see as "alike" in some way.

This thesis also developed from my Masters in eLearning (Boyd, 2013) which explored the application of an online memorial activity as part of a course on coping with climate change. Participants found the online memorial activity helpful in engaging with other audiences, finding new resources and reflecting on their perception of loss and grief related to the climate emergencies. However, the preference was for some kind of physical

land-based memorial. One participant, Bobby, explained that this was because “some things are better done in real life”. While this thesis will show that online is also “real life”, Bobby voiced what all the participants felt, that building a physical memorial from natural items such as wood and stone was a more effective method to acknowledge their connection to all species. This need for a direct physical relationship with place led me to place-based research within environmental and outdoor education. From my experience of veterinary postgraduate teaching, I was aware of the place-based activities such as field trips and summer schools that formed part of the programmes with which I was involved. I also noted the travel required for research purposes, whether to visit field sites to carry out research or disseminate research findings at conferences.

Through this time, I was acutely aware of the climate emergency and of the need to reduce the carbon footprint of all activities. A secondment looking at sustainable veterinary medical education strengthened my awareness of the research footprint, coupled with an appreciation of the ways in which veterinary medical education had a strong place-based, experiential focus. This project initially aimed to investigate that place-based element, and developed into a place-responsive approach in recognition of the actions veterinary medicine and animal science research has taken on behalf of places as part of a combined human-animal-ecosystem health concept, termed One Health. One Health is a useful concept recognised as a bridging term between veterinary medical education and sustainable education (Widdis, 2022). It also encapsulates the multi-species empathy potentially demonstrated by those working in the veterinary and animal sciences fields (Fine, 2022).

My personal background is significant as an Irish person living in Scotland with Irish and Scottish ancestry. Connections to place and place stories have a strong cultural relevance to the Gaelic people (Ray, 2012). This is encapsulated in the word “dúchas” (Gaeilge; Irish) or “dùthchas” (Gàidhlig; Scottish Gaelic) which has multiple definitions related to land, nature, heredity rights and native land (Foras na Gaeilge, 2023). A complex word, dúchas also refers to affinity, the sense of connection with the land and a responsibility of care for all kin, which speaks to the heart of this thesis. The Gaelic culture is a narrow, colonised remnant of the cultural path it once was. In company with Sepie (2017), Meighan (2022) and Lange (2023), I have turned to Indigenous researchers to learn how to approach research as a sacred practice (Wilson, 2008) and connect with place respectfully (Tuck & McKenzie, 2015). Escobar (2017) envisions “intercultural entanglements” (p.129) with a weave of local, cultural and indigenous knowledges and practices. This work is a weaving practice and I respectfully acknowledge the teachings that have been shared and inspired my work.

The “digital bundle” term was coined by Anishnaabekwe scholar and educator Jennifer Wemigwans (2018). A bundle is “a collection of things regarded as sacred and held by a person with care and ceremony” and these collected items are “highly valued and protected, and some are transferred for the benefit, growth and sustainability of the community” (p.34). The “digital bundle” metaphor is used by Wemigwans in reference to sharing Indigenous Knowledge online with the same responsibility, respect and care. Adapting the “digital bundle”, the metaphor for this thesis is the crane bag. In Irish

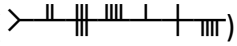
mythology, the first crane bag was created by the sea god, Manannán mac Lir, from the skin of a woman who had been turned into a crane by a rival. Manannán used the bag to hold items that were precious to him, which may have included the sticks or bones on which the Ogham alphabet were inscribed, an alphabet based on trees (MacKillop, 2004). Both the crane bag and the Ogham script were adopted by the druid network, with the bag again containing sacred items including those that brought to mind stories and tales. This work is therefore a gathering of precious items that are shared with the reader to tell a tale for a different future. The Ogham alphabet is used as a touchstone through the thesis with individual tree-letters in the headings (Table 1.1) and the Ogham transliteration of dúchas[1] () as the closing word for each chapter.

Table 1.1: Ogham letters[2], names and associated chapters. Where more than one species of tree or shrub is known, "spp." has been noted with the Latin name to open the connection to the reader's trees.

Ogham letter	Name	Chapter
	Beith; birch; *Betula* spp.	Introduction
	Saileach/Saille; willow; *Salix* spp.	Literature review
	Oir; spindle; *Euonymus europaeus*	Methods
	Dair; oak; *Quercus* spp.	Paths to place-responsive education
	Straif; blackthorn; *Prunus spinosa*	Speculative fiction
	Tinne; holly; *Ilex* spp.	Place-responsive activities
	Ruis; elder; *Sambucus* spp.	Conclusion

1.4 Key themes of place, care and time

Place, care and time are the repeating themes of this thesis. Place is defined as a location that has meaning and that meaning is layered with the histories and stories of all beings related and connected to that place. Place and beings are entangled in a relational network and *become-with* each other rather than existing in isolation. Care is an active response to the relations or kin as part of that relational network. It may or may not be reciprocal, in that people may act to care for a species or place without receiving care in return. Time is required to build relationships and to learn from others to ensure the care given is appropriate and meets the needs of the receiver.

Places present opportunities for learning: while not pedagogical of themselves, they are becoming-pedagogical in relation (Gough, 2008). While a variety of definitions of "place-responsive education" have been suggested, I use the definition first suggested by Cameron (2002), as **an approach that brings together place-based ecosystem knowledge and a willingness to learn from others, human or more-than**. Research to date suggests that

[1] Ogham is traditionally written vertically from bottom to top along the edge of a stick, bone or standing stone (Connelly, 2015). The feather mark is included here to indicate the beginning of the word.

[2] Beth-Luis-Nion style Ogham font created by and copyright Curtis Clark (1995) Beth-Luis-Nion v1.2 https://www.fontspace.com/celtic-ogham-font-f2671 LICENSED AS Freeware, Non-Commercial

place-responsive educational approaches may help to foster a sense of care for places, planet, and all beings (e.g. Wattchow & Brown, 2011; Stewart, 2020).

Place-responsiveness is of particular relevance to the discipline area of veterinary and animal sciences and my research illustrates how these educational approaches can be integrated with postgraduate education in this area. The openness invited by critical place-responsive educational practices, the attentive listening to place beings, is part of an ecohermeneutical approach that invites the unexpected and unplanned participation of place teachers, beings within that place that may provide inspiration and information to support learning.

Broadly speaking, to date, outdoor education research has focused on situated place-based learning and digital education research has focused on sociomaterial learning ecologies linking human to human via a range of technologies and practices. I propose that there is the potential to connect with and learn from and with places and beings at distance by extending practices used for connecting with other humans. Connecting and learning to listen in a respectful, attentive way, applying ecohermeneutical principles, may lead to place-responsive practices.

At this point, it is useful to clarify how I intend this work to be understood and used. I propose that there is the potential to build relationships through connecting with places and place beings at a distance. This is not to suggest that connecting with places remotely will supersede the necessity of connecting directly with places and place stories. Some knowledge cannot be separated from the land and other knowledge can only be known by relating it to the network we already have. Instead, this is an acknowledgement of the places with which students and staff are entangled. From that perspective, this thesis proposes methods that can be applied by online postgraduate taught students of veterinary and animal sciences for the purposes of building place relationships with remote places and other beings in addition to connecting with humans. These relationships may provide opportunities to learn from places and ensure the care given is appropriate. It may also reduce the need for air travel, in that it encourages ways of connecting with care remotely. It does not replace face-to-face hands-on practical teaching of veterinary clinical work, instead it extends the opportunities to connect, support and learn within a postdigital learning ecosystem.

This thesis weaves together three main disciplinary areas: science and clinical education; outdoor education; digital education. Specifically, it proposes an original creative, imaginative approach to connecting people, places and research by adapting current practices from outdoor and digital education and applying these to veterinary and animal science contexts.

1.5 Research position and definitions

This research was designed from a feminist, postdigital, ecohermeneutical onto-epistemological position. Meighan (2002) defines dúchas/dùthchas as “a Gaelic ontology and methodology, [that] stresses the interconnectedness of people, land, culture, and an ecological balance among all entities, human and more than human” (p.4). This relational, dialogic, ecological, onto-epistemological focus is evident in ecofeminist (Plumwood, 2002),

postdigital (Jandrić & Ford, 2022; Ford, 2023) and ecohermeneutic research (Kulnieks, Longboat & Young, 2016) and is central to the analytical method employed in this thesis (Listening Guide; Gilligan, 2015). Based on this affinity, dúchas as a concept carries within it the recognisable Western theoretical framings of this thesis and these more recognisable framings are outlined below.

Ecofeminist Val Plumwood (1995) challenged researchers to "work to reconcile the anciently divided spheres of nature and culture, both in theoretical and political structures and in the culture and practice of everyday life... to accomplish the increasingly urgent and convergent tasks of creating a society in which both human freedom and nature can flourish" (p.163). That challenge remains to be resolved, and Plumwood's (2002) critical ecofeminist stance outlines the necessity of kin-making with all beings, moving beyond the dualistic positions that separate rather than entangle. This process of kin-making and becoming-with all beings is an integral part of this thesis and the concept of relationality links each of the theoretical concepts. In her discussion of transformative sustainability education, Lange (2023) defines relationality as "the mutual interrelatedness of all living beings and nonliving elements, impacting each other synergistically, within a dynamic network of nested living systems" (p.8). Defining the postdigital, Jandrić *et al.* (2018) note that the term "describe[s] human relationships to technologies that we experience, individually and collectively, in the moment here and now. It shows our raising awareness of blurred and messy relationships between physics and biology, old and new media, humanism and posthumanism, knowledge capitalism and bio-informational capitalism" (p.896). Building on this blurring and relationality, Jandrić & Ford (2022) highlighted the need for postdigital research to integrate ecopedagogies "that accept and negotiate the contamination of the constantly shifting borders between humans, machines, nature, nonhuman animals, and objects" (p.707). It is this call that the thesis responds to in working from an ecohermeneutical perspective, as ecohermeneutics "seeks to include interpretive experiential learning in this process of inquiry. These investigations include properly learning to tell and interpret stories that are indigenous to the places they live" (Kulnieks, Longboat and Young, 2010; p.17). These stories are woven into the places from which they come, and the associated histories, politics, cultures and beings. Ecohermeneutics is directly aligned with place-responsiveness, which Cameron (2002) defines as "learning about how to develop ecological literacy, awareness of the more-than-human aspects of place, openness to other stories of place than one's own, and the capacity to bring one's previous place experiences into consciousness" (p.194). The sociomateriality of the postdigital brings with it the machines as part of the more-than-human network and recognises the participation of technologies within the learning ecosystem (Fawns, 2022).

1.6 Thesis outline

Following this introductory chapter, the second chapter presents an overview of the literatures that informed the study, maintaining the themes of place, care and time. It integrates the key sources that shaped project over the six years I worked on it. The aim of this chapter is to ground the work. This was a challenging process as it draws on a range of disciplines to craft a new approach to engaging with place at distance. In the review of the literatures, particularly in more recent research, it is clear that this work addresses a range

of gaps related to online postgraduate education that are explored in detail in Section 2.6. As stated previously, the focus is on postgraduate veterinary and animal science programmes. Emphasis is placed on the multi- and interdisciplinary nature of the research such that the output has potential to be applied to other disciplines. This is emphasised in the review of the place-responsive principles of networked learning that were designed as part of this thesis. These principles were based on evidence drawn from this thesis and applicable across other disciplines.

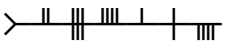
The third chapter outlines the research design and methodology, including ethics, participants, design and analysis. Four qualitative approaches were used: semi-structured interviews with student and staff participants, a student survey, a student inquiry group, and speculative fiction. This chapter includes a discussion of the affordances of each method in answering the research questions.

The fourth chapter explores the results from the interviews, survey and inquiry group, and integrates these with the principles of place-responsive education at a distance. This includes a review of examples of current practice and proposed amendments to transition from place-based to place-responsive educational practices. The contrast of current and potential future activities aids in developing an understanding of place-responsive education at a distance and the effects this may have on students and staff.

The fifth chapter employs a speculative fiction method to present a possible future application of the concepts and approaches identified in Chapter 4. Given the response of this work to the climate emergency, this chapter operates from a time shortly in the future where travel is limited and slow. This presents a low-tech, degrowth model within which researchers-as-listeners attend respectfully to all members of the ecosystem. This creative approach responds to a call for more imaginative work to engage with curiosity and creativity (Iared, de Oliveira & Payne, 2016), seen as essential skills for tackling wicked super-complex problems (Tauritz, 2016).

The sixth chapter is an original development by the author of the Listening Guide (Gilligan, 2015) psychological analytical method. The new Eco-Listening Guide is presented as a novel practice to engage with and develop listening skills in online postgraduate education. By combining evidence from the analysis with field notes and participant input, this chapter sits as a hybrid analysis-method-practice.

The final concluding chapter provides an overview of the answers to the research questions, the gaps that have been filled by the research, and the significance of this work for postgraduate online education, specifically postgraduate veterinary and animal science education. It will present areas for future research and a consideration of next steps for this work.



2 Literature Review

The purpose of this thesis is to theorise what the explicit inclusion of place might look like for postgraduate online distance education, specifically as a result of applying place-responsive pedagogies. This chapter will present the core literature that influenced my research, operating from the feminist, postdigital, ecohermeneutical epistemological position outlined in Section 1.5.

The chapter is structured around three themes: place, care and time. It begins with an outline of the research questions, before moving to consider "place"; examining definitions and clarifying the root of the concepts and theories introduced in the research questions. I also explore forms of place and locations including but not bounded by being indoor, outdoor, online, offline – and the affordances and challenges which working with place may bring. The section ends with a definition of place-responsive pedagogies and a discussion of the importance of working with-and-in the entangled educational ecosystem.

The section on care follows next, extending the principle of caring for the places at the heart of place-responsivity. This includes an overview of the ethical approach taken throughout the study - the ethics of care as applied to a place-based piece of work - and the necessity of a social justice perspective. This research will show how that perspective can help to address the challenges related to place-based learning considered in the previous section. The section closes with a reflection on emotions in place-responsive conservation research, and in scientific research more broadly.

The process of coming into a caring relationship with places takes time, and this is the focus of the final section. The need for time requires that teaching, research and research-led teaching practices slow down. With that in mind, this section introduces the concepts of "slow science" and "slow pedagogies". These slow-down approaches lead to the listening methodology applied in this thesis, chosen to provide time to allow caring connections between participants, the researcher and their places to develop.

This chapter presents an overview of the literature that my research resonates with and builds upon. While my work is situated within postdigital education research, it incorporates aspects and elements from across a range of disciplines, including anthropology, social and human geography, psychology, philosophy, sustainability and outdoor education. As appropriate through the chapter, I will consider how connection and kinship with place and place beings may be achieved through online postdigital place-responsive education. Central to this discussion is an understanding of "distance" and how connection with places can be achieved without being on the land or in the place. A quantum worldview holds that "nonlocal entities... entities at a distance, can instantaneously impact each other" (Lange, 2023; p.262). A holistic worldview is maintained in this thesis, recognising that while discussion may be on individual places, these are all part of the biosphere.

While the focus of the thesis is on how place can be important for postgraduate students studying veterinary and animal sciences, this literature review takes a broader learning-ecosystem view. I have highlighted the main discipline where my fellow researchers

are based to emphasise the interdisciplinary nature of the work. In so doing, I will show how disciplinary boundaries are not as rigid as they may first appear, and that approaches from one discipline can be adapted to bring new skills, perspectives and strengths to other disciplines. In turn, this suggests how the results of the thesis may be applicable to other disciplines, even while the focus is primarily on those involved in veterinary and animal sciences postgraduate online education.

As mentioned in Section 1.3, this thesis operates within the metaphor of a crane bag. Through the literature review I share key research stories from my crane bag that speak to the arguments that I present in this thesis. Here then are some of the treasures I have gathered while walking the paths of knowledge created by those who went ahead of me. I note their markers and messages, and while I may go a different direction, I thank them for their work.

In their psychology and ethics work, Gilligan and Eddy (2017) invited researchers to consider what the "real question" of their research was. Reflecting on the research questions in light of new research since I began the project, my research resonates with two key pieces of work. The first is a paper by digital sociologist Neil Selwyn (2023a), who outlines the necessity of "degrowth" in education technologies and the potential of ecopedagogies in framing the educational changes required in the face of climate and biodiversity emergencies that impact places and planet. The second is a book by biologist and environmental scientist David George Haskell (2022) exploring the importance of listening as an opportunity for reconnection with the members of our more-than-human communities. Both reflect on the benefits of conviviality as a guiding principle in connecting. For Haskell, this conviviality reminds humans that they are part of a wider more-than-human community, each member with their own voice. Being open to the voices of other beings may lead humans to connect and care. For Selwyn, this conviviality relates to tools, specifically those open, accessible, and adaptable tools, resources and technologies that can connect, fostering collaborative work. These convivial tools align with the postcolonial work of anthropologist Arturo Escobar. In his work, Escobar (2017) presents autonomous design principles that are central to the transition from Enlightenment to "Sustainment", which "challenges us moderns to secure futures for the kinds of relational forms of being capable of countering... defuturing and unsustainability" (p.118). Relationality and conviviality are at the heart of the "real" question of this thesis: how might online postgraduate researchers connect with beings and places at a distance to foster conscious, caring relationships in a way that supports our collective futures in a time of uncertainty?

Holding that overarching question in mind, the next section explores the key theme of place, how it is defined, and what is meant by "place-responsive education" in the context of this thesis.

2.1 Place- what is it and why is it important?

The concept of "place" is at the heart of this thesis and the importance of place is a major philosophical question. I will situate this research within the frame of the place-focused literature operating from two well-grounded assumptions: that place, however defined, is important to all beings (e.g. Rose, 2017), and that place is a contested, problematic concept

(e.g. Massey, 2005; Greenwood, previously Gruenewald; 2008). I will explore some key definitions of and perspectives on place and outline the research that has been influential in formulating a critical understanding of why place is viewed as important. Note that while this section will primarily focus on the importance of place to human beings, it should also serve as a reminder that places are important to *all* beings. Also, as mentioned previously, this thesis travels through a range of disciplines, but is focused on digital education. This section also addresses the questions I have faced when writing and speaking about my research: why it is important that digital pedagogies address place-connection, and how that connection can promote place-relationships and responsiveness. The research questions have been structured to help answer those questions, by better understanding how place-responsive education at a distance can be theorised and identifying potential effects on students and programmes.

A key assumption when discussing place in relation to digital education is that the focus will be on "online" places, and that these "online" places will be somehow less-than or different from "real life" places (Bayne *et al.*, 2020). It is my goal in presenting a feminist, postdigital, ecohermeneutic theorising to work within the entangled view of research to play along a fluid boundary between the perceived duality and dichotomy of online/offline, indoor/outdoor, rural/urban, mobile/static. The research that follows shows how places can be defined as spaces or locations of meaning unique to each individual. Beings that "dwell" in those places, the location of their "being on the earth" (Heidegger, 1978; p.245), are beings with whom to connect and learn with as part of an entangled ecosystem of learning. Environmental educators Poelina *et al.* (2022) give a timely reminder that humans are co-becoming with the places and beings with which we – humans, you and I – share the land. We as *all beings* are land and weather, are relations, kin, not separate. This relational perspective returns through the chapter and thesis. In the shared research related to place-based and responsive education there is a focus on outdoor places through outdoor education. In my early research, I drew on outdoor educators Simon Beames, Pete Higgins and Robbie Nicol (2011) as they described building a "reciprocal relationship that combines learning in the outdoor and indoor environment" (p.61). My perspective on that has shifted as the research has progressed, and I am not alone. Robbie Nicol (pers comm – seminar on digital mapping beyond campus, 16.9.20) challenged the use of "outdoor" in outdoor education. Poelina *et al.* (2022) perceive that all education is environmental education, whether it is named as such or not. For this research, I hold both perceptions: all education is related to the environment and our relationship with it, and the need for pedagogies that produce the skills needed in the face of climate emergencies extends across disciplines. For that reason, beyond this review of the literature, I will remove the prefix, e.g. "outdoor" or "digital", and focus on "education" as a holistic practice, in contrast to the fragmented, narrow practice aligned with the mechanistic, managerial influences on higher education noted by sustainability educator, Stephen Sterling (2001).

This work adopts a critical place stance, actively acknowledging and problematizing place-based activities and research. Place-based work "based on narrow geographical experience is not all sweetness and light; it has a dark side" (Relph, 1976; p.3 Preface to Reprint). As part of a critical place stance:

> *...we must carefully choose the stories that we root ourselves in. The concept of "place" cannot and should not be universalised. Not all place connections are great; some are filled with suffering and pain. (Piersol, 2010; p.205)*

I note Arturo Escobar's (2008) observation of the range of perspectives that are "interwoven... into a discourse for the defense of place" (p.68), including cultural rights, biodiversity and sustainability. The SHEEEPS framework was developed by sustainability educator Nathan Hensley (2016) as an aid for students working on wicked, or super-complex, problems related to sustainability. The goal was a method of gaining a holistic understanding of a concept or problem by viewing it from multiple perspectives. He presented it as follows:

> *SHEEEPS is an acronym that accounts for multiple perspectives associated with sustainability (S-social perspectives; H-historical perspectives; E-ecological perspectives; E-economic perspectives; E-ethical perspectives; P-political perspectives; S-scientific perspectives). (Hensley, 2016; p.346)*

I will use an adapted SHEEEPS acronym to provide a framework for the multiple definitions of place: S - social and H - historical, cultural and spiritual; E-ethical; E-ecological; E-economic; P-political; S-scientific perspectives. In recognition of the overlap in these perspectives, and with Escobar's (2008) "interwoven" description in mind, I have adjusted the order from the original. The revised framework incorporates spiritual and cultural perspectives together with social and historical. The order of the EEE-topics at the centre of the acronym were adjusted to ethical, ecological and economic. The political and scientific perspectives remain as they were in the original. The resulting framework provides a useful construct to present an overview of how place can be defined before discussing what it means to become place-responsive as part of a postdigital pedagogy. These perspectives are designed to flow through each other, to sediment an understanding of a range of views of place and present the key elements underpinning this work.

2.1.1 Social, historical, cultural and spiritual perspectives on place

I am inspired by the work of anthropologist Keith Basso and the Western Apache people. Basso's (1996) observation is that "places and their meanings are continually woven into the fabric of social life, anchoring it to features of the landscape and blanketing it with layers of significance that few can fail to appreciate" (p.110). This sees the social, cultural, spiritual and historical aspects intertwined, and as a result, I integrated this section to include all four. Geographer Yi-Fu Tuan (1975) also explored the social, historical and cultural aspects, defining place as "a center of meaning constructed by experience" (p.152). This definition can be understood at a range of levels (home, town, country, nation), and from the perspective of an individual, a group, a nation, a species. Relationality here gives a sense of connection rather than boundedness, and this sense of communal relationality is held through the thesis.

It is necessary to explicitly refer to and acknowledge the life history that has happened in a specific area, while recognising that this can lead to difficult questions relating to colonisation and forms of exclusion from homelands, e.g. refugees and climate-enforced migration (Stewart, 2020). Cultural and spiritual perspectives were not referred to in the original SHEEEPS model, so I have included these here. For many cultures, it is not possible to differentiate between these layers, which are collectively held in a *meaningful* place. In her framing of "Place-thought", sociologist Vanessa Watts (2013; p.22) notes that "colonization is not solely an attack on peoples and lands; rather, this attack is accomplished in part through purposeful and ignorant misrepresentations of Indigenous cosmologies". Through this thesis, I acknowledge Indigenous research as part of the deeper discussion through the methodology and research chapters. In this, I am making a small step toward the invitation made by educators and environmental scientists Keith Williams and Suzanne Katsi'tsiarihshion Brant (2021; p.209), asking for higher education to "look to long-forgotten Western traditions" and think creatively to find ways to enact "our relational responsibilities to the more-than-human", rather than poor attempts at "indigenisation", itself a form of colonialism. In the introduction to this thesis (Section 1.3), I presented my background and the significance that place and place-responsive approaches, have for me personally as an Irish person living in Scotland with Irish and Scottish ancestry. As such, I have a vestigial cultural understanding of the stories and becomings of the land that raised me. My aim is to reach back to that which is long-forgotten in my own tradition (Meighan, 2022), while acknowledging and learning from Indigenous cultures that have retained and extended their knowledge (Sepie, 2017; Lange, 2018; 2023). In terms of the focus area for this thesis, training in cultural competence and humility is becoming integrated in veterinary education (Alvarez *et al.* 2020; Gongora *et al.*, 2022).

Returning to the interwoven culture, history, spiritual and social aspect of place, this is something that has been developing in a co-located, experiential outdoor context, as discussed by Stewart (2015; 2020). At the outset, I noted the common question raised about the difference between place and "place online". The Manifesto for Teaching Online (Bayne, *et al.*, 2020) serves a reminder that "Place is differently, not less, important online" (p.147).

> *'virtual' connotes approaching the actual without arriving there. This gap between virtual and actual is critical: were it to be filled in, there would be no virtual worlds, and in a sense, no actual world either. This is ultimately a reconfiguration of the binarism between nature and culture, and its boundary-marker is the distinction between 'online' and 'offline'. (Boellstorff, 2008; p.19)*

This quote by anthropologist Tom Boellstorff (2008) is helpful in better understanding the possible affordances of place online and the importance of fluid margins rather than firm boundaries. In Boellstorff's (2008) work, he proposes a range of online places (virtual worlds), including asynchronous discussion/chat rooms, forums, blogs, wikis, text-based Multi-User Domains/Dungeons (MUDs) through to Massively Multiple Online Role-Playing Games (MMORPGs). In Boellstorff *et al.* (2012) this sense of online place is expanded to encompass the sense of connection, presence and social community. In reflecting on western spiritual heritage and technoculture, journalist Erik Davis (1998; pp.406-7)

recognises a growing need to step back from techconsumerism and reconnect with places, what is referred to as “Gaianism”. This shift is demonstrated through an “embodied awareness of the collective dimension of being”, where people engage in online communities as part of a “transpersonal web of relations”. Here again is a turn towards kinship and relationality, though the focus is still on connection with place through people, or primarily connection with people. It is also a reminder of the spirit of place and of relationality that has been lost in many Global North cultures. In terms of understanding “place” versus “place online”, this thesis is deliberately tangled within the sociomaterial “transpersonal web of relations” between all things. This involves accepting that the “relationships between the places we experience directly everyday and the places we are connected to less directly (but perhaps no less interdependently) are ...complex, contingent, and always in flux” (Greenwood, 2013; p.452), whether those places are online, offline or online~offline in relation.

At the start of this chapter, I stated the aim was to determine what the explicit inclusion of place might look like for postgraduate online distance education. At this point, it is worth noting that there is already an engagement with student places through activities incorporated into online distance courses and programmes. Digital educators Phil Sheail and Jen Ross (2014) talk about the importance of making place “visible” in a way that generates a “thick” knowing of the different places of online learners. They propose this through a range of activities including virtual maps and multi-modal “postcards” incorporating sounds and images from student locations. I will return to these and similar activities in later chapters. There is recognition of the socio-material entanglement between students, staff, places, technologies and the relationships between these elements as part of a “learning ecology” to adopt the ecological view of entangled pedagogies and technologies from clinical educators Tim Fawns, Gill Aitken and Derek Jones (2021). The relationality of postdigital entangled perspective (Fawns, 2022) is central to the networked learning ethos that is built on the communality of learning and places. In the book focusing on place and networked learning edited by educators Lucila Carvalho, Peter Goodyear and Maarten de Laat (2016), the focus of the chapters is primarily on the engagement between humans and other humans, and the tools, devices, technologies and activities that facilitate that engagement. Reference to the broader places brings in items such as furniture and the built environment with two exceptions. In their work on students’ sonic spaces, digital educators Michael Gallagher, James Lamb and Siân Bayne (2016) encounter cats, snow and plants. Learning designer Ana Pinto (2016) extends architect Christopher Alexander’s (2002) work on “wholeness” in her work on adult literacy training, noting the positive influence of plants, flowers and “connections to nature” (Pinto, p.37) on students’ learning both in the venue chosen for the student away day and in the images used in the online learning network. Pinto also made use of storytelling and other activities related to creativity and imagination and I will return to the importance of imagination and creativity later in the thesis.

This section focused on the social, historical, cultural and spiritual perspectives on place. A key paper that incorporates all of these aspects outlines the work of researchers Benjamin Ridgeway and Olivia Guntarik (2017) on a communal, participative project with the Boonwurrung community in Australia. The community worked together to share artifacts

and stories on, with and about the Boonwurrung Country with the aim of co-creating a digital storytelling archive and walking tour. Crucially, the goal was to create an archive that remained in the control of the Boonwurrung knowledge authorities to ensure that cultural knowledge and stories are not misrepresented or misused. It also required that all participants engaged with the spirit, history, culture and politics of the land. This respectful approach aligns with the work carried out by Wemigwans (2018) in developing an Indigenous Knowledge online archive in Canada. The ethical use of images and related items in place-based educational activities and place representation relates to the next section on the ethical perspectives on place.

2.1.2 Ethical perspectives on place

Ethical perspectives on place are interwoven throughout the thesis; this section will provide an overview of key research that underpins an ethical engagement with places and place beings. This integrates a range of ethical paradigms that inform the thesis, incorporating Indigenous and Western ethical perspectives.

At the heart of a place-responsive approach is the three-part practice of attending to place, being sensitive to the situation of place beings, and taking action and response-ability for actions while researching in place. An Indigenous research paradigm incorporates ontology, epistemology, axiology and methodology as an interconnected onto-episte-axio-methodology, where "the ontology and epistemology are based upon a process of relationships that form a mutual reality" and "the axiology and methodology are based upon maintaining accountability to these relationships" (Wilson, 2008; pp.70-1). While this thesis was not designed according to the Indigenous research paradigm that Cree scholar Shawn Wilson generously shares, part-time study provided time for me to build respectful relationships with the participants and with the knowledge shared. The Indigenous research paradigm aligns with the five key principles of the Gaelic onto-episte-axio methodological concept of dúchas (Section 1.5): interconnectedness; responsibility; respect; ecological balance; and kinship (Meighan, 2022; p.5).

As a PhD student, I observe that learners have an ethical responsibility to hold knowledge respectfully and share in kind (Wemiwigans, 2018); this is aligned with the "response-ability" (Springgay & Truman, 2018; p.210) that is needed to critically question what arises through research methods. Accepting the responsibility, I adapted my ethical approach as I proceeded, as part of a reflective, virtue-based ethics, where an ethical project adapts over time in response to ongoing critical reflection by the researcher on the project, on their experiences and on themselves (Macfarlane, 2008). Macfarlane proposes that education on virtue ethics includes examples from other researchers. In outlining the value of humanities as part of veterinary education, Brosnahan (2023) reflects on the ethical perspectives of a range of disciplines and provides sets of questions to explore with students that would be helpful in developing a virtue-ethical perspective. To move beyond virtue ethics requires the acceptance that, as the researcher is part of the entangled phenomenon, ethics is not a response to something separate, but "responsibility and accountability" (Barad, 2007; p.393) as part of a becoming relationality. An ecocentric ethics is open to moments of wonder that inspire a sense of relational connection and belonging as part of the world (Washington, 2018). In discussing the ethics of care, María Puig de la Bellacasca

(2017) encapsulates this process as a “hands on, ongoing process of recreation of a “as well as possible” relations” with the researcher engaged in a “thick, impure, involvement in a world where the question of how to care needs to be posed” (p.6). This is a communal, relational ethical perspective (Leopold, 1949; Escobar, 2017; Lange, 2023) that recognises that humans “are ethically always interconnected with multiple relations on the earth” (Lynch & Mannion, 2021; p.8). As this thesis has the triple-theme of place-care-time, care ethics is explored further in Section 2.2.1.

2.1.3 Ecological perspectives on place

Considering the ecological perspective on place, biologist E.O. Wilson (1984) coined the term “biophilia”, defined as “the innate tendency (of humans) to focus on life and lifelike processes” (p.1). Humans are, by design, drawn to savannah-like ecosystems or views. The extensive work carried out by psychologist Miles Richardson and the Nature Connectedness Research Group note that while Wilson’s concept of biophilia is contested, it still underpins concepts like “nature connectedness”, or how people view nature as part of their identity, feel an emotional connection, and links to pro-environmental behaviour – in other words, a sense of responsibility or call to connect with a particular area, or species (Lumber, Richardson & Sheffield, 2017). The “pathways to nature connectedness” proposed by Richardson’s team refer to activities in nature that involve the senses, emotion, beauty, meaning and compassion. Thinking about a place-responsive learning activity, it is interesting to see the overlap with these proposed pathways, and I will return to this in the results chapters.

Considering beauty, the aesthetic elements of Wilson’s work are aligned with Alexander (2002), who - like Tuan - also speaks of “centers”. Where Wilson describes the naturalist’s perspective of a forest clearing, Alexander speaks about the forest clearing as an architectural “whole”, made up of centres, with each insect and plant being a centre, individual when observed directly, yet part of a broader forest-clearing whole. The life of these accumulated centres adds to the life of the whole; from Alexander’s thesis, this is a key element of why humans are healthy and happy in specific locations, as human beings can sense “wholeness”. Psychologist Zoë Myers (2020) makes a similar observation through her discussion of the impact of the aesthetics of urban design on mental health. This links to anthropologist Gregory Bateson (1972), who reflects on the power of aesthetics as a key element in developing the sense of connectedness. Bateson’s observations on aesthetics in scientific research culminate in his recommendation that researchers operate from a position of curiosity, echoing scientist Rachel Carson’s (1965) invitation to study from a state of wonder, and conservationist Aldo Leopold (1949) and feminist, scientist and scholar Donna Haraway (2016) on the importance of curiosity. As a landscape architect, Anne Whiston Spirn (1988) saw the link between aesthetics and creativity, and connected creativity and care. This connection was seen, for example, in the care taken of allotment gardens, blending form, function and aesthetics, the “hands-on, ongoing” practice that Puig de la Bellacasa (2017; p.6) incorporates into the definition of an ethics of care.

Boellstorff (2008) discusses the same issues I have outlined above with regards to virtual or online places. While the latter research focused on physical “actual” places, there is little difference to the impact when perceiving and interacting in an online environment. Human

participants position their avatars at a similar distance online as they would if meeting offline. There are the same issues with regards to planning, landscaping, and sense of place as reported for urban planning. Carrying out ethnographic research operates in the same way online as offline, "real" as "virtual", such that there is no distinction between the two. Indeed, as mentioned earlier, Boellstorff (2016) challenges the false dichotomy between real and virtual, returning instead to the onto-epistemological sense of being (in and with) that is seen in Barad (2007) and Haraway's (2016) work. In a review of the research carried out on place-based or "nature-based" teaching, Ming Kuo, Michael Barnes and Catherine Jordan (2019) confirm that there is a positive link between a view of natural settings and pro-environmental behaviour, and between learning in "greener" settings and improved socio-emotional connections and collaboration in groups of learners. This aligns with place-based networked learning research (Pinto, 2016).

Relph (1976) contrasts "place" – a location that has meaning - and "placelessness" – a location where meaning is absent. Baker (2005) contrasts the concept of landfulness with Relph's placelessness, with landfulness developed through activities that developed a deeper knowledge and relationship with places. Previous research referred to digital or virtual spaces being a "non-place" (Nakagawa & Payne, 2015). From my perspective, this links to the marketization/values-based approach to places. Bertling (2018) proposed arts-based practices as a way of radically engaging with sterile non-places, e.g. carparks and golf courses, and this thesis will present a method to engage with arts-based practices within postgraduate online science education at a distance as part of a place-responsive pedagogy.

2.1.4 Economic perspectives on place

The root of "eco" is the Greek *oikos* or "house", with economics relating to the law (*nomos*) of the house or home (Geddie, 1965). Rather than the home or local community the word would suggest, economics is currently focused on the global market production and wealth, incorporating a values-led, commercial ethos that prioritises the value of items to the human population, or more particularly, to a subset of humans that control the production and resources. Schumacher (1973) highlighted this in his work "Small is Beautiful", recognising at that materialist, consumerist priorities were negatively impacting the environment. Solving this, he maintained, was an ethical challenge and not one that could be resolved by "organisation, administration, or the expenditure of money" (p.80). Fast forward to the early 2020s, and the adjective "eco" is added to items or services that are advertised as "not harmful to the environment" (Dictionary.com, 2023). This then places a value on "eco" assigning a value that suggests that environmental protection can be purchased. This assigning of value is a key issue for this thesis, where places are assigned "value" that can be compared to determine overall worth. An example of a woodland is presented by James (2009) comparing the cash value of the timber with the total value of a bypass, with the woodlands "existence value" (p.79) to demonstrate how natural resources can be financially quantified for human benefit. For this reason, the word "value" has not been used in the thesis.

To further resist the commercialisation and commodification of place-as-resource with a convivial, degrowth approach in mind, the system of "Practical Action" developed from Schumacher's work (Schumacher, 2011) resonates with the communal and "communing"

practices outlined by Escobar (2017), where local community-based strategies working within the local ecosystem is coupled with effective modes of communication allow collaboration and conservation at greater scale (country, planet). The focus is not on the purchase of "eco" services to maintain a business-as-usual fantasy (Swyngedouw, 2023), but being in respectful and ethical service to planet, places and beings as part of the entanglement. I have incorporated this sense of service within the speculative fiction in this thesis (Chapter 5) coupled with pedagogies based on an open, collaborative model rather than the capitalist, neo-liberal project that higher education has become (Grande, 2018). As a contrast to the economic theories and practices that Schumacher discusses, Escobar (2017) proposes a different perspective. The issue, he suggests, may not lie purely with economics, but with policies; "when exercised via policy as a hegemonic form of truth, [economics] becomes a pillar of structured unsustainability and social inequality" (p.242). I restructured Hensley's (2016) SHEEEPS model with this in mind, positioning the economic and political sections with one leading to the other.

2.1.5 Political perspectives on place

Following on from Escobar's (2017) observation that it is the influence of policy on economics that drive "unsustainability and social inequality" (p.242), policies aligned with neoliberal ideologies are at the centre of the political hegemony. The ideas and policies have become so commonplace as to be now presented as the "common sense response" (Derby, Piersol & Blenkinsop, 2015; p.383). In the face of socio-political pressures on education to "conform, perform and deliver certain pre-defined outcomes" (Pedersen, 2021; p.167), a focus on becoming-with the more-than-human world becomes a political act "resisting the binary logic that creates unequal power relations and silences varied ways of knowing and being" (Piersol & Timmerman, 2017; p.11). Again, bringing the economic and political together, the process of engaging with the more-than-human world recognises that the beings and places are independent agents beyond anthropocentric "value". This involves critically reviewing practices and processes to avoid colonising/re-colonising places. Places and beings are increasingly becoming political agents and business stakeholders through the legal recognition of personhood, e.g. for mountains, rivers and the Earth (Charpleix, 2018). From an educational perspective, engaging with the more-than-human world involves balancing a critical questioning of the history, policy and power relations related to place with being open, curious and creative in building relations with place and place beings (Derby, Piersol & Blenkinsop, 2015).

This relation-building is a negotiation "within and between" all beings in a "throwntogetherness" (Massey, 2005; p.140). In this thesis, I will refer to specific places and their meaning as shared by participants. While I will not refer directly to the political influences and powers influencing and impacting on these places, that is not an attempt to depoliticise. Politics and policies influence this thesis, from and within places as explicitly discussed above to the mode of education in online and at distance. "Distance is temporal, affective, political, not simply spatial" (Bayne *et al.*, 2020; p.153) and as such, is part of the negotiation as discussed above, where online programmes and courses bring with them the histories, cultures and politics of the students, staff and learning ecologies. Rather than

drawing in, this is about opening up education, the courses and the institution to these differences, an opening-up referred to as “globeness” (p.155).

Holding that perspective of open “globeness” is essential when considering the politics of the climate emergencies. The thesis may refer to individual places and participants, but these are all part of local ecosystems nested in the ecosphere (Lange, 2023). This is not about generalisation through globalisation but instead about making alliances, becoming an “ecological collective” (Morton, 2010; p.107) that is gentle with differences and accepts that there will be different perspectives. It may even be time to move “beyond” politics, and instead be attentive “not only to taking on the holders of power, but also to mutual learning, knowledge exchange and capacity building with the other people in the room” (Facer, 2023; p.65). This chapter will address the politics and pressures on higher education in more detail in Section 2.5.

2.1.6 Scientific perspectives on place

> *What is emerging today, we argue, is a science of embeddedness, of risky attunement to the more-than-human world, where research cannot rely on prefabricated methods to guarantee its validity but must, instead, wrestle with how to best listen to the world in ways that enable the participants only poorly thought of as ‘objects’ (or ‘data’) to actively participate in the construction of knowledge and the political debates concomitant with it. (Weaver & Snaza, 2017; p.1056)*

In exploring the contrasting narratives of her role as an environmental science educator, Laura Piersol (2010) reflected on the realisation that she had been “selling” science as a “cure-all” (p.200) to her students. This involved accepting scientific models (Weaver and Snaza’s prefabricated methods) as true representations of what she knew was a super-complex set of systems. Her solution – educating for complexity (p.202) – involved time spent with students at a local creek so they could recognise themselves as part of the ecosystem they were studying and gain an understanding of a system that changed through time. The creek and species within that territory participated in the students’ construction of knowledge, through presence and on occasion, through absence. This emphasised the fact that there was no clear answer to the complex questions being asked and that it was acceptable to work with that not-knowing. There is one additional requirement in this educational practice: wonder. Moments of wonder as part of a becoming-with relational place practice may help to inspire, the more so because these chance encounters cannot be scripted (Lynch & Mannion, 2016). These unexpected moments of wonder, or “moments of *this*ness” (Derby, 2015; p.136) form part of an ecohermeneutic practice where the more-than-human world communicates. This focus on auditory communication is not to suggest that more familiar forms of connection, e.g. observation, cease to be used, or that listening is prioritised over other senses. Rather, the methods are extended with attentive curiosity through different senses. This may include questions to develop an affinity with the being(s) encountered, e.g. “what (or how) would it be like if I were in your place?” or “what would you do if you were in my place?” as part of an embodied empathy (Despret, 2013; p.62).

This attention and affinity, or connectivity, is interdependent and "brings us into domains of responsibility, accountability, proximity, ethics and community" (Rose, 2017; p.495)

I highlight "proximity" in this quote, having noted earlier that proximity is not a pre-requisite for care (Massey, 2005). This thesis presents a method to develop attentive listening practices to open-up online distance education to the more-than-human world at a distance. This is particularly important in the face of the climate catastrophe. Researchers may argue that it is necessary to be situated in a place for research purposes. In a report published in 2015, the Tyndall Centre for Climate Change Research stated explicitly that there was no sustainable reason for researchers to be travelling (Le Quéré *et al.*, 2015). Instead, the focus should be on developing researcher skills in local communities with remote collaboration with other members of the research group. In addition to reducing the carbon footprint of research projects, this also minimises the involvement of "transient researchers" (Marker, 2018; p.6) who lack knowledge about local places, histories and cultures, and may unintentionally continue a colonial, resource-extractive approach to research.

2.1.7 Place-responsive education

The term "place-responsive" was defined by social ecologist John Cameron (2002). Cameron notes that place-responsivity, as with Selwyn's (2023a) de-growth challenge, brings with it the responsibility to act and take action on behalf of place. This definition, and the work that has developed from it, brings together the elements I have discussed in earlier sections (ecosystem entanglement, care for place, building relations, becoming with). In terms of getting to grips with taking a place-responsive educational approach, outdoor educator Simon Beames (2015) provides an effective progression from a more familiar place-based approach – focused directly on a simple activity at a location – to a place-responsiveness developed through encouraging a sense of relationship, or kin-ship, to draw on Donna Haraway (2016) and Robin Wall Kimmerer's (2003) research.

Brian Wattchow and Mike Brown (2011; p182) proposed four signposts for designing a place-responsive pedagogy. These are:

1. Being present in and with a place;
2. The power of place-based stories and narratives;
3. Apprenticing ourselves to outdoor places;
4. The representation of place experiences.

These signposts build on each other, so the third signpost – apprenticing ourselves to outdoor places – brings together the first two. In this, there is recognition that it is not sufficient to spend time in a place or to draw on place stories, it must be both to engage with all aspects of the place (ecology, spiritual, history, culture, economics, politics) and perspectives, a point strongly emphasised by Stewart (2020) as being at the centre of a critical approach to place-responsive education. Stewart, linking to the critical place work reported by David Greenwood (2008; 2013), highlights the importance of respect and engagement with indigenous knowledge and Indigenous Knowledge keepers to ensure that all perspectives and histories are present. In the fluid engagement between online and offline, history, culture and politics are clearly present in digital places; this thesis explores

how ecologies of places can be more explicitly woven in to learning, teaching and research practices.

Wattchow and Brown (p.192) outline four questions to guide the place apprentice, to which Brown added a fifth question in his work with Simon Beames (2016; p.57)

1. What is here in this place?
2. What will this place permit us to do?
3. What will this place help us to do?
4. How is this place interconnected with my home place?
5. What can we learn here?

These questions are embedded within this thesis, which is itself a process of personal place-apprenticeship.

This has been a brief introduction to place-responsive education, concentrating on what it is more than what it does (after Deleuze & Guattari, 1987; Stewart, 2015, 2020; Mikaels, 2018). In the remainder of the chapter and in the thesis, I will return to aspects and affordances of place-responsive education to present a more in-depth, critical review. This has demonstrated how places are important, whether rural or urban, online, virtual or "unplugged", to all beings. That importance lies at the heart of this thesis, in the value of recognising and building curricula that allow space for place or land as teacher (Ross & Mannion, 2012). As conservation scientist Amy D. Propen (2018) says "we are not the only knowledge-makers in the room!" (p.48).

Outdoor educator Jonas Mikaels (2018) notes that a place-responsive curriculum "pays particular attention to the empathetic response to the cultural, historical, and ecological conditions of place, or how people perceive, enact, and embody place" (p.5). In this section, we have touched briefly on cultural, historical and ecological conditions, and in the next section we will explore how an "empathetic response" can be encouraged through connecting people and places.

2.2 Conservation and care

> *In an environmental education curriculum informed by caring, students would... learn about the history of the place they are developing a relationship with. They would know what stories such places could share, they would recognise the past relationships... and begin to see through empathetic eyes the way in which differing relationships influence environmental and human futures. (Martin, 2007; p.63)*

As this thesis will return to the concept of care regularly, it is essential to situate this research within the extensive work carried out on care, care ethics, and care for all beings, situated within more-than-human participatory ethics. Care is complex, ambiguous, and problematic (Puig de la Bellacasa, 2017) and it is necessary to be critically aware of the tensions and contradictions between the three dimensions of care: "labor/work, affect/affectations, ethics/politics" (p.5). Care also highlights the interdependent, interwoven biosphere, and accepts Puig de la Bellacasa's invitation to use the concept of

"care" as a provocation to question and speculate. This section of the chapter will review key research, providing definitions and grounding for the work that follows. It also brings together care and conservation, as the latter is a key aspect incorporated into postgraduate online education for veterinary and animal scientists. As such, it presents the most effective starting point for engaging with place-responsive practices.

Outdoor educator Peter Martin opens this section in an excerpt from a paper focusing on care for the environment. When speaking about the "past relationships" – and edited in my use of the ellipsis – he describes these as relationships "that have enabled a place to prosper". I experienced a sense of disquiet reading the article, as there is no guarantee that a relationship will enable a place to prosper. There is also a question of what we mean by "prospering", as that carries with it a problematic discussion about values, politics, and how things "matter" to different stakeholders, even if the place recognised as the primary stakeholder as discussed by environmental communication researcher Kathy Isaacson (2021). In this thesis, I respond to the challenge set by anthropologist David Abram (2010), where he states that "While amassing our analytic truths and deploying our technologies, we became more and more impervious to the needs of the living land, oddly inured to the suffering of other animals and to the fate of the more-than-human world" (p.307). The mechanistic, managerial drive seen predominantly in the Global North has resulted in humans disconnected from the "living land" and this work presents a way to become more aware of the issues facing the land and other animals. The relational approach of this thesis explicitly places the researcher within the entanglement. Furthermore, I argue from a social justice perspective we may have become "inured to the suffering" of other humans also. When considering the importance of respect and responsibility in relationship building with reference to veterinary and animal sciences, this is extended to all beings residing in these places.

Human beings are enmeshed with other beings, woven into the ecosystems (Ingold, 2011; Abram, 2010; Morton, 2017). The territory of each human being overlaps with the territories of other beings, or humans *are* the ecosystem – we are the "place" for other small and micro-beings, whether as Donna Harraway's symbiosis (2016) or Morton's "hyperobject" (2017). Philosopher Simon James (2009) provides an interesting phenomenological perspective, which resonates with my methodological approach. James proposes that "interrogating our own being-in-the-world could afford us an insight into that part of nature that manifests itself, not only in our way of being, but in that of at least some non-human animals as well" (p.127). By being aware of our own entangled part and presence within the place ecosystem, we may come to know better the place itself, and the beings that are part of it. Being more aware of the beings around us can help us to "read" more deeply into the place we are in – moving from being-in to being-with to becoming-with. The value of developing that sense of awareness may be seen as being of benefit to those whose work is focused on "non-human animals", and it may also help human animals to appreciate the importance of places for other beings. This recognition of the entanglement is central to a postdigital perspective as discussed earlier in this chapter.

2.2.1 Defining care and care ethics

When considering what it means to care for a place, it is helpful to understand the concept of care and associated ethics. Two researchers are central to the inclusion of care in educational research – psychologist Carol Gilligan and philosopher Nel Noddings (Noddings, 2013) – who introduced the topic in the early 1980s. I will return to Carol Gilligan later in the chapter; the remainder of this section will focus on the work of Nel Noddings and the research that has been based on her work. Noddings' perspective of care was based on relational ethics. Care comes from being attentive to the individual and empathising with their situation. Noddings sees this as a skill for students in learning to "differentiate between listening to understand and feel with the other and listening only for our own purposes" (p.55). As part of this process of caring, Noddings refers to terms that have been mentioned previously, or will be raised in later sections, namely relationality, responsiveness, attentiveness through listening, reciprocity, and empathy. Noddings challenges the view that caring is "fuzzy" or somehow easy – as with engaging with place, developing an ethic of care is a moral obligation.

Noddings' work relates to care with and for humans; this thesis focuses on human and more-than-human relations and kin. In her work on speculative ethics, María Puig de la Bellacasa (2017) concurs with the difficult and messy task of caring that Noddings outlines, stating further that the "caring obligation" is not "reducible to "feel good" or "nice feelings" (p.147). In considering care for all beings, Puig de la Bellacasa proposes an "everyday ethics as agency that is invested by collective commitments and attachments" (p.140). She issues challenges that this thesis seeks to respond to: "How can technoscientific futurity live ecologically with timelines of care? How can sciences and technologies contribute to foster the conditions of material and effective ethicality essential to the living webs of care?" (p.215).

Narrative researchers Vera Caine, Simmee Chung, Pamela Steeves and D. Jean Clandinin (2019) note that Noddings' work focused on care ethics related to moral education. In extending her work and based on their own work with First Nations young people, they show how a relational ethical approach is a requirement as the inquiry is built with and through relationships, particularly as the researcher and participants "co-compose" through the process of narrative inquiry. This awareness of relationality, and the associated respect and reciprocity, is important in the context of this work and is woven into the methods that follow in the next chapter as part of a relational, reflective research ethic. The next section extends into care for Puig de la Bellacasa's "living web", with reference to caring for places as part of a relational, place-responsive approach to education.

2.2.2 Caring for places

The perceived challenge with relating to and caring for places or for "entities", i.e. caring for the more-than-human, has been contested by some researchers, e.g. Terri Field questioned as to whether care was genuinely for the other being, or for the benefit of the human (Field, 1995, cited in Martin, 2007). Despite concerns of anthropocentric or anthropomorphized care, Nel Noddings' work on care for humans has provided a foundation for research on care ethics for places. Outdoor educators Jamie Burke, Carrie Nolan and Alison Rheingold (2012)

explore a place-based care ethics and acknowledge the difficulty of identifying a caring relationship when it is unclear if the recipient of the care is aware of the care given to them. This returns us to the concepts of respect and reciprocity, as discussed in Section 2.1.2. If it is our responsibility or response-ability to take action on behalf of the places to which we are or feel connected, in whatever form that connection takes, then I would argue it does not matter if the "entity" is aware (Quain, 1998).

2.2.3 Caring for One Place and One Planet

> *The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment. (One Health Initiative, 2024)*

The concept of One Health recognises that animal, human and ecosystem health are intertwined which links strongly with the postdigital perspective of this thesis. As humans are animals and part of the "environment", the separation of "human" versus "animal" versus "environment" in the definition is problematic. Epidemiologists Juliet Bedford *et al.* (2019) acknowledged the tightly interwoven nature of the healthcare systems as "an ecosystem of interactions" (p.134), while also endeavouring to differentiate between human health factors (e.g. population growth), animal health (e.g. farming practices) and environment health (e.g. deforestation). They also emphasise the importance of collaborative multidisciplinary research networks working closely with local communities and benefiting from the input of citizen scientists. This collaborative approach is echoed in interdisciplinary work by Chua *et al.* (2020) on orangutan conservation, Escobar (2017) on social justice and communal research labs, and Propen (2018) on collaborative compassionate conservation. While veterinary scientists play a core role in One Health, their contribution is infrequently recognised in contrast to the contribution of human medical scientists indicating a need for increased awareness-raising and development of veterinary skills in cross-disciplinary communication and leadership (Simpson *et al.*, 2020). Central to this skill set is cultural competence and humility (Alvarez *et al.* 2020; Gongora *et al.*, 2022), which recognises the need for cultural awareness, knowledge and sensitivity as part of a practice of cultural competence that acknowledges more-than-human kinship.

The One Health concept indicates an early move in the veterinary and natural sciences to recognising the importance of place beyond ecosystem health factors such as disease vectors and changing climate patterns. Work is also underway in recognising the value of place-situated knowledge held by communities in developing animal welfare programmes (e.g. Schurer *et al.*, 2015) but this is a relatively recent approach. This work may not explicitly refer to "working with" species, as the more common terminology would refer to the anthropogenic, colonising views of conserving, preserving and studying species and/or ecosystems (Propen, 2018). While my thesis does not operate directly from a critical animal studies position (Pedersen, 2019) in challenging the research and work of veterinary surgeons and animal scientists, approaches to decentre the human are included (Dinker & Pedersen, 2016) as part of an attentive practice. One Health is a helpful concept in

connecting veterinary medical education to sustainable education as supported by recent work carried out by Mallory Widdis (2022) based at the RDSVS.

The standard accepted approach to science and scientific research which viewed the researcher as isolated and impartial is a theme noted across a range of disciplines (Leopold, 1949; Barad, 2007; Escobar, 2017; Stengers & Muecke, 2018). By developing skills in respect, reciprocity and relationality (Wilson, 2008), Stengers and Muecke proposed a relational approach for those studying the physical and natural sciences. Stengers and Muecke's work focused on human beings, but as demonstrated in this chapter, it is not possible to consider human beings as separate from the ecologies of the places in which they are situated, as it is also not possible to separate ecosystems from their entanglement with the biosphere from a holistic worldview (Lange, 2023). As Deloria Jr (1973) and Barad (2007) have shown, it is also not possible to be a truly impartial observer, irrespective of the scientific method employed. If that is not possible, then what benefit can that partiality bring? The concept of "embodied empathy" (Despret, 2013; 61) speaks to that process of acknowledging the interaction with other beings in the research field, of developing an affinity. This affinity and empathy to other species is a strength of those working in the veterinary and animal sciences fields (Fine, 2022), which inspired this thesis. In the next section, I will introduce an ecohermeneutical research approach which may provide a method to incorporate that embodied empathy. Before that, it is essential to consider how care can be fostered at a distance, which is a central premise of this work in connecting veterinary and animal science researchers with each other and their places to care for each other and the planet.

2.2.4 Care at distance

Through this thesis, I will reflect on the importance of becoming-with and building relationships in-and-with places. Returning to Martin's (2007; p.63) quote that opens this section, he begins by talking about how "students would experience first hand local environments and environmental issues". This is central to the experiential, hands-on, traditional place-based activities. The need to be immersed in places, to come to know them through the seasons, and to be physically present on the land is evident as part of building a relationship with a local place (Abram, 2010; Somerville *et al.*, 2011). While first-hand experience is critical, my argument is that it is also possible to develop a relationship with a place at distance through learning from others' experiences of their current places and being open to listen. As stated in the introduction, there is the potential to connect with and learn from with places and beings at distance, in the same way as we connect with students and colleagues in online spaces.

Environmental educators Alex Kudryavtsev, Richard C. Stedman and Marianne E. Krasny (2012) outline two forms of developing a sense of meaning related to a place and leading to pro-environmental behaviour related to that place. These two forms are firstly, the direct, first-hand experiences that Martin, Abram, and Somerville *et al.* refer to., and secondly, learning from other sources, e.g. oral accounts from local residents. Their research touches on what I am outlining here, as I propose another level of knowing and coming into relationship with place and beings that extends this concept of coming into relationship with places at distance. By connecting and learning to listen in the right way, the places we co-create online can be more open, fluid and place-aware leading to place-responsive actions.

In his review of place-responsive education, Stewart (2020) considers the importance of imagination in "developing understanding or awareness of the lives of others, human and more-than-human". Incorporating imagination as part of an educational approach is reported as having value, and in this case, I would suggest the value is in using imagination to picture being in another place with a view to getting to know that place better, if spending time in the place is not possible. This is evidenced in this thesis through the speculative fiction approach employed in Chapter 5.

From the perspective of business educators teaching online, Katie Burke and Stephen Larmar (2021) work from Noddings' ethics of care to propose an "online pedagogy of care" framework. This framework incorporates many of the points discussed previously, in terms of connecting, collaborating and building relationships. Burke and Larmar speak about "reimagining" their teaching practice and the online environment, and that connection with the imagination circles back to Stewart (2020) and the application of imagination in place-responsive education. Research mentioned previously (Myers, 2020) demonstrates that a natural or "green" view can increase a sense of trust, relaxation and foster community building, so the combination of both imagination and being in-place has the potential to have a transformative impact on digital education. This is an area this thesis will consider through an investigation of how students and staff build community in online programmes at the University of Edinburgh, how and where they connect with places within their studies and research, and speculating what a place-responsive future might look like. To become place-responsive requires action related to the place relationship and the ethics of care at distance. While there is a long-held association between care and proximity (Massey, 2005; p.186), the caring relationships demonstrated in digital education practices illustrate how proximity is not a pre-requisite to care. Developing an embodied empathy towards the more-than-human through digital connections is possible.

In their work on academic development, Collett *et al.* (2018) argue for a slow pedagogy, allowing academic staff the time and space to collaborate, reflect and engage in deeper scholarship. This is a form of political resistance against the neoliberal fast-paced drive of higher education teaching and research. Collett *et al.* link the slow pedagogical approach with ethics of care, demonstrating how time is needed to build trust, community and relationship. The need for a slow pedagogy is at the centre of the next section (Section 2.3). With that in mind, considering a focus on place circles back to the quote at the start. After discussing the importance of developing a relationship with place, Martin observed that "developing a relationship with a place will take time and interest before this becomes a relationship characterised by an imperative to care and therefore act" (p.63). That lead to the third and final theme of time.

2.3 Time

> *Just listen to the Internet promoters: All this information is free! But on-line, we surrender something far more valuable than dollars. Mephisto of the modem demands a most precious resource – our time on earth. (Stoll, 2000; pp.144-5)*

In the quote above, astronomer Clifford Stoll tells the story of the bargain many humans may be making by exchanging time online for time spent with family and friends, on hobbies and community-building. This idea is important to this thesis for three reasons. First, information on the Internet is not truly free, while acknowledging the potential of a global open access knowledge commons as discussed by social scientist and ethnographer Wendy Leeds-Hurwitz (2020). Second, the exchange that Stoll suggests between time online and time spent with family and community takes on new meaning as a result of the Covid-19 pandemic. Where previously online meetings and calls were seen as being for those at a considerable distance from each other, during the pandemic, the primary way to connect with friends and family was online. Third and finally, there is an interesting disconnect here between time "on-line" and "on earth". A similar perspective is seen in the work of outdoor educators Philip G. Payne and Brian Wattchow (2009) in their proposal of the "corporeal turn" in education, where they argue for a move from the "learning mind" (p.16) approach to a pedagogy of place and all beings. Payne and Wattchow challenge the "abstracted experience" that comes from what they term the "fast, take-away, virtual, globalized, download-uptake versions of electronic pedagogy" (p.17). Their view of a disembodied "learning mind", of the "non-place" of online education is not unique and this misrepresentation is explored by digital educators Phil Sheail and Jen Ross (2014). In considering this disembodied mind, they reiterate that the learner is "always-embodied" (p.558), they are both on-line and on-earth. In discussing Payne and Wattchow's work, environmental educators David Greenwood and R. Justin Hougham (2015) also question this suggestion of disembodiment. They propose that the use of technology as a balance, reducing the use and potential distractions of technologies while identifying the "appropriate uses that legitimately enhance place-conscious environmental learning" (p.103). Again, I highlight that technologies are not unproblematic, and there are issues with sustainability, power, economics and politics inherent in the use of various technologies (Puig de la Bellacasa, 2017). However, when considering slow learning, speed should not be assumed because of a switch to digital – speed is not forced by technology, technology can be used slowly and appropriately. An excellent example of this is seen in primary school education, and the digital education projects carried out by educators Edwards *et al.* (2021) using microphones, sensors (humidity, weather) and Raspberry Pi technologies integrated with classes on a range of skills including storytelling, mapping, design, and habitat exploration. Keeping this balance and critical awareness of technologies, this thesis seeks to address the concerns of Payne and Wattchow (2009) in proposing ways in which the carefully mingled affordances of digital and place education together could produce effective digital ecopedagogies. I have observed first hand the time constraints and challenges placed on teachers and teaching, irrespective of discipline, and that is the focus of this section of the chapter. Payne returned to the issue of place and technologies in a more recent paper

with Yoshifumi Nagawa (2015) problematizing place for mobile learners as hybrid "splaces... combining space, time and place in enigmatic relation to human bodies" (p.152), with fluid boundaries between (global) planet and (local) place. This thesis addresses their call for more post-critical inquiry relating to place connections that do not prioritise place over planet but hold the tension between both, as seen with a One-Health framing. This requires pedagogical approaches that foster imagination and respond "aesthetically, ethically, and politically to the triad of ontology–epistemology–methodology" (p.153). This onto-episte-methodology is central to a slow pedagogy.

Payne and Wattchow (2009) outline a range of methods to foster slow place-responsive ecopedagogies, including sensory awareness, time in place and reflective journaling, the latter being a practice currently incorporated into veterinary education (Alvarez *et al.*, 2020; Quain, Mullan & Ward, 2022). Inspired by their work, this thesis proposes that adopting a de-growth, convivial model of postdigital education fosters a slow, place-responsive pedagogy in lieu of a fast "electronic pedagogy". I recognise that time is as complex and problematic a concept as place (Massey, 2005; Sheail, 2018). The remainder of this section will begin the process of defining a slow place-responsive digital pedagogy, and the potential of a place-responsive approach to encourage a slower approach to research in turn.

2.3.1 What is meant by "slow"?

To begin, it is necessary to define the term "slow" as used in this thesis. Education research methodologist Jasmine B. Ulmer (2017) gives a helpful contrast between "slow" and "Slow". The former relates to an epistemological "knowing across time" perspective, and the latter to an ontological "being across time" perspective. The latter will be familiar from the various Slow movements, e.g. Slow Food, Slow Cities, where the focus is on quality of experience, rather than speed. Ulmer applies this Slow perspective to research methodologies and scholars engaging with the sociomaterial aspects of research practices. I take this as a lead for my approach to the research methodology in this thesis. The former – "slow" – may be less familiar, but refers to slow knowing or theorising, e.g. slow pedagogy. Given the onto-epistemological leaning of this thesis, the slow/Slow approaches will be combined, and I will refer to "slow" [lowercase] methods and approaches, as teaching and learning is both theory and practice.

This onto-epistemological slowness is particularly appropriate for reflecting on practices of teaching, and in this case, teaching veterinary and animal scientists. In contrast with the challenges of fast-paced, impact-driven academic research life, this calls for a more attentive, relational approach. At a time when the climate crises are requiring an urgent response, and yet little seems to be altering "business-as-usual" this challenges the culture of haste (Wullf-Wathne and Kjærås, 2023), where "[s]peed demands and creates an insensitivity to everything that might slow things down" (Stengers and Muecke, 2018; pp.81-2). Yet these super-complex problems require time to think and deal with and that "insensitivity" carries an echo of Abram's (2010) reference to becoming inured to the suffering of others mentioned earlier in the chapter. The process that Stengers and Muecke propose of "reweaving" and reconnecting, of employing imagination and curiosity, and building caring relationships "not those of capture" all speak to the strengths of a place-

responsive pedagogy. This thesis will demonstrate a set of creative practices that may assist in developing the skills of imagination and curiosity for relationship-building and becoming.

2.3.2 Any time versus perpetual time

There are different appreciations of what is meant by time, with the familiar phrases of "having time", "making time", and the challenges of "flexibility". Digital educator Phil Sheail (2018; p.477) shares the reminder that "time is not neutral". Similar problems and challenges present themselves in terms of power, control, politics and social inequalities, work and caring responsibilities. When considering distance learners, as shown by Sheail (2017), there is also the question of "transtemporality", or the co-existence of student time and host/institution time. Priority tends to reside with the host time – in this case, the institution – so students are balancing the requirements of different timetables. This connects with what Sheail (2018) refers to as the "temporal flexibility" of online, part-time students, often balancing study, work and caring responsibilities in addition to differences in time zones from the host institution. From my research and my professional work, I am aware of the challenges facing distance online students, and as such, my goal is to find ways to integrate and work creatively with time, rather than overwhelm.

In contrast to this sense of time-limitation, Poelina *et al.* (2022; p.401) present a different perspective: "[r]ather than linear, colonised and constrained, time is multiple, communicative and agential, told and revealed by more than human agencies". Time is "perpetual" in the sense that it is always becoming, as the seasons turn and weather cycles. This perspective both gifts an expansiveness like a breath of relief in the feeling that there is time to act and a reminder of the human responsibility – the "response-ability" – to listen to the beings with which humans share places and tack action on their behalf. This returns us to the concept of place-responsiveness.

2.3.3 Time and place-responsive education

In a piece about taking an ecological pilgrimage, ecologist and writer Peter Reason (2017) reflects on a solo journey by boat along the Scottish coastline. Based on his experience of what Baker (2005) might see as a "landfull" journey, he presents four different definitions of time that provides a context for those of us locked in a Western or Global North understanding of time – what Reason terms "clock time of everyday life" (p.67). By slowing down, resisting the restlessness of the fast-paced world, and being attentive to his surroundings, Reason speaks of a transition to "Earth time" (p.70), where the sense of time passing is linked to the rhythms of nature – sun, moon, tides, hunger, weather systems. Clock time is woven into Earth time, but it is not the priority. The third time is an "eternal present", which resonates with the "perpetual" time of Poelina *et al.* (2022). This eternal time Reason defines as "those moments when clock time appears to stand still and differences between self and other, inner and outer, disappear... it is as if there is a crack in the cosmic egg through which a different world opens that is nevertheless the same world" (p.71). The third definition is the "deep time" (p.74) appreciated by spending time with mountains, with beings whose becoming is on a greater timescale than humans can easily comprehend. Deep time balances the seeming impermanence of the mountains with the acknowledgement that they are not stationery. This echoes Massey's (2005; p.139)

observations of the spatio-temporal aspects of place; there is no "here and now", as places are not stationary, they and we are always becoming. This recognition of different time phases is seen in Piersol (2014; p.47) where she refers to "shifting into new senses of time" as a result of spending time being attentive to place – what she terms "listening to place". Her participants, by returning to locations, report on the change from feeling time-pressured to being aware of the places they were visiting, sending the "glacial time" of the geological processes that created the land.

These definitions are useful for considering the time needed to come into relationship with a place. Reason talks about the movement of seasons, rather than a day trip. Time is acknowledged as a constraint when designing a place-based – if not -responsive – experience, as discussed in Payne and Wattchow (2009) and the work of Greg Mannion, Ashley Fenwick and Jonathan Lynch (2013). The process of relating to place, place beings and to students' places and stories is held in the practice of attunement (Lynch & Mannion, 2021; p.3). Coming into a caring relationship takes time, but this is at a premium in all levels of education. It is necessary to take a more strategic approach, to borrow a time-related term from Sheail (2018; p.469). This thesis acknowledges the time required for relationship-building and attunement as a challenge, and through the shared stories of the research participants, will propose ways of operating within the constrictive "institution" time and multiple competing priorities of part-time distance students.

2.3.4 Ecohermeneutics and place-responsive research

The ecohermeneutical research methodology employed in this thesis is clearly integrated in Weaver and Snaza's (2017) "science of embeddedness" – a definition of which is included earlier in the chapter. This approach recognises the complex and messy entanglements within which science and education operates. It is slow, and in this I have taken advantage of being a part-time PhD candidate, which is in itself a slow process of becoming. To begin, it is necessary to dig into the concept of ecohermeneutics.

In describing scientific research as an orchestra, conservationist Aldo Leopold (1949) referred to professors/researchers as "select[ing] one instrument [species]... taking it apart and describing its strings and sounding boards. This process of dismemberment is called research. The place for dismemberment is called a university" (p.153). The stark cruelty in the quote from, the "taking apart", destruction and "dismemberment" is presented in contrast to the method shared by scientist and Potawatomi scholar, Robin Wall Kimmerer (2003), though Leopold would himself have been more comfortable with Kimmerer's approach to science. Reflecting on her childhood, Kimmerer notes how the direct scientific question would be seen as disrespectful. Instead, "a good experiment is like a good conversation. Each listener creates an opening for the other's story to be told" (pp.76-77). The scientific research world that Leopold describes – asides from a slight change in gender statistics – has not changed much, though there is a shift starting to occur. This shift is seen in Kimmerer's quote, where her process of coming into a relationship with mosses, of letting them "tell their story", rather than "dismembering" is a different form of research, and one which this thesis speaks to.

> *An eco-hermeneutic curriculum includes moving beyond exclusively print-centred forms of learning in order to develop a deeper understanding of place... eco-hermeneutics seeks to include interpretive experiential learning in this process of inquiry. These investigations include properly learning to tell and interpret stories that are indigenous to the places they live. (Kulnieks, Longboat & Young, 2010; p.17)*

This quote from Kulnieks, Longboat and Young defines an ecohermeneutic curriculum, which brings together theory, experience and the proper use of stories in their places on the land. I will apply an ecohermeneutic methodological approach in this thesis, and that will be introduced in the section that follows. If taking an ecohermeneutical perspective provides an opportunity to recognise and learn from other beings in the places (Kulnieks, Longboat & Young, 2010), is that solely for the benefit of the human being? Explicitly bringing place ecologies into online courses and spaces, together with histories, cultures and politics is necessary to decentre the human. This is the role of political ecology and ontology in retaining or reinventing the communal, relational pluriverse (Escobar, 2017) that recognises the rights and knowledges of all beings and the need for diverse perspectives working together to imagine a just and equitable future. Carrying out that work involves respectful attention to the voices of all the stakeholders, all beings from all places. There has already been research looking at soundscapes of students online (Gallagher, Lamb & Bayne, 2016), so this work takes that further in considering how that connection to the soundscape might facilitate learning from other species in addition to the human at the other end of the call.

2.3.5 Listening as a slow methodology

Earlier in this chapter, the quote from Weaver & Snaza (2017) highlighted the importance of acknowledging participants, of learning to "listen to the world". This respectful approach to data requires a recognition and potentially development of an emotional connection to all beings, given that the participants in scientific work may not solely be human. Recognition of this relational attitude is directly linked to this work and to the ethical approach taken in the methodology and analysis.

The Listening Guide developed by psychologists Lyn Mikel Brown and Carol Gilligan (Brown & Gilligan, 1991) is a qualitative data analysis method primarily for textual data, e.g. interview transcripts, though some use has also been made for video data. Gilligan & Eddy (2017) described it as "both a method and a methodology" (p.80) and it is viewed as a feminist analytical approach and a dialogic, reflexive and intersubjective method (Plumwood, 2002; Reissman, 2008; Puig de la Bellacasa, 2017), which fits my research ethos. Sociologist Catherine Kohler Riessman (2008) defines the Guide as a dialogic or performance approach to narrative research, where the dialogue is evident through multiple voices within the interview; the participant, the researcher, the context, language, construction and, in the case of this thesis, location or place.

The Guide in its original form is divided into the following steps (Gilligan *et al.*, 2006):

1. Listening for the Plot: similar to a thematic analysis, this involves reading the transcript for elements that stand out, an understanding of the location, context and research relationship, and recurring themes across the transcripts.
2. Listening for the I: the interviewee's use of the word "I" is highlighted through the text, together with the four or five words that follow. This is extracted and read as a separate text.
3. Listening for the contrapuntal voice: in conjunction with the I-text described in the previous point, this involves watching for different "voices" used by the interviewee as they answer the questions. The switch between different "voices" and the "I" may present a sense of harmony or discord, depending on the interviewee's perspectives and emotions related to the question.
4. Composing an analysis: Tolman and Head (2021) emphasise the need for a clear presentation (or "composition") of the final analysis from the perspective of the author/researcher. This is the process of bringing together all the elements from the previous steps or listenings, and presenting a final argument based on that holistic view of the analysis.

This psychological approach to research works from the understanding that the researcher cannot know what participants are thinking (Doucet & Mauthner, 2008), so the method was designed to provide a way of gaining a sense of the emotions that underpin the topics being discussed. In this thesis, it allows for a light-touch exploration of the potential emotional connections between place and participants. Furthermore, the adaptations I made to the method as described in this thesis (Chapters 3, 4 and 6) situates the Eco-Listening Guide as an ecohermeneutic method.

> *…the Listening Guide tunes our ear to the multiplicity of voices that speak within and around us, including the voices that speak at the margins and those which in the absences of resonance or response, tend to be held in silence. (Gilligan & Eddy, 2017; p.76)*

The Listening Guide (Gilligan, 2015) is a process of multiple readings or "listenings": listening for the plot, for the voices of participant and researcher, for consonance and dissonance between what is said and the way it is said. Gilligan *et al.* (2006) defined this form of analysis as one that acknowledges different voices. It highlights the importance of research relationships, but the relationship with non-humans[3] is not acknowledged or structured in the Listening Guide's current form. More-than-human participation is limited to the role of location as an element of the plot, i.e. "where did this take place". As a consequence, more-than-human beings may be invisible participants in the research process, a more-than-human perspective on the voices "held in silence" referred to in the quote above. Gilligan (2015) viewed this method as a frame to be adapted to fit the research

[3] The term "non-human" is used in this paragraph to separate human beings from all other beings to illustrate the need for the Eco-Listening Guide. The remainder of the thesis maintains the entanglement of all beings and refers to those situated within a place as "place beings", multispecies, material and matter. The term "more-than-human" refers to this relational, convivial, sensuous world (Abram, 1996; p.x) that includes humans.

aim and questions. Taking up this invitation, I have adapted the Guide with a view to listening for the voice of places both directly via the audio recording, and through the voices and responses of human interview participants.

Applying this form of discursive analysis (Riessman, 2008; Andrews, Tamboukou & Squire, 2013), I propose that the Guide can be used to listen beyond the human participants, as a process of attunement to the world (Lynch & Mannion, 2021; Lewis & Moffett, 2023). In so doing, I am responding to a reservation expressed by Breakwell (1994) regarding Gilligan's focus on the female hidden voice. Breakwell views this subjugation as not gender-specific, I argue that it is also not species-specific. This speaks to the core methodological approach for this thesis in developing and acknowledging the ways researchers listen as an essential foundation of an ecohermeneutical approach. While participation in the context of this thesis is primarily focused on the human response, the open design left space for more-than-human encounters (Lynch & Mannion, 2016). The Guide is a "rhizomatic" form of narrative research (Loots, Coppens & Sermijn, 2013; p.111), where the rhizomatic self has multiple entry points to come into relationship with the multiple versions of self. Loots, Coppens and Sermijn (2013) present the analysis in search of a "multiple, multifaceted individual" (p.112), I extend the dialogue to the multiple, multifaceted ecosystem within which interviewee and interviewer are entangled, and where moments of wonder provide critical entry points for place-aware analysis (Flint, 2022).

2.4 Place-responsive principles of networked learning

> *Pedagogies inspired by posthumanist and new materialist ontologies are situational encounters made up of entanglements and interweavings, conjoint actions and political ecologies, entanglements that are alive, vibrant, and powerful. (Sonu & Snaza, 2016; p.274)*

The field of networked learning influences the understanding a place-responsive postdigital approach to teaching and learning at distance as it centres on the entangled socio-material communality of learning and places (de Laat & Dohn, 2019; Hodgson & McConnell, 2019). I have paraphrased Jaldemark, incorporating Fawns and Ross' "fluidity" (NLEC, 2021) to present a working definition of place-responsive networked learning in relation to this thesis as "a [fluid], boundless, hybrid and postdigital phenomenon embracing the entanglement of [the] cultural, historical, social, spatial, technological and temporal..., and enabling change, agency, and learning, through collaboration and dialogue [with the more-than-human world]" (p.336). The adaptation and inclusion of the more-than-human world decentres the human and reframes the network as a "meshwork" (Ingold, 2011; p.70), a knotted weave of life-strands with each loose thread providing an opening to the entanglement.

The principles of networked learning were proposed by Ponti & Hodgson in 2006 as a guide to a model of management training for staff of small- and medium-sized enterprises. Ponti and Hodgson emphasised the socio-cultural nature of effective action-based learning for their cohort, with collaborative, dialogic and relational learning activities as the core of teaching and learning. These learning principles were reviewed by Hodgson & McConnell in 2019 demonstrating from a socio-material perspective that the principles were inherently postdigital. In a 2020 paper, I argued that the principles also presented a framework for a

place-responsive and sustainable education approach to online learning recognising that place and place-beings are key members of the learning network. The eight principles are outlined in Table 2.1 below, contrasting the original principles (Ponti & Hodgson, 2006), the second iteration (Hodgson & McConnell, 2019) and the place-responsive principles I proposed (Boyd, 2020).

Table 2.1: Place-responsive principles for networked learning from Boyd (2020; p.7) adapted from Hodgson and McConnell (2019) and Ponti and Hodgson (2006).

Original principles (Ponti & Hodgson, 2006; p.3).	**Adapted principles (Hodgson & McConnell, 2019; pp.45-46)**	**Place-responsive principles (Boyd, 2020; p.7)**
1. Our focus is on learning which has a perceived value to the learners.	1: The focus is on learning which has a perceived value to the learners	1: The focus is on learning which has a perceived value to the learners
2. Responsibility for the learning process is shared (between all actors in this process).	2: Responsibility for the learning process should be shared (between all actors in the network)	2: Responsibility for the learning process should be shared (between all beings in the network)
3. Learning is situated and context dependent.	3: Time has to be allowed to build relationships	3: Time has to be allowed to build relationships
4. Time has to be allowed to build relationships.	4: Learning is situated and context dependent	4: Learning is situated and context dependent
5. Learning is better supported in collaborative settings and dialogue plays a major part in the collaborative learning process.	5: Learning is supported by collaborative or group settings	5: Learning is supported by collaborative or group settings
6. Social interaction allows for co-construction of knowledge, which promotes engagement of learners in work based and problem-based learning.	6: Dialogue and social interaction support the co-construction of knowledge, identity and learning	6: Dialogue and social interaction support the co-construction of knowledge, identity and learning
7. The role of the facilitator/animator is essential for collaborative eLearning.	7: Critical reflexivity is an important part of the learning process and knowing	7: Critical reflexivity is an important part of the learning process and knowing
8. Critical reflexivity is an important part of the learning process for evaluating and examining both the learning process itself and the resultant actions taken.	8: The role of the facilitator/animator is important in networked learning	8: The role of the facilitator/animator is important in networked learning

The place-responsive principles were developed by critically considering what role the principles could play in helping educators understand how place-responsive education at a distance might work and what impact it could have on students and their communities. In the article, I aligned the principles with examples from this thesis taken from the interview with John Jeffrey. John Jeffrey had described courses they ran on conservation and ecosystem health which involved online postgraduate students spending time in a location close to them or connected with a place remote to them through online resources. The examples were extended by including reflections from students on those programmes that indicated that they developed a sense of connection and/or felt a responsibility towards those places through the time spent. We will return to John Jeffrey later in the thesis. For now, Table 2.1 demonstrates that there are limited differences between the original principles proposed by Ponti and Hodgson (2006) and the place-responsive principles I proposed in 2020. Three years later, my view is that the principles still serve a useful role in identifying pedagogical elements/approaches that support effective place-responsive distance learning and teaching practices. The original paper (Boyd, 2020) focused on Wattchow and Brown's (2011) four signposts towards a place-responsive pedagogy (p.182) listed below:

- Being present in and with a place
- The power of place-based stories and narratives
- Apprenticing ourselves to outdoor places
- The representation of place experiences

Both the principles, and Wattchow and Brown's signposts are intended as guides rather than being "prescriptive or formulaic" (p.198). The goal is to provide direction in designing pedagogical practices that work with the curriculum as a "lived process" (Stewart, 2015; p.1172) and curriculum making as a "process of living in the world" (Ross & Mannion, 2012; p.305). An ecohermeneutical approach is integral to this living learning process within an entangled learning ecosystem. This onto-epistemological lived learning praxis invites an affective, creative, embodied curiosity (Iared, de Oliveira & Payne, 2016), which responds to the gap that exists between Western theories and the transformational relational ontologies of the world (Escobar, 2017; p.68). Finding ways to bridge that gap between Western epistemologies and previously disregarded ontologies is central to the development of an affective place-responsive education that may help students and staff to "think new thoughts" in response to the challenges faced.

The principles have been amended through the findings of this thesis with recognition of the aesthetic and affective lenses through which a connected kinship with all beings can be developed (Lumber, Richardson & Sheffield, 2017). This recognition of the entanglement of place, person and other beings is central to a place-responsive approach, the reason I was drawn to the principles to begin with. At this point, it is useful to consider the strengths and weaknesses of the principles in their current form. This will encapsulate the challenges, problems and observations related to these principles as first steps in understanding and theorising place-responsive education at a distance.

Principle 1 states that the focus is on learning which has a perceived value to the learners, but that fails to consider the value to places and place beings. “Value” is a problematic term associated with a potentially colonial and/or consumerist approach that may contribute to the place problems discussed in Section 2.1 and with reference to recent research on place-responsive education (e.g. Stewart, 2020). The term “meaning” has been used in this thesis rather than “value”, while recognising that “meaning” is itself a complex term (Payne, 2010) that raises the question of meaning for whom. Instead of adopting an individualist perspective, a communal perspective may reframe this principle, seeking learning that contributes to the community of which the learner is a member and for the benefit of all (Escobar, 2017). By adopting a communal perspective, this first principle becomes more strongly aligned with principle 2.

Principle 2 recognises that responsibility for the learning process should be shared between all beings in the network. This transitions the learning perspective from the first principle centred on the individual to the learning ecosystem. Respect and reciprocity are necessary partners to a relational responsibility (Wilson, 2008; Wemigwans, 2018; Meighan, 2022) as part of a living research ethics that is adaptable to the situation and all relations (Tuck & McKenzie, 2015; Sonu & Snaza, 2016). This is a complex principle to address in practice, as the weight of responsibility may primarily fall on the humans if operating from a living ethics ethos, as human actions may have the greater impact on place and place beings. The goal is therefore to develop awareness of potential impacts, to minimise or remove these as much as possible. The degrowth framing of this research takes this view in considering ways in which teaching and learning about conservation can be carried out in a way that supports local ecosystems while facilitating global relationships or kin-making (Haraway, 2016), care and support through learning networks. Also related to shared responsibility is the structure and support of place-based activities at a distance. A standard approach in designing outdoor activities involves the educator spending time in the location prior to visiting with students. This allows time for the educator to familiarise themselves with the location, prepare teaching plans and complete the requisite risk assessments. When students are engaged in place-based activities local to them, but not to the teaching team, the responsibility of assessing risk and ensuring safety may be shared between students and staff. This responsibility is central to supporting all students and the process of sharing responsibility is familiar to those supporting postgraduate students studying online and at distance. In these circumstances, the student holds the knowledge of risks and challenges they may face and the educator provides advice and guidance to assist in minimising risks.

Principle 3, time, is difficult to position as an item on what may be viewed as a prioritised list. This principle acknowledges that time has to be allowed to build relationships. This principle was repositioned when Hodgson and McConnell (2019) revised Ponti and Hodgson’s (2006) principles, and I questioned its position as the third principle in Boyd (2020). In this research, it is an overarching theme that I argue should be factored into place-responsive course and activity design. Without adequate time, the process of coming into relationship with place risks becoming rushed or dismissed as too complex to the detriment of the effective care of places and beings. Postgraduate students and staff are time poor

(Selwyn, 2011a,b) and the process of building any kind of respectful relationship takes time, so it is necessary to think creatively about how to incorporate "care time" (Puig de la Bellacasa, 2017; p.201). The process of active listening (Haskell, 2022), of giving attention to another being, is a mark of respect and facilitates relation-building. It is a slow process and as a result, may overlooked or restricted in project- and teaching design.

Central to this thesis, principle 4 accepts that learning is situated and context dependent. That raises the question of what context this is dependent on, returning to the problematic issues of value and ownership in terms of place and stories. Critically questioning these aspects is central to place-responsive education, to come into a respectful relationship with the place, cultures and histories enmeshed in places without causing further harm (Cameron, 2002; Payne & Wattchow, 2009; Wattchow & Brown, 2011; Stewart, 2020). In seeking to understand place-responsive education at a distance and the impact on students, this thesis proposes moving beyond the place-responsive signposts to extend place apprenticeship (Wattchow & Brown, 2011) into an ecohermeneutic curriculum (Kulnieks, Longboat & Young, 2010, summarised below by Derby, 2015; p.112), as one which.

- Cultivates awareness of place, history and culture through storytelling;
- Acknowledges the value of oral traditions and intergenerational knowledge;
- Utilizes interpretive and experiential learning in the process of inquiry;
- Incorporates holistic medicines, local foods and ethnobotanical knowledges;
- Analyzes the cultural roots of the ecological crisis vis-à-vis an ecojustice framework.

The SHEEEPS model (Hensley, 2016) that was adapted to structure this literature review chapter is a useful pedagogical approach to build on, as it requires staff and students to consider the Social, Historical, Economic, Ecological, Ethical, Political and Scientific perspectives of place-based activities. To that model, I have added the cultural and spiritual perspectives integral to an understanding of place, though I have not adjusted the acronym as it playfully resonates with the sheep-related topics in the thesis. Application of models such as Hensley's may help to engage students' embodied meaning-making in their distance studies. Compassionate conservation (Propen, 2018) is built on a relational network of beings, requiring knowledge of place and species history, compassion for beings and a critical awareness of the complex social, historical, economic, ecological, ethical and political influences on conservation scientists, so the application of pedagogical practices that develop that knowledge is paramount coupled with the ability to connect with and communicate with a diverse range of stakeholders.

Principle 5 states that learning is supported by collaborative or group settings. This was supported by the observations of the student assessment group and interview participants, where group work was seen as an effective method for engaging and building a sense of community. However, both the student assessment group and the interview participants noted how learning can also be negatively impacted by poor group cohesion and a lack of peer support and/or teacher guidance. These observations are supported in the literature (Delahunty, Verenikina & Jones, 2014). Discussions on online groupwork also relate to the theme of time, where a slower process of building relationships is important, rather than a

time-zone lottery employed to assign students to groups or short-life groups seeking to drive collaborative taskwork over a five- or ten-week course. The focus in these short-life groups may also be on collaboration within the student and staff group on the course to achieve limited outcomes, looking inward to the University, rather than out to the students' learning ecosystems. These weighty considerations will be explored in more detail later. For the purposes of this brief critique and working from the position that "Conservation follows connection" (Sepie, 2017; p.103), the process of ecohermeneutic place-apprenticeship invites curiosity and openness to unexpected moments of wonder (Piersol, 2014) and also being open to collaboration with local communities and place teachers (Blenkinsop & Piersol, 2013). This process of collaboration links to the next principle of dialogue and social interaction.

Good collaboration recognises that dialogue and social interaction may support the co-construction of knowledge, identity and learning, as stated in principle 6. This principle incorporates much of what has been covered before, such as place-storytelling, shared responsibilities and respect, and time to build relationships and trust. Multi- and inter-disciplinary communication is an essential skill for students studying conservation-related topics, as they will be expected to be able to engage with a wide range of stakeholders (e.g. Schurer *et al.*, 2015; Propen, 2018; McCune *et al.*, 2021; 2023). As briefly touched on in the previous principle, there is the question of with whom students are in dialogue, and the importance of remaining open to serendipitous encounters as potential learning experiences (Lynch & Mannion, 2016). By this point, it is also becoming clear that the principles are entangled rather than separate steps in a recipe to achieve place-responsiveness at a distance, as this paragraph adds to the previous discussions on collaboration and communication.

This critique of the principles is itself a demonstration of reflection in action, aligned with principle 7 where critical reflexivity is an important part of the learning process and knowing. The form of reflection is important with an increased sense of connection to other beings seen when approaching tasks with an open curiosity or self-reflective state versus an anxious, ruminative state (Richardson & Sheffield, 2015). This is awareness of emotional influence on reflection is critical in the design of activities aimed to support connection with place and place beings. If students feel the pressure to present an ideal reflection, e.g. for high-stakes assessments (Ross, 2014) this may impact the type of reflection and consequently, the type of connection to place. Beyond critical reflection lies critical diffractivity, employing approaches that assist in finding a way to perceive the world differently, which is an important skill for entangled scientists (Barad, 2007; Bozalek & Zembylas, 2018a) and as part of a transformative sustainability education praxis (Lange, 2023). The Eco-Listening Guide method proposed in this thesis may serve to facilitate that diffractive lens (Chapter 6).

This becoming-with process of relating, collaborating and reflecting is structured, designed and supported by the teaching team. This leads to principle 8, where the role of the facilitator/animator is important in networked learning. A postdigital recognition of the enmeshed learning ecosystem of every student recognises that the facilitator or animator may not solely be the member of staff who is teaching the course, it may be peers on the

course, friends, family, colleagues. From a place-responsive perspective, if the student is an apprentice to place, then the place and place beings may be knowledge holders; the educator and students are not "the sole agents of curriculum making" (Mannion, Fenwick & Lynch, 2013; p.805). This returns to fostering an open curiosity that allows for teachers that are more-than-human (Kulnieks, Longboat & Young, 2010).

2.5 Navigating place-responsive approaches in higher education institutions

The complex practices of value-driven growth economics that threaten places, such as marketisation, commodification and exploitation, also threaten education. Facer (2023) describes the difficulty in moving beyond the current fixed positions in the debate between those seeking transformation for a socially just and sustainable future and those holding on to "business-as-usual". She presents "three interconnected moments of negation, imagination and organisation; or... 'the no, the yes and the how' of popular education as a force for social transition" (p.66). For successful transformation, Facer emphasises, it is not enough to have one or two of these elements, all three in collaboration are needed. This section employs Facer's three "moments" as a framework to present the issues impacting higher education and signpost where this thesis negated, imagined and organised with a view of a different future. This will start with a critical outline of key pressures on higher education (e.g. globalisation, neoliberal politics) to position the "no", or the areas being negated. This will lead to an overview of the "yes", including examples that demonstrate what a possible imagined future could entail. It will culminate with a brief illustration of the contribution of this research to the "how" of organising a different future for higher education.

Complex, interrelated issues are covered and I qualify at this point that this will be a broad overview to provide context for the thesis rather than an in-depth analysis. A brief insight into the economic and political perspectives on place was presented earlier in this chapter (Sections 2.1.4-5), which touched on neoliberal policies and ideologies. The pressures on researchers were also discussed in the grant- and impact-driven, fast-paced "publish or perish" culture (Section 2.3.1). I also briefly refer to the problematic issues with digital technologies (Section 2.3). These perspectives, issues and pressures are integrated with those that follow.

2.5.1 The "no": globalisation, marketisation and commodification

This thesis develops and explores methods to connect people and places at distance. Without critical attention to the systems, politics and powers involved, that connecting can be critiqued as a potentially reductive and colonising praxis, seeking to impose a "neo-imperial monoculture" (Marginson, 2022; p.512) through commercial tools and systems owned by multinational corporations driven by global markets and the Global North hegemony.

Higher education in the Global North has been under pressure due to public funding stagnation since 2008 and increasing costs (Lachapelle *et al*., 2024). The reduction in public funding has led to increased reliance on corporate and private funding, resulting in a similar situation of conforming in so-called "wealthy" economies (e.g. Lachapelle *et al*.) as reported in low- and middle-income countries (Maharajan *et al*., 2024). Lachapelle *et al*. describe the

process of conforming to funders' policies as a culture of "academic capture... with academics focused more on keeping their jobs than doing their jobs" (p.40). Funding and political challenges are demonstrated in Maharajan *et al*. (2024) using the example of support for scientific research and higher education in Nepal, a small economy with limited resources. Maharajan *et al*. present the pressures to "conform to the expectations" (p.1) to secure funding from other countries, coupled with bureaucratic barriers that have made local funding and support uncertain. In the face of this uncertainty, international grant-funding bodies are often unwilling to support applications if the project lead is based in Nepal or countries with similar economic limitations. In addition, they observe that funding bodies do "little to prevent 'helicopter research'" (p.2), where researchers from more advanced economies are funded to carry out research in Nepal, rather than the local research teams who have a stronger place-knowledge. This supports the challenge of Global North/Eurocentric research as a colonising process, and positions Global South and Indigenous knowledge as a deficit model. Both examples also support Simon Marginson's observations about drivers of global science which combine the "flat open networked relations with... inequalities and closures shaped by global hegemony, arbitrarily modified by... national governments and specific resources" (Marginson, 2021; p.1566).

To minimise research travel and Global North "transient researchers" (Marker, 2018; p.6), this thesis considers methods of communicating and connecting at a distance which involve the use of digital technologies as part of an open, collaborative research network. Earlier in this chapter (Section 2.3), I briefly noted that the production and use of digital technologies is problematic. It is necessary to foreground the socio-material impacts, injustices and damage to people and places due to unchecked consumer-driven extraction and production (Puig de la Bellacasa, 2017). In considering technological impacts, Saetra (2023a) provides a "stacked" framework (p.15) incorporating the technology and the materials as a way of determining the potential impacts "downstream" of the production process for the item and to consider the impacts of any changes to that system. The stack includes all aspects from the extraction, mining and production of the base components through to the subsystems and platforms. Both Saetra and Puig de la Bellacasa note the social impacts of the technologies in terms of exploitation in supply chains and the environmental impacts in the extraction, refinement and energy consumption of technologies that rely on the fossil-fuel industry. Any change in technologies, Saetra notes, may have micro- (individual), meso- (local) and macro-level (e.g. national and/or global) impacts, making it difficult to implement widespread change in systems of production and ownership.

In addition to the social and environmental impacts of the production of digital technologies and associated infrastructure, the process of digitalisation of knowledge also has a global impact. Komljenovic (2022) notes the relationship between higher education and for-profit educational technology (EdTech) companies is at the centre of a global education market that assetises and monetises higher education. Note the framing of knowledge products as assets rather than commodities: an asset can be "rented", e.g. through subscription, generating a continuous source of income, as opposed to a commodity (item or service) which is purchased through a one-time fee. Asset prices are also dynamic,

so can be adapted over time depending on the asset owner's objectives in providing that resource. Returning to Lachapelle *et al.*'s (2024) observation about stagnant funding, Komljenovic notes how university leaders are under pressure to identify new income streams (p.121), with assetisation providing a potential funding source. Institutions also pay rent to private companies through subscription to services and platforms, such as journal databases and virtual learning environments. Coupled with the subscription as a visible monetary rent is the less obvious data "rent", where users of the services and platforms leave a data trail. In discussing the digitisation and marketisation of higher education, Czerniewicz *et al*. (2023) highlight the pressures on academics to contribute "third-stream" income (p.1303), such that business activities become part of the extended role of an academic. This brings us back to the discussion at the start of this section, adding further complexity to the ability to do "the job", where achieving success as an academic requires conforming to funders' policies (Lachapelle *et al*., 2024) and acting as a "profit-maker" (Czerniewicz *et al*., 2023; p.1304).

In discussing higher education policy in England, Alves and Tomlinson (2021) describe the "inter-related forces of marketization, massification and employability" (p.181). Institutions are marketing their knowledge "products" seeking returns in the form of student and grant income, and higher global rankings. Massification of higher education is seen in the growth of international student numbers studying in Global North institutions, coupled with an increase in "international branch campuses" (Mittelmeier & Yang, 2022; p.76) and "internationalisation at a distance" (p.77) through online learning extending the reach of institutions across national boundaries. The marketisation of education carries an additional impact in "student as consumer" (Alves & Tomlinson, 2021; Swanson, 2022) where students are taught by the capitalist system to treat education as an "investment" (Swanson; p.309). Cost is pushed onto the student through fees and student loans; the corporate lesson is to expect a return on that investment to achieve value for money. Swanson contrasts the more corporate aspect of higher education in the United States with the government-run higher education institutions in Denmark. Where the involvement of the government in funding education for Danish students might suggest Danish institutions are less like the "economic enterprises" that Alves and Tomlinson (2021; p.177) describe, the situation is more complex. Key performance indicators related to speed of programme completion and successful employment impact programme funding and staffing levels in Danish institutions, increasing the sense of precarity and need to conform. Envisioning a future for higher education that negates the neoliberal challenges outlined here requires imagination and determination in the face of pressures to conform to "business-as-usual". The next section explores how this might look.

2.5.2 The "yes": imagination, commonification and environmental justice

Tilbury (2013) notes the paradox of the key role of higher education in the development of a more sustainable future, while being the source of much that is unsustainable through exploitation of local communities in the name of research, privileging a Global North or Eurocentric knowledge culture, and adopting economic growth models. What is required, Tilbury states, is a "reboot" (p.71) of higher education; to be transformative, higher education must be transformed. This section will tease apart some of the strengths and

potentials of higher education, and in some cases, employ imagination to consider what the future might be.

The Earth Commission has proposed a set of "earth system boundaries (ESBs)" (Gupta *et al*., 2023; p.630) to ensure a safe and just future for all. These ESBs go beyond the broader planetary boundaries such as climate targets, as they should "reduce harm while not adding additional inequities" (p.634) for all beings. These targets align with the concept of Earth System Justice, defined as "an equitable sharing of nature's benefits, risks and related responsibilities... to provide universal life support" (p.632). Gupta et al. acknowledge that achieving a safe and just future will require changes, and this process of transformation will be challenging, given that it pushes against the capitalist, neoliberal growth-as-success agenda. The concept of "degrowth" fits within this radical model, when applying the framing of "equitable sharing", reducing harm and inequities.

Growth as a profit-making exercise, as seen in the process of massification, is unlikely to fit within the ESBs, but growth in terms of securing access to open education for all, such as seen with popular education practices (Facer, 2023), would fit. Rather than viewing degrowth as a deficit or loss model, as part of a transgressive, transformative model, it could be viewed more accurately as a process of determining *if* growth is needed (Saetra, 2023b) and if so, by whom and for what purpose. Saetra clarifies that a degrowth perspective on digital technologies would not mean a no-tech future; instead, it would be a careful consideration of what was needed and what would best meet that need, or EdTech "within limits" (Selwyn, 2021; p.469). The matrix of convivial technology (Vetter, 2018) was designed with this in mind, a schema to help select the correct technology for a given task with the minimum impact, to determine what is "feasible, viable, appropriate and convivial" (Kerschner *et al*., 2018).

Keeping those concepts in mind is necessary when considering the possible future this thesis says "yes" to. In his investigation of global higher education, Marginson (2022) highlights that the fastest growth area in global science – from a positive perspective – is through a "periphery to periphery" network (p.499), bypassing the traditionally Global North gatekeepers. The use of online forms of connection and collaboration are helpful as part of this networking practice, but inequalities of access and resource must be addressed for a safe and just future. There is potential for transformation if all participants see "higher education as a relational space held together by communal values, including respect for diversity" (p.501). The challenge of globalisation was discussed above and while internationalisation and globalisation are interrelated, Jones *et al*. (2021) present internationalisation practices as part of higher education's "global social responsibility" (p.332). They acknowledge the neoliberal, colonising, capitalist models, and propose that the reason these models have taken precedence *may be* due to the "lack of an overarching institutional strategy for third mission activities" (*ibid*.). The cautious tone is noted, with Jones *et al*. presenting socially-just internationalisation work as an area that has received limited attention in educational research. The goal is reframing internationalisation from the market-centred reputational badge to a "tool to create a better world through the development of responsible global citizens" (p.336). This reframing fits with imagining a transformed higher education; however, the focus is on strategic institutional change with

limited consideration of the influence of government and other stakeholders (Lee & Stensaker, 2021), e.g. EdTech companies. While holding a critical stance on complexity, challenges and constraints, this thesis incorporates some of the ways Jones *et al*. proposed for achieving "Internationalisation of Higher Education for Society", in inviting participation of local communities and providing opportunities for students to work in their local communities, focusing on reciprocal relationships and investigating online approaches.

Returning to the technology issues discussed in the previous section, Komljenovic (2022) calls for a public debate on education technology and processes of digitalisation (p.131). She discusses a range of digitalisation practices, noting those that do not readily fit the monetization model though do carry a cost to the institution. This suggests there is potential in the dynamics between higher education institutions, open source and state agencies that may present the kinds of transparent collaboration and participation options that Lachapelle *et al*. (2024) identify as central to creating the kind of accessible public-good-serving higher education that is needed to address super-complex global problems such as climate change. Facer (2023) sees this future as needing the input and collaboration of three social institutions, with charities and "green corporations" (p.70) working with broadcasters and universities. Together, she notes, these three already have the resources to deliver sustainably and at scale, though as noted, higher education has work to do to address problematic power issues and broadcast media has even further to go to restore public trust (McCann, 2023).

Incorporated with the future of higher education, learning and research, ecofeminist Di Chiro (2019) speaks to the need for care not growth, working towards an ESB-aligned subsistence economy incorporating key themes of caring and reciprocity. A care-centred approach resists the "green economy" market-driven, neoliberal "quick fix". This is supported in reflecting on how institutional changes can come about through the merging of care and care ethics (Bremer & Johnson, 2023). Incorporating commoning approaches and collective governance as seen in the Global South is a key strategy in transforming education (Jones *et al*., 2022; Lange, 2023). As examples of positive practices incorporating care, Maharajan *et al*. (2024) describe how a small group of Nepalese researchers studied overseas, built collaborations with Global North institutions and then returned to set up research centres. They emphasise how this valuable process of building local research, development and education in small economies requires support from the international community through a supportive global network. Central to that is addressing the neoliberal policies that Maharajan *et al*. note focus on research as generating wealth, rather than "providing for those with enthusiasm and scientific curiosity a space to learn, explore and innovate" (p.2). The One Health FIELD Network (2024) is a transdisciplinary research group including farmers in Syria and northern Turkey, local researchers and displaced researchers working collaboratively on projects related to food security in conflict-affected areas. The aim of the group is to build "self-sustaining networks" between local and global groups working towards food security for the benefit of local livelihoods in fragile spaces. This research is built on long-term relationships and a sense of family as noted by Alves and Tomlinson (2021) with respect to Portuguese higher education institution-student relationships. Enthusiasm and curiosity is embodied in recognising the key intergenerational

agricultural knowledge held in traditional harvesting songs. Trust and connection were required, together with researchers open to learning from local experts and to understand how knowledge can be held differently. These elements are core to ecohermeneutical research in learning from oral traditions (Kulnieks, Longboat & Young, 2016), an approach fostered in this thesis. Returning to the global science drivers (Marginson, 2021), these are promising examples of a pan-national network of scientific research support that seek to incorporate cultural and linguistic diversity; however, they are still led or facilitated by Global North "world-class universities" (p.1580) and reporting to funding bodies.

Ecohermeneutics and place-responsive educational practices involving attending respectfully to place and all beings is central to this research. While this chapter has discussed the potential for those practices and the early indications of its benefits in the examples introduced above, it is necessary to acknowledge the resistance within the neoliberal, neocolonial culture of higher education (Mittelmeier & Yang, 2022). Swanson (2022) emphasises the importance of slow, field-based activities similar to the place-responsive activities introduced in thesis. These are the type of skills that are needed tackling the super-complex wicked problems in an uncertain future, but they take time to develop for both students and teachers. As such, not all activities will appear to be a success, but the failures are part of transforming learning-to-learn and learning-to-teach in higher education. Her research indicated that students perceived these field-based learning activities as unnecessary distractions from developing more marketable skills in quantitative research. While she notes that she "conformed" to the institutional and student demands by removing the activities, she makes a plea to educators to experiment with these approaches. From the veterinary and animal science perspective, slow skills in attending to place are particularly important when considering the negative impacts Swanson notes on ecosystems as a result of "quick-fix" conservation approaches made by "helicopter" scientists. Developing place-responsive skills then comes full circle as core attributes to achieve the Earth Commission's proposed targets to reduce harm and inequities.

2.5.3 The "how": curiosity, collaboration and experimentation

The transformation of higher education is a super-complex or "wicked" problem with many competing challenges (Scoffham, 2023), and while there have been repeated calls for a "paradigm shift" (p.94), there is limited surface indication that this is happening. Facer (2023) notes that the key to transformation is providing opportunities to contribute to the debate and discussion. This thesis incorporates participatory and creative practices to demonstrate how students and staff can contribute in a similar way to the small group discussions and "grassroots" activities that Scoffham reports on from Canterbury Christ Church University and the socially-just internationalisation actions proposed by Jones *et al*. (2022) for institutional leaders, teachers and researchers.

This thesis also employs speculative methods to envision a research future in a higher education post-transformation where local spaces for curiosity and enthusiasm for learning are fostered. It builds on the higher education "mandate to serve the public good" (Lachapelle *et al*., 2024; p.39). The proposed methods focus on small-scale changes that collectively may inspire and contribute as part of the reboot. Furthermore, by employing methods to listen and attend to the more-than-human entangled lifeworlds of students and

staff, the importance of curiosity and imagination as part of care-full teaching, learning and research are highlighted. These are the types of slow, field-based techniques that Swanson (2022) calls for experimentation with. The “how” is built on convivial collaboration and communication. In the context of this research, that centres on how higher education institutions can support local research groups, reducing “helicopter research” activities and building long-term relationships for the benefit of all members of the research ecosystem and planetary biosphere. Finally, imagination is central to the speculative fiction method employed in this thesis as a way of envisioning a future for a higher education that opens up to the world, providing a way to connect and attune to the different places, contexts and beings – “to glimpse globeness in all its technological and political complexity” (Bayne *et al*., 2020; p.161) and work with that complexity to build a safe and just future.

2.6 Summary

At the start of this chapter, I stated that while I would primarily focus on the importance of place to human beings, the work should also serve as a reminder that places are important to all beings. Bearing that in mind, the question is how are online places important for beings other than human? I believe the answer to that lies in the relational, response-able approach fostered by digital place-responsive pedagogies. This thesis will theorise that developing an attentive listening practice, a process of attunement-at-distance, is a core skill that opens postgraduate online student learning and teaching to the more-than-human world. This openness and curiosity is needed to foster the collaborative work required in the face of uncertainty, crises and emergencies (Tauritz, 2016). If we are “human only in contact, and conviviality, with what is not human” (Abram, 1996; p.ix), it is essential to find ways of making and maintaining that contact.

This chapter presented a review of the foundational research for this thesis, a selection of the research stories that I have collected in the crane bag of my thesis. It highlights the key ideas and publications that sit in consonant, resonant and dissonant communication with my work. The literature landscape has shifted during the time I have been carrying out this research. The increase in papers over the last three years that speak to these topics suggests this work is timely and is responding to a specific space in the research across the disciplines outlined below. This requires a brief return to educational discipline adjectives that separate the research areas before returning to the holistic education view for the remainder of the thesis.

This thesis will address gaps highlighted by research in the following disciplines:

Science and clinical education: the current approaches to teaching science and clinical education is primarily outcomes-focused (Fawns *et al.*, 2021) and a willingness to be more open and creative is required, particularly in dealing with uncertainty. In contrast to the dominant visual focus, this work explores creative approaches to listening as a way to engage differently with the world in response to a gap identified by Weaver and Snaza (2017) and Haskell (2022). There is also a need for new methods of research place communication and the impact of "transient researchers" (Marker, 2018) that reduces the reliance on global air travel (Le Quéré *et al.*, 2015) as an active response to the climate emergency. Marker (2019) also questions how Indigenous research has informed Global

North scientific practices, and this thesis is a response to that question through engaging with Indigenous knowledge and practices. Research on postgraduate veterinary clinical education has focused on the diplomas required for specialist status (Romagnoli, 2010), new graduate transitions (Favier *et al.*, 2021) and broad considerations related to professional development accreditation (Chiavaroli, *et al.*, 2023). Research on professional and postgraduate paraveterinary training related to One Health (Fechter-Leggett *et al.*, 2011) aligns with the focus of this thesis on postgraduate education for animal and veterinary scientists. In addition, Fechter-Leggett *et al.* highlighted a need for research that takes a long-term view of impacts on both human and animal health and while not explicitly phrased in the paper as such, emphasised social justice education and slow research. The limited research focused on postgraduate veterinary education indicates a space for this work.

Outdoor and environmental education: In 2015, Greenwood and Hougham highlighted the need for activities that connected “the field, the web, distant places, and the classroom" (p.111). A move to engaging with outdoor education online began prior to the Covid-19 pandemic in early 2020. Smith *et al.* (2016) note that their experience in this area did not indicate that connection to place could be achieved "in authentic or meaningful ways" (p.311). The Covid lockdown instigated a rapid move to online for previously field-based activities. Hoke *et al.* (2020) explored activities including virtual worlds and student/staff sharing of place artifacts to develop a "sense of place" which would be explicitly recorded as a learning outcome implying cognitive capture. This problematic and potentially colonial view of place-based activities (Payne, 2012) is in contrast to Chik *et al.* (2023) who invite further research related to affective engagement with place and the impact of "chance encounters". As a prime example of creative innovation in response to lockdown, Nessler, Schaper and Tipold (2021) piloted an undergraduate veterinary clinical neurology training activity based on mobile game-based geocaching in Hamburg. The study contrasted students engaging with the cases indoors and outdoors, with grades on the outdoor cases being significantly higher. This thesis responds to the gaps identified by Chik *et al.* by considering openings for chance encounters at distance and to Greenwood and Hougham (2015) and Smith *et al.* (2016) by operating from the postdigital classroom of relational, entwined places. It also responds to the inspiration from Nessler, Schaper and Tipold (2021) in engaging with creative approaches to learning outdoors and online.

Digital and postdigital education: as discussed in the introduction, ecopedagogies are a key area for development within postdigital research and pedagogies (Jandrić and Ford, 2022). This thesis employs ecohermeneutical approaches within that ecopedagogical space. Digital education for veterinary medicine has concentrated on resources for undergraduate clinical training, including three-dimensional models, augmented and virtual reality (Boyd, Clarkson & Mather, 2015; Salazar & Miglino, 2022; Velásquez, da Silva & Miglino, 2022) online cases (Reeh *et al.*, 2022) and virtual simulators (Seguino *et al.*, 2014). The lack of research in the veterinary medical education literature related to postgraduate taught education beyond continuing professional development seminars and open education resources (Salazar & Miglino, 2022) indicates a need for proactive discussion and dissemination of research in this area. In the field of veterinary conservation medicine, there

is evidence of narrative methods and digital storytelling in place-based engagement with local citizens (Skogen, Mauz & Krange, 2009; Schurer *et al.*, 2015; Fine, 2022; Brosnahan, 2023), though the focus is on human stakeholders. Significantly, Chua *et al.* (2020) demonstrated transdisciplinary research that connected local citizen knowledge and input, remote citizen scientists, a global network of researchers to minimise the negative impacts on the environment and design socially-just conservation measures to benefit all members of the ecosystem. This recent work, together with the work of Propen (2018), advocates for a new research area for development related to postdigital ecohermeneutic postgraduate education for veterinary and animal scientists.

To achieve the goal of addressing the gaps outlined above, this thesis will extend the approaches outlined in the following research areas into postdigital distance education for animal and veterinary sciences within a transformational sustainability education model (Lange, 2023):

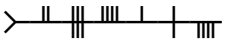
Affective, aesthetic and play place-based pedagogies: by employing ecohermeneutical approaches to listen and engage with place and place beings and speculative fiction to consider the future as might be, this thesis demonstrates a selection of approaches that can invite creative, affective, relational research (Blenkinsop & Piersol, 2013; Iared, de Oliveira & Payne, 2016; Sepie, 2017). The risky, uncertain, super-complex problems such as the climate emergencies and biodiversity collapse require imaginative and innovative responses as engendered by the creative pedagogies outlined above. Separate to this thesis, I have been involved in research related to this including the educational development and support of teachers teaching students about the collective actions required to tackle wicked problems (McCune *et al.*, 2021; 2023). Dealing with wicked supercomplex problems relies on teachers being able to hold the disciplinary non-place or boundary-land between disciplines. This thesis operates in that boundary land and proposes aesthetic practices that may encourage more creative approaches to problem-solving and collaborative communication.

Indigenous knowledge and approaches: the creative, holistic approaches needed for a new approach to teaching in the sciences are informed by Indigenous and Global South research (Blenkinsop & Piersol, 2013; Iared, de Oliveira & Payne, 2016; Sepie, 2017, Escobar, 2017; Freire, 2021; Jandrić & Ford, 2022; Lange, 2023). This thesis respectfully learns from and applies practices of listening with and learning from place beings as a way of connecting or reconnecting with the land and land histories (Kulnieks, Longboat & Young, 2010; 2016; Tuck & McKenzie, 2015).

As discussed in this chapter, there are many ways of experiencing place online that may lead to a way of relating, knowing and becoming-with. Place is not inherently pedagogical, it is becoming pedagogical (Gough, 2008). This links to Bertling's (2018) exploration of non-place, suggesting non-places can also become pedagogical if their stories and histories are attended to. This chapter has presented key research that speaks to the ways of connecting with place from a perspective of care. Working from this basis, this thesis formulates the view that developing a close relationship with place (a becoming-with) requires time spent engaging with that place, and that connection can be achieved in

different ways. Place can be experienced at distance through connecting with those who have a connection with that place and by being open and curious to learn from different voices and beings. Distance is not a barrier to developing a caring relationship with people as has been demonstrated by extensive research into online and distance education. Distance does not also have to be a barrier to developing a caring relationship with all beings. A planetary place-responsive approach would lead to acting for or on behalf of the places with which people are connected remotely. This relationship-building takes time.

The following chapter outlines the methods employed in the thesis, building on the ethical, relational and respectful approaches introduced in this chapter.



3 ⌖ Research Design and Methodology

This chapter provides an overview of the research design, methodology, design and analysis, linked to the feminist postdigital ecohermeneutic theoretical framework of the thesis. It presents what Pat Thomson (2014) describes as the research "audit trail", describing the design and referring to appendices to illustrate and evidence the process by which the research was carried out.

At the outset of this project, my aim was to understand what place-responsive education at a distance might look like, with a view to being able to theorise what benefits and challenges this pedagogical approach might bring to students at a distance, and more particularly, to students studying veterinary and animal sciences at a postgraduate level. The three broad themes of place, care and time underpin this research design. With these themes in mind, the methodology was framed as an exploration of approaches to connect with places at distance with care for all participants. From the outset, place and care were embedded in the research design. As the thesis advanced, the need to proceed slowly became clear. As a reminder from Section 2.3.1, "slow" in the context of this thesis is taken from an onto-epistemological perspective, slow in doing and being. The methods employed in connecting, interviewing, and analysing adapted to the longer time affordances of a part-time research project, allowing more time to sit in company with the data.

This thesis proposes a new way of listening for the voices of places in research, teaching and learning at a distance. Considering the theoretical framework and design, feminist methodologies of narrative inquiry and analysis are central to this project. Gilligan and Brown's Listening Guide analytical method provides a way to listen for hidden voices (Gilligan *et al.*, 2006) through a process of attentive listening and re-listening for distinct elements through the transcripts. In addition to providing a space to listen to previously hidden or disregarded beings, a feminist approach to narrative inquiry also emphasises care, respect and relationality (Riessman, 2008). These elements are also central to an ecohermeneutic methodology, where the goal for a researcher is to learn to listen to, learn from and become-with the ecosystem with which they are entangled (Kulnieks, Longboat & Young, 2010). This entanglement was discussed in the previous chapter as a key postdigital perspective (Fawns, 2022), recognising that the researcher is not separate from that which is studied, the way in which research is carried out, and the research tools used (Barad, 2007).

This chapter will outline the predominantly qualitative methods by which I came into relationship with the project and participants and sought the "visible form" to respectfully share those relationships. It outlines the methodology from the initial design through to analysis and review. Shawn Wilson (2008; p.127) writes that in his research, he "used that which [he] set out to discover in the process of making that discovery". As I developed and used the Listening Guide methodology, I observed that it could both reveal effects of place-responsive education and provide a methodology for place-responsive research. Wilson gives the reminder that "[k]nowledge cannot be owned or discovered... it is a set of relationships that may be given a visible form" (p.127), which echoes Springgay and Truman's (2018) description of "methods as a becoming entangled in relations" (p.204).

The chapter is divided into seven sections exploring the conceptual framework, why particular approaches were taken, how the research was conducted, and what that afforded in terms of answering the research questions. The first section discusses the conceptual framework of the thesis. The second section outlines the research phases, providing a timeline for the activities. The third section focuses on participant recruitment and selection, including ethical approval. The fourth section describes the research design and methods employed in the thesis. This leads to the fifth section on analysis which includes the Eco-Listening Guide. The affordances of the research approaches are discussed in the sixth section. Finally, the seventh section introduces the structure of the chapters to follow, explaining how the research design and analysis were integrated to present the findings.

3.1 Conceptual framework

This thesis operates from a feminist, postdigital, ecohermeneutical, onto-epistemological position as stated in the Introduction (Section 1.5). Each element of this position will be briefly considered here to situate the methodology and research that follows.

Ecohermeneutics provides the conceptual frame for the thesis. Ecohermeneutics is a helpful concept as it can act as an umbrella term to draw together the various epistemological and methodological threads presented. It is a holistic view of a world that includes human, and in the case of methods, human-researcher, as part of an entangled lifeworld (Barad, 2007) that is becoming-with and emerging through relational experiences. An ecohermeneutical pedagogical praxis involves attentive learning from the stories of all beings. It challenges the dominance of the written word as the primary source of knowledge, re-integrating oral knowledges (Kulnieks, Longboat & Young, 2016). This attention prioritises the voices that may have been hidden due to inequalities related to gender, race, species or matter. In this, it is an application of epistemic justice (Gupta *et al*., 2023; p.632) in respectfully learning from cultural and Indigenous knowledges that are often blocked or considered a deficit mode of knowledge transmission. Ecohermeneutics therefore incorporates the feminist working-with more-than-human and oral knowledges, balancing the primacy given to text over oral knowledges that can exclude the voices of those outside the Global North "academy". The importance of aesthetics in place-connection was discussed in Section 2.1.3 and this is a further aspect of ecohermeneutics. Emotion and embodiment (soma) and environmental action or care (eco) constitute the eco-soma-aesthetic environmental education approaches of curiosity, creativity and attention (Iared, de Oliviera & Payne, 2016) to assist in better understanding more-than-human relations.

Some of this terminology requires further explanation – more-than-human, entanglements, and theoretical frameworks of new materialism and sociomateriality. As discussed in the Introduction, the term "more-than-human" was coined by David Abram (1996) to refer to a relational, convivial, sensuous world that includes humans. Abram foregrounds the connection between all beings, moving beyond the false human/non-human binary to present an integrated perspective of the world of which humans are part. Jukes and Lynch (2023) place the emphasis on the "more-than" aspect of the phrase, noting that humans are embedded in a world of much *more-than* humans. The approach taken in this thesis works with that sense of "more-than", challenging the reductive view of

participants as “data” that is more familiar in scientific literature (Weaver & Snaza, 2017). This challenge of explicit acknowledgement of the human as part of a world that is “more-than-human” takes a sociomaterial perspective to remove the false binaries of sentient/non-sentient, living/non-living in addition to the human/non-human. This aligns with the work of Karen Barad (2007) in operating from a perspective where human researchers are part of the more-than-human phenomena where “matter matters”, not solely those beings that are perceived as having value for the research. She defines “entanglements” as “not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-contained existence” (p.ix). Beings come into existence through their “tangled intra-relating”, not all at once, but through the process of always becoming. Ingold (2011) and Fawns (2022) draw on these sociomaterial becomings in their use of the concepts of “meshwork” (Ingold, 2011; p.63) and “entanglements” (Fawns, 2022; p.720) to bring together elements as part of a relational assemblage including beings, matter, emotions, traditions, pedagogies and more. It is crucial to apply a critical lens to the concept of the “entanglement”, as Dinker and Pedersen (2016) highlight that can carry power imbalances. This thesis supports the transformation Dinker and Pedersen propose “from learning *about* animals [and other beings], to learning *with*, *from*, and *for* them” (p.420; emphasis in the original). This ethical, relational interconnectedness is embedded in the “kincentric” onto-episto-methodology of dúchas (Meighan, 2002) outlined in Section 1.3 that acknowledges my Gaelic heritage and culture as part of my research. That critical animal studies transformation of education resonates with the transformational sustainable education approaches that Sterling (2001) outlines of learning *about*, *for* and *as* sustainability (pp.60-61). Learning as sustainability, Sterling highlights, is a whole-system approach involving collaboration, participation and creativity to address the challenges of an uncertain world, as discussed in this thesis. There is also reference to a number of “posts-” (e.g. posthuman and postdigital) in this research; these deliberately and critically weave key elements into the research. Posthuman does not refer to a world without humans or where humans are superior, but a world within which humans are enmeshed and take active responsibility for becoming with and as part of the whole, rather than separate and/or privileged (Braidotti, 2019). Postdigital does not refer to a world without digital technologies, but a world within which critical choices are made concerning the most appropriate forms of technologies for the benefit of all members of the ecosystem (Ford & Jandrić, 2022). This acknowledges the complex, messy entanglements in production, ownership, politics and power.

It is essential to explicitly refer to the feminist, or more specifically eco-feminism as this has become “side-line(d)” by the more recent new materialist theoretical position (McGregor, 2020; p.47). They are interwoven, as both challenge dualisms, e.g. nature/culture, see humans as embedded within a more-than-human world rather than separate, and emphasise the importance of “everyday materiality” (p.51). There are crucial affordances that I see as unique to each: eco-feminism brings care and the complexity of care labour (Di Chiro, 2019; McGregor, 2020); new materialism brings futuring and speculative work. The process of futuring could be critiqued as “wanting to prepare the ground rather than sow the seeds” (McGregor, 2020; p.53), but that preparation is a necessary step in growing something new. I see these from the perspective of the critical posthumanities as “cross-pollinating” (Braidotti, 2019; p.49), with each helping to cover gaps

identified in this thesis. Building from the feminist-new materialist common ground, the thesis may refer to a new materialist grounding where that incorporates the embodied, socio-material, entangled, more-than-human strengths inherent in both, while the thesis holds a feminist stance in recognition of the history of feminist contribution. This thesis-as-research-assemblage (Fox & Alldred, 2015) also incorporates the postdigital. This blending of digital and eco may appear contradictory, but Jandrić and Ford (2022) highlight how postdigital ecopedagogies are an integral part of future postdigital research as technologies and tools are part of ecosystems. As noted in Chapter 2, critical posthuman, postdigital ecopedagogies underpin the transformation of higher education from a focus on Enlightenment to "Sustainment" (Escobar, 2018; p.118).

Turning now to the methodological aspects of my conceptual framework, this thesis incorporates qualitative and speculative approaches, inspired by postqualitative thinking. Postqualitative is a becoming practice that should "remain occasionally hazy, formless, and inconclusive" (Singh, Southcott & Lyons, 2023; p.2077). The use of play, curiosity and imagination in research is key to this thesis. Reading about postqualitative research has helped me to learn how to "think with theory" (St. Pierre, 2014; p.8). In talking about how to "think differently" (p.15), St. Pierre asks "what might be possible if I were seriously and affirmatively to experiment with what is yet to come". I have taken up this challenge in applying a speculative fiction method as a feminist-new materialist blending that both prepares the ground and sets seeds. St. Pierre notes that it can be difficult to break out of a reliance on methods, an observation supported by Weaver and Snaza (2017) and Singh, Southcott and Lyons (2023). In this thesis, the methods have been cracked open as a form of "deconstruction work" (St. Pierre, 2021; p.164). I found starting from a step-by-step method helpful, while noting St. Pierre's postqualitative challenge of seeing methods as a "comfortable trap" (*ibid*.). As I worked, I wondered "what if?", in this case, what if the Listening Guide method could be opened out to listen in other ways and to other voices. The repeated steps acted as a form of diffractive research practice (Bozalek & Zembylas, 2018b). The practice of focusing on ways of listening and being open to different voices reduced the focus on the methodology and made space for the concept of listening-as-practice. In discussing her own early research, St. Pierre (2014) notes that "the concept slowed down and reoriented my thinking about everything" (p.7). The approach of "thinking with" the Listening Guide method also "slowed down and reoriented my thinking".

Engaging the transformative sustainability "head, hand and heart" practice (Lange, 2023; p.224), this section has considered head (mind), hand (body), and next heart (emotion). Representational logic holds that "there is a primary, originary reality out there to be found and… that language can accurately represent it" (St. Pierre, 2013; p.649); this is the Cartesian perspective common in scientific research suggesting that the truth of a situation can be "captured". Iared, de Oliviera and Payne (2016) illustrate how challenges with representationalism have meant that emotions and "affective attributes" (p.191) are understudied as emotions are perceived as not sufficiently "real" as they cannot be accurately captured or consistently replicated. As this thesis engages with the emotional impact of and connection to place, a nonrepresentational approach is required. Braidotti (2019) states that "the posthuman knowing subject has to be understood as a relational

embodied and embedded, affective and accountable entity and not only as a transcendental consciousness" (p.31). That relational, embedded, embodied entity, inter- and intra-acts as part of "meshwork", with all the associated messy, difficult-to-evidence emotions and feelings. Barad's (2017) nonrepresentational "agential realism" (p.49) proposes that there is no "entity" at all, but phenomena. The researcher is part of the phenomenon, requiring work with and within the entanglement rather than positioning the researcher as an external observer. To observe is to impact that which is observed and to be impacted in turn. To study a phenomenon, Barad talks about making an "agential cut" (p.148), employing a practice or "apparatus" that sets some form of boundary to separate the "entity" from the phenomenon. Building on Barad's work, Bozalek and Zembylas (2018b) propose that diffraction is "carefully and attentively doing justice to a detailed reading of the intra-actions of different viewpoints and how they build upon or differ from each other to make new and creative visions" (p.56). In this thesis, The Listening Guide (Gilligan et al., 2015) is proposed as a diffractive practice, as it focuses on relational, affective interactions attending to the harmonies and dissonances that may align with participant emotions, while equally connecting with researcher emotions. Participative activities helped to include the "voice" of participants, the "different viewpoints", including involvement of human participants in exploring and disseminating findings (Ospina *et al*., 2008). The depth of engagement with the small number of research participants through the methods employed illustrates the level of understanding that may be lost in a "fast science" mode of participation when participants are reduced to data, in contrast to a slow, attentive process that is open to unexpected moments of wonder makes each interaction an event unique to the moment of becoming between beings and place and a new way to learn as part of the whole. The critical animal studies perspective calls for a de-centring of the human (Dinker & Pedersen, 2016), the posthuman, new materialist diffraction calls for a de-centring of the researcher (Bozalek & Zembylas, 2018b).

3.2 Research phases

This was a part-time thesis completed over a period of six years, involving multiple strands of activities. This section provides a timeline of the research drawing the strands into four key phases: preparation, engagement, study and output. These phases overlap and inform each other.

Phase 1 is the preparation phase from October 2016 to April 2018. During this time, I was familiarising myself with the literature, improving my research skills, designing the initial research plan, and applying for ethical approval. Improving my research skills included taking a five-week course on working with self and others, which introduced a range of research methods to engage with participants including engaging-with-self through autoethnography. The introduction to the Listening Guide came from the course reading list (Doucet & Mauthner, 2008). During this course, I spent time watching a pair of magpies outside the large classroom window and incorporated these observations into my end-of-course assessment. This led me to research on the more-than-human world and from there, to the ecohermeneutical research that informed my research design. As discussed in the previous chapter, this thesis was a form of place apprenticeship (Wattchow & Brown, 2011) and the

design recognised that element of becoming-with place and my entanglement within and part of the phenomena I was observing (Barad, 2007; Ingold, 2011).

Phase 2 is the engagement phase began in April 2018 with narrative or storytelling as research communication presentations (referred to as "storytelling presentations") for students that incorporated the invitation to participate as part of a reciprocal research approach. Interviews began in July 2018 and continued to August 2019, taking advantage of part-time study to increase flexibility in the dates offered to participants. The assessment inquiry group met twice in September 2018 and again in March 2019, before presenting at internal and external events in 2019 (Appendix A). This phase ended with the survey in early 2020. This group of activities is represented in the diagram below (Figure 3.1) as a timeline of the four strands of this participant engagement phase.

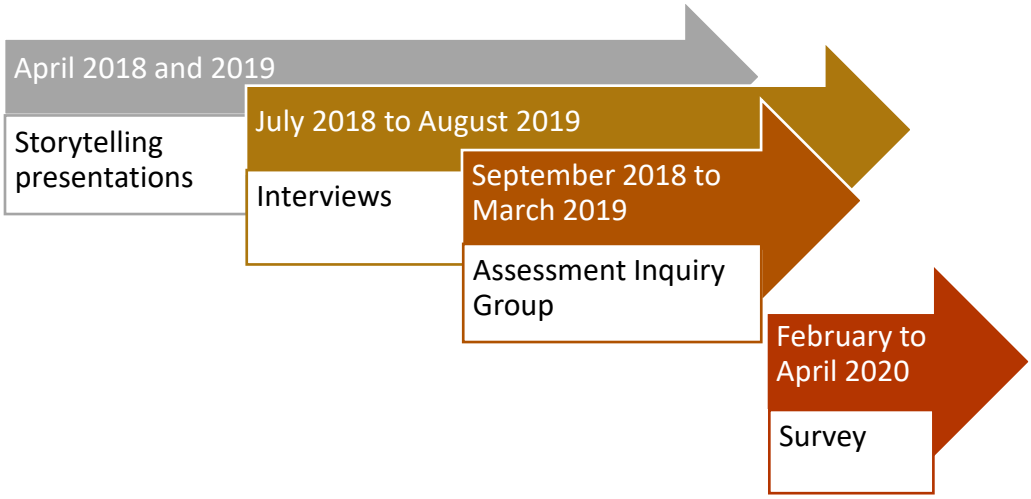


Figure 3.1: Four strands of the participant engagement over the period of April 2018 to April 2020.

Phase 3 is the study phase from mid-2018, which overlaps with the engagement phase. Over a two-year period, the interviews were transcribed, and the Listening Guide analytical method was employed. Again, this was a point where part-time study was a benefit, as it allowed time to work through the steps of the Guide and adapt to meet the needs of the thesis. This phase has technically ended, though as indicated in the conclusion (Section 7.3) there are opportunities to continue this work.

Phase 4 is the output phase, which began with the first-year progression board in August 2017. Throughout the thesis, I have found it helpful to share the developing ideas within research networks to puzzle things through and gain insights that can help to move the thesis further. These research networks were both internal (e.g. PhD student groups) and external (conferences and publications; see Appendix A). Sharing ongoing work is another form of engagement and because of this, I have been able to include my published work as part of the thesis (Chapters 2, 4 and 5). Again, this is another phase that does not end with the thesis, as other publications are planned.

Here I also note the Covid-19 pandemic lockdowns that began in Scotland in March 2020, which resulted in a move to online learning for all students. While I teach predominantly on online programmes, this required me to put the thesis aside for a time and assist colleagues with moving on-campus teaching to an online format. While this was a difficult period, the time away from the thesis allowed me to see it with a fresh perspective each time I returned to it. This period of engagement and pause, while unplanned and unexpected, was beneficial in allowing processing time. The speculative fiction included as part of this thesis (Chapter 5) was facilitated by the space and time created through activity and reflection.

3.3 Participant recruitment and selection

In recruiting and selecting participants, the aim was to investigate to what extent place-responsive educational approaches may or could be employed within the veterinary and animal science postgraduate programmes.

Students from the RDSVS postgraduate programmes were invited to a live, online, one-hour-long interactive presentation I gave on the topic of "storytelling in research" (12 programmes in 2017-18; four new programmes brought this to 16 in 2018-19). This presentation was broadly linked to the thesis topic and covered narrative techniques I had found useful in my writing and presenting (Dahlstrom, 2014; Olson, 2015; Emerson, 2017). The aim of the session was to provide a benefit for students irrespective of whether they decided to participate in the research. It was offered via a non-compulsory, non-credit-bearing course on academic skills provided for all RDSVS postgraduate taught students. The choice of delivering the session via this course was important as it was non-compulsory, so there was no potential perceived pressure on students to attend the session. At the end of the presentation, I gave a brief overview of my research and invited online students to participate. The sole exclusion criterion was for any student who may have or could be assessed by me during the period of research. That criterion, in addition to delivering the storytelling session via a non-credit-bearing non-compulsory course, limited any potential sense of pressure to participate as attendance had no impact (conscious or otherwise) on assessment or degree progression. Excluding the programmes, I was involved in teaching, this meant the invitation was open to students from seven online programmes in April 2018, with a further four programmes in April 2019.

The storytelling presentation was offered two years in a row (2018 and 2019) scheduled in the spring semester. This is traditionally a quieter period for the RDSVS postgraduate student cohort, so selecting this time reduced the chance of the presentation clashing with teaching and assessment. The presentation was run at multiple times over a two-day period each year to accommodate different student time zones and was recorded to facilitate access for students unable to attend. The research plan included a third presentation scheduled for April 2020, though this did not proceed due to the Covid-19 pandemic.

Six student participants responded to the invitation to be interviewed, with four of the six students also joining the assessment inquiry group (details in Sections 3.3.1 and 3.3.3). The student participants were from three of the seven online postgraduate

programmes that were running at the time of the first invitation in 2018. A targeted invitation was sent to four staff members from the RDSVS and two different parts of the University (biomedical science and digital education). The two RDSVS staff members provided insight on four of the online postgraduate programmes that were not covered by student participation: the two online clinical programmes that I taught on and two online programmes focusing on ecosystem health and conservation (details in Section 3.3.1). As a result of the interviews, a survey was sent in 2020 to postgraduate students registered on the ecosystem health and conservation programmes. These had been identified through the interviews as employing particular teaching methods and activities that could potentially provide a framework for place-responsive teaching online. A total of 16 students responded to the survey (details in Section 3.3.2). Student participants were also given the opportunity to be more closely involved in the dissemination of the research. These research collaborations with participants in the assessment inquiry group led to internal and external presentations (Appendix A).

I recognise that those who chose to take part had a particular interest in being and learning outdoors, and/or in assessment development as they stated this on opting into the project or early in the interviews and/or inquiry group. As the project aim was to get an insight into place-responsive education at distance, that preference and interest was welcomed. It could be suggested that students of animal and veterinary sciences will be predisposed to have an interest in being outdoors, but this is not a student prerequisite or requirement for undertaking studies. This clarification is intended to acknowledge limitations of participation while also emphasising that place-based, outdoor activities are not required for veterinary and animal science students studying at distance. Conversely, the methods discussed in this thesis may be applicable beyond the specific disciplines that would appear to have most affinity with outdoor learning, e.g. biology and geosciences, an observation I have discussed in Boyd (2021; p.23), where I also note that place-based approaches may provide space for diverse socio-cultural perspectives, experiences and discussion.

The number of human participants would be perceived as low for a conventional thesis, comprising six student and four staff interviews, 15 survey responses, four individuals in the assessment inquiry group plus speculative fiction. As noted in the previous section and as will be demonstrated in the remainder of the thesis, the combination of relational, reciprocal engagement with participants, creative, speculative methods, and time required to develop the Listening Guide approach demonstrates the challenges in adopting a slow and deep research methodology.

3.3.1 Ethical approval

The Moray House School of Education and Sport and the RDSVS research ethics committees gave ethical approval for the project [MHSE ECD 1231 and HERC_191_18]. Approval was required from both Schools as RDSVS students were participating in the research. The sole exclusion criterion addressed participation of any student who may have or could be assessed by me to limit any potential sense of pressure to participate.

This ethical approval process focused on the broad outline of the project plan. Beyond this, I followed Puig de la Bellacasa's (2017) ethics of care approach as discussed in Sections 2.1.2 and 2.2.1, which acknowledges that each decision I made had a potential ethical impact. This aligns with Wilson's (2008) observations in the introduction to this chapter and to the ethical awareness of place-based research. It also follows the reflective, virtue-based ethics (Macfarlane, 2008), where an ethical project adapts as the project grows, or otherwise is not truly an ethical project.

I did not gain ethical approval from the more-than-human participants in the study. Taylor (2017) used the term "key partners" in her work with pied butcherbirds, building on the concept of participatory research with more-than-human beings. She discussed how some birds made it clear to her through their alarm calls or attacks that she was not welcome; in her words, the birds were making it clear that they were "quitting the project" (p.46) or no longer participating, so she stopped recording in those locations. Bearing her observations in mind, I retain the word "participant" for the more-than-human beings who were present on the recording. With regards to the ethics of place representation, it is not possible to "capture" the complete sense of a place; a photo or recording can be made, but that does not provide an embodied sensorial experience of a moment spent in that location (Tuan, 1977). At most, it may offer a one-dimensional reconfiguration of a moment in time such that it could be shared with another.

3.3.2 Interview participants

For the semi-structured interviews, student participants were invited from the RDSVS postgraduate online programmes, and staff participants were selectively invited to ensure coverage across the programme and elective course portfolio. In total, ten human participants took part in the interview. Of the ten who participated, six were distance learning postgraduate taught students all undertaking a Masters at the RDSVS. Four were members of staff involved in distance programmes: two at the RDSVS, one at the Deanery of Biomedical Sciences, and one at the Moray House School of Education and Sport, respectively. The invitations and consent forms are provided in Appendices B and C.

Once the first deadline for student participants had passed in May 2018, four staff participants were selected and invited via email. Two guiding factors influenced the selective invitation of staff participants. First, to address the gap in representation across the suite of postgraduate programmes at the RDSVS. At that time there were three veterinary clinical postgraduate programmes where all students were veterinary surgeons. I taught on two of these programmes, which excluded those students from the invitation as per the exclusion criterion. Students from the third veterinary clinical programme had not responded to the invitation. Anecdotal evidence from clinical programme teams indicated clinical time pressures were a key reason for low participation across all non-compulsory activities and events. Selecting staff who taught on these programmes ensured representation across the RDSVS portfolio. Second, to gain an understanding of how place-responsive education might be understood and incorporated in online programmes elsewhere in the institution. Representation from the Deanery of Biomedical Sciences was essential as many RDSVS students take electives in that Deanery focusing on epidemiology, ecosystem health and conservation principles. Representation from the Moray House School of Education and

Sport was essential to provide a deeper pedagogical insight related to place-responsive digital education. All staff participants had experience with teaching online at distance, with two having further experience of teaching others about how to teach online and three having experience of running courses in the field.

All human participants were invited to choose pseudonyms to be used in the analysis, and Table 3.1 provides a summary of these participants. Broad disciplines are included rather than specific programme titles to preserve anonymity. Gender has not explicitly been recorded in the thesis and non-gendered personal pronouns (they/their) have been used in the text. I highlight the emphasis on human participants here, as the choice of analytical method resulted in the participation of a range of beings beyond the selected human participants. In addition to the human participants, this thesis incorporates participation of the more-than-human world and these numbers increase the participant numbers significantly. The word cloud presented in Figure 3.2 introduces the many participants in the project and the soundscape within which the human participants discussed the benefit of place-responsive practices. It is not a fully-postdigital sociomaterial entanglement, in that the silent participation of recording devices, laptops, phones, microphones and software are not included (Back, 2012).

Table 3.1: Summary of human participants presented in order of interview.

Pseudonym	Discipline	Role/position	Mode of participation	Month	Participant location	Participant weather	Researcher location/weather
Cat	Animal Welfare	Student	Online interview	July	Vietnam outdoors but sheltering under an open-sided shed with umbrella	Monsoon rain and blustery wind, with typhoon in the distance	Haddington, Scotland. Garden, sunny and hot. Sheltering under parasol and sun hat
Nina	Animal Welfare	Student	Online interview Assessment group	July	France	Hot and sunny, indoors with view of garden through open doors	Haddington garden, hot and sunny, sheltering under parasol and sun hat
Sheep Flock Health	Veterinary Medicine	Staff	Co-located interview	July	Easter Bush, Midlothian	Outdoors, blustery and wet, had been raining earlier	Co-located
Hugh	Digital Education	Staff	Co-located interview	Aug	Arthur's Seat, Edinburgh	Sun and showers, blustery	Co-located
Gloria	Animal Sciences	Student	Online interview Assessment group	Aug	North America, MidWest	Dry, outdoors with view of horses	Haddington indoors with open window, raining
The Eager Beaver	Biomedical Sciences	Staff	Co-located interview	Sept	The Meadows, Edinburgh	Drizzly rain, cold and wet	Co-located
Patricia	Animal Sciences	Student	Online interview Assessment group	Sept	United Kingdom	Clear and warm. Indoors with view out through windows	Haddington garden, clear and warm evening, no sun shelter required
Riley	Animal Welfare	Student	Offline interview Assessment group	July-Sept	United Kingdom	Weather recorded on video in August is cloudy but dry	Weather recorded on video in July is hot and sunny, sheltering in the woodland and under a sun hat
John Jeffrey	Veterinary Medicine	Staff	Co-located interview	Nov	Bush Estate, Midlothian	Cold and wet; heavy rain and gales the previous day	Co-located
Ryker	Animal Sciences	Student	Offline interview switched to online interview	Aug	Canada	Office with view out open windows. Sunny but had been wet, less chance of wildfire	Easter Bush office with view out open windows. Humid and sunny, with storm clouds on the horizon

Figure 3.2: Word cloud of Place Participants and Background sound nodes drawn from across all transcripts and created using NVivo v.12.

3.3.3 Survey participants

The interview with John Jeffrey (RDSVS staff) highlighted activities across their two programmes on ecosystem health and conservation that had potential to develop place-responsive practices. A survey invitation was circulated to students on those programmes in 2020 to gather the students' perspective on the activities. The survey invitation is provided in Appendix D. The invitation was circulated by staff on the programmes as RDSVS students are more likely to respond to a request from staff members they are more familiar with. It also served to position me as a researcher, distinct from my other roles in the RDSVS. A total of 16 of the 24 students registered on the ecosystem courses across both programmes for that year responded to the survey, giving a ~67% response rate. None of these students had participated in the other data gathering activities (interview, assessment inquiry group). Demographic details were not gathered as this was not required for the purposes of this research. The survey was delivered using the JISC Online Surveys tool as part of the suite of research tools available at the University and approved by the ethical review committees. This was also a survey tool that students were familiar with and found straightforward to use.

3.3.4 Assessment inquiry group participants

The project planned for at least one online group meeting with a maximum of five students to discuss creativity in assessments; that target was achieved with a group of four, not including the author, who was also a group member and secretary. One student withdrew after the first meeting but asked to be included in the emails following the meetings to allow them to participate asynchronously. As the students were enrolled on intermittent, part-time Masters programmes of a maximum of six years, we were able to meet and work together over a longer period than the traditional one-year full-time Masters would allow. This proved helpful when planning and delivering the output from the group.

3.4 Research design

This section describes the design of four research phases; the semi-structured interviews, survey, co-operative assessment inquiry group, and a speculative fiction story in four parts. This includes an outline of what each phase involved, how they were carried out and what affordances each brought to answering the research questions.

3.4.1 Semi-structured interview

The initial research plan for this thesis had been in two parts. First, to recruit ten staff members to participate in a semi-structured interview related to place-responsive pedagogies at a distance. Second, to recruit 8-16 students to participate in a semi-structured interview related to their place of study. Following the storytelling presentations with students and their expressed interest in distance pedagogies, I made the decision to have the same semi-structured interview for both cohorts and designed an assessment inquiry group as a participatory action research element. The semi-structured interview was designed around the format of a “walking” interview (Lynch & Mannion, 2016), where researcher and participants move through an area over the course of the interview. In their work, Lynch and Mannion highlight how this acknowledges the intra-activity of “entwined” (p.331) people and places. They report that this place-responsive method resulted in unexpected insights in the interview process, often the result of participation by the more-than-human world. The walk becomes a pedagogical experience, the interviewer and interviewee entangled within a sensory world.

I wanted to explore if it was possible to have that sense of sensory-world entanglement and connection with places at a distance. As students were all studying at distance, online and part-time, I provided a range of participation options which afforded an opportunity to connect with the places where interviewees were located. Student participants had an option to choose online or asynchronous/offline participation. Staff were invited to participate in a co-located, face-to-face interview, with the options of online and asynchronous held in reserve. While it was not my initial intention to directly compare each mode of participation, I wanted to determine if a similar sense of place-connection could be gained. In considering the rapid transfer to online modes of communication due to the Covid-19 pandemic restrictions, Saarijärvi and Bratt (2021) compare four different interview methods: face-to-face (co-located); video interview, phone interview; and online chat or email interview. Each mode has strengths and limitations. Face-to-face and video interviews may include non-verbal cues and gestures that would be missed in phone or email

communication. Video, phone and email interviews provide more flexibility for participants and researchers, as travel is not required, benefits also noted by Quain, Mullan and Ward (2022). Email interviews, similar to the asynchronous interview option I provided, gives participants time for reflection. Online interviews, whether by video or email, require technical knowledge for both participant and researcher and may have limitations in terms of reliable internet connections and tools. Face-to-face interviews are considered the most effective at ensuring confidentiality and verifying the identify of the participant. Crucially for this thesis, Saarijärvi and Bratt's recommendation for research "equity and equality" is to use "preference-based" techniques (p.396), which allows the participant to select the option that they are most comfortable. While three modes (co-located, online and asynchronous) were offered to participants in this thesis, all three focused on the surrounding places, a factor that aligns the three modes more closely than might otherwise be the case. Where face-to-face might traditionally involve two people focused on each other, the walking interview format meant that participant and researcher were not sitting facing each other, decentring gestures and non-verbal cues in favour of place-awareness.

Participants were invited to select a preferred location for the interview, with the guidance that this location should be either situated outdoors or with a view to the outdoors. This focus on the outdoors recognised the psychological benefits reported with the view of natural features (Myers, 2020) and to provide an opportunity for more-than-human participation, similar to that seen in the walking interviews reported by Lynch and Mannion (2016). For face-to-face interviews, the location was agreed in advance with the interviewee proposing the location and a follow-up nearer to the date to confirm. I emphasised to all participants that any outdoor participation would be weather dependant, highlighting they would not be required to venture outdoors if they did not wish to do so. On average, each interview lasted approximately 45 minutes.

In the context of this project, stationary participation worked better for the online interview to minimise loss of connection. Of the five online participants, three participants were hard wired to their internet connections and seated indoors. Two opted to participate using mobile phones, as they had confidence in their connections. I chose to interview from my office or home as I also wanted to be confident of my connection. While I had investigated roaming options, I did not want connection issues to cause any delays in interviewing participants. The sole participant to complete the offline interview submitted a recorded presentation with music and images of their preferred walk. A second participant had initially opted for the offline interview, but requested a change to a online interview as on reflection, they felt this would be more time effective.

Participant health and safety was a key issue. When preparing for interviews, I was aware of my responsibility to ensure the safety of participants and consulted with colleagues to get a sense of how best to advise those participating outdoors and at distance (Dallat, 2017). Outdoor educators will be familiar with the process of completing risk assessments and spending time in a location prior to returning with students to build knowledge and familiarity (Stewart, 2020). I did not have that opportunity, so provided general guidance and checked in frequently with participants. I checked that all participants were wearing appropriate clothing for the conditions, and that there was a pre-arranged on-site contact

for distance participants. It is to be noted that all participants were in the fortunate position that they had access to a location where they felt safe to participate in the interview processes.

The semi-structured interviews were recorded using the method as appropriate to the interview. Online Blackboard Collaborate interviews were recorded using the recording facility within the tool. Skype interviews were recorded using the Pamela for Skype audio recording software. A digital recorder provided a back-up copy and recorded the soundscape from my location. Face-to-face interviews were recorded with two digital recorders; one for the interviewee to record responses and one for the interviewer to record the interview soundscape. The interviewee had a lapel microphone attached to the digital recorder to ensure a clear recording of their responses. The interviewer's digital recorder had no additional microphone. Lynch and Mannion (2016) took photographs during their walking interviews and acknowledge that managing multiple devices was tricky. I was unable to manage a camera and recording devices for the face-to-face interviews. As a result, photographs were not taken unless I had an opportunity to take them afterwards or they were shared by the participant. Photographs which were received from online participants had again been taken after the interview, as part of the offline interview process, or had been taken previously for an unrelated reason. All photographs were sent to illustrate a specific detail that had been discussed in the interview.

Following the interviews, I manually transcribed the interview recordings. It was essential for the Listening Guide analysis that I transcribed the interviews myself as it involves the researcher coming into relationship with the transcripts. I name this as a process of restoring "attentiveness to the world", attentiveness that Back (2012; p.252) proposes that recording devices have limited as researchers rely on the device to "capture" sound. In addition to the standard human dialogue, sounds were included in square brackets ranging from participant-researcher-associated sounds [laughter, sighs] through to the identifiable sounds in the recording, e.g. bird song, traffic, weather. The field notes were essential here as they indicated what the weather had been like on a given date, which helped identify sounds such as boots squelching in mud, the whistle of waterproof clothing, and the wind.

In addition to the interview transcripts, field notes were written prior and directly after the sessions, covering the date, recording set-up, weather, and any key issues that needed to be captured at the time, e.g. identification of weather change or technical problems. Clandinin and Connelly (2000) and Squire (2013) identify all products of the research, e.g. images, documents etc. as constituting "field texts" for narrative analysis. The field notes in this project provided key information that contributed to a review of the methods used to communicate at distance and which will be discussed in Chapter 6. The soundscape was a key element of the places in which participants and researcher were located and added a deeper layer to the interview process.

Prior to beginning analysis, and as per Riessman (2008), I allowed time for "member checks" (p.198) of the transcripts. This gave participants the opportunity to confirm their choice of pseudonym and that they felt their identity was sufficiently anonymised. A

deadline was set for return of transcripts and comments to minimise delays to the analysis. No changes were requested on any of the transcribed material. The interview with The Eager Beaver resulted in two "place poems" which I extracted from the transcript following the amended "I" poem step as outlined in the Listening Guide (see Section 3.5 and described in detail in Chapter 6). I shared these with The Eager Beaver for review and comment to ensure representational validity (Cantrill, 2016), in other words, that my observation that these "poems" brought forward a different resonance of the interview location. They agreed that the application of the Eco-Listening Guide was effective in achieving this new perspective on the place. In some cases, participants provided additional items, e.g. images, and consent for how these could be used as part of the project. As examples, Riley created a video presentation of their location as part of their asynchronous interview, Cat and Ryker sent photographs of animals referred to in their interviews, and John Jeffrey sent photographs of students and staff gathering at a summer school. These video and photographs were part of building a relationship with participants and were not included in the analysis.

The interview transcripts were analysed by employing the Listening Guide method through the NVivo qualitative analysis software [versions 10-12]. Initially, all transcripts were stored in the same NVivo project. Part-way through the analysis, the coding process was becoming increasingly confusing due to the complexity of the Listening Guide analytical process as new transcripts were added, so I elected to export the code book from the project (see Appendix E) and create separate projects for each transcript. Focusing on one transcript at a time and keeping my attention focused on the voices within that individual transcript was more effective in the first readings and coding of the transcripts. The nodes were colour-coded in a similar way to the coloured pencil process described in Gilligan *et al.* (2006) and the shared code book and colours provided a sense of continuity as the analysis proceeded. An example of a colour-coded section of the analysis can be seen in Figure 3.3. Once the Listening Guide steps had been carried out for all transcripts individually, a new combined project was created.

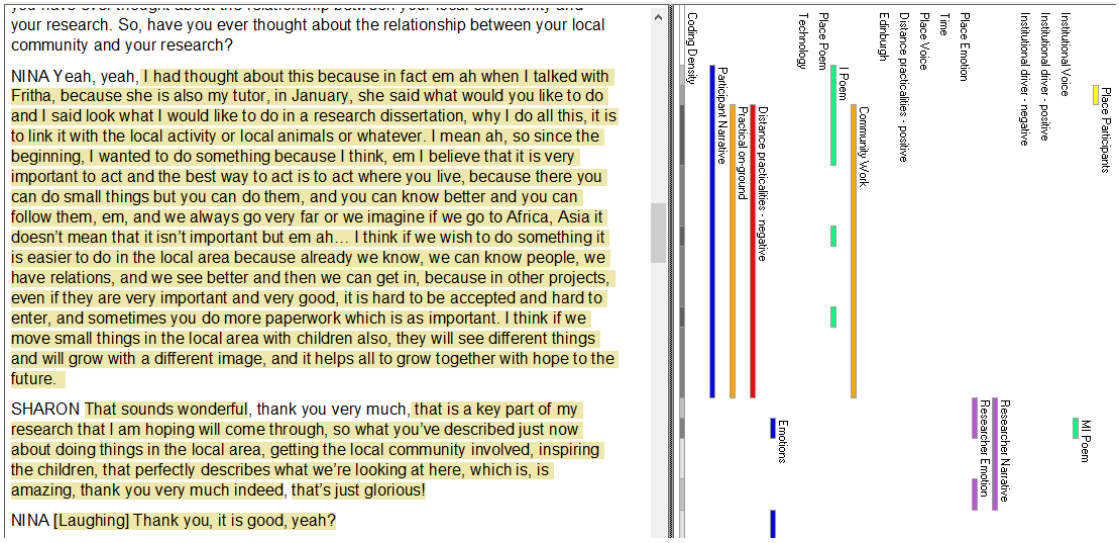


Figure 3.3: A screenshot of a section of the analysis in NVivo demonstrating the colour-coding of nodes. Unlike the options available when colour-coding by hand, NVivo v.12 is limited to seven colours. The section demonstrates how broadly related nodes were grouped under a colour, e.g. practical and community work in orange.

Having briefly outlined the design and location of the interviews, the next two sections review the interview questions and how these relate to the two research questions, starting with the first research question. The interview schedule is in Appendix F.

3.4.1.1 Research Question 1: How can place-responsive education at a distance be understood and theorised?

This first research question is complex, comprising the focus of the thesis. I designed a number of interview questions that related to developing an understanding of core aspects of place-responsive education without overwhelming the participants. The first questions explored the process of relationality and connectedness that is part of a place-responsive approach:

> What do you think has been/could be the most important element for you in linking your local community and your research?
>
> What do you think has been most important in helping you connect with other/ your distance students?

These questions were designed to explore if and how students studying at distance make connections with their local communities, and how staff and students could connect with communities at a distance from them through the academic network created as part of a course or programme.

There were two sub-questions related to the process of theorising place-responsive education at a distance:

> What constitutes authentic assessment and teaching in this context?
>
> What role can technology play to facilitate place-responsive education and student-community engagement at distance?

The question of what constitutes authentic assessment and teaching was central to the assessment group meetings and output, and as the members of that group were also interview participants, this question linked in with group discussions, either inspiring or continuing our conversation. As expected with a semi-structured interview, responses to questions sometimes appeared later in the interviews, as a follow-up question or discussion reminded the participant of another example. Note the difference here between "responses" and "answers"; I approached the interviews as opportunities to puzzle out the concept, as I do not consider it possible to extract a definitive answer. This returns again to the observation earlier in this chapter about research as discovery and the relationality of knowledge (Wilson, 2008; p.127). As these were semi-structured interviews, not all the questions were explicitly asked in each interview if the participant covered the question topics in their responses. Depending on the participant, not all questions were required, as some slipped easily into story mode following the "narrative impulse" (Riessman, 2008, p.24). The questions then acted as touchstones for me to determine if all aspects had been covered.

When designing the interview schedule, I sought examples that could give interview participants a starting point to think from and my selection of examples was based on my early thoughts of how I would answer the question "so how might this work?". This proved particularly important for student participants. Staff participants were able to discuss approaches they had designed or considered implementing in their teaching, where not all student participants had previous experience designing teaching activities. Students were also invited to attend a presentation prior to participating in the study. This was similar to Mikaels' (2018) approach of running workshops for teaching staff after which they reported on their experiences of place-responsive education activities. By reciprocally sharing examples, the interviews became a collaborative process (Principle 5) where our dialogue could support the co-construction of knowledge (Principle 6) related to place-responsive education at a distance. The interview invitation was extended to staff and students to gain a sense of the effect and potential of this form of teaching and learning from a range of perspectives. As part of the interview process, I shared examples of current practical activities. I then asked participants to consider what forms of practical activities they thought might be possible and beneficial to connect with communities and places and to include in teaching and learning online. In interviews with students, I briefly described one or two of three examples: an assessment based on an equine stud facility, a student-led course, and "Living Labs" projects.

Each example held an element of the pedagogical approaches that I perceived as incorporating elements that fostered place-responsive engagement by providing a space for students to engage with their local place community as a learning environment and to bring something back for the benefit of that community. This encapsulated the potential to learn from people and places, to develop respectful, reciprocal relationships, and to acknowledge the active participation of students' local places as part of the University network. All examples focus on course-based activities; participants could all appreciate how engagement with place and communities could be achieved as part of a project, e.g. a dissertation; the challenge was in determining whether this was achievable on a smaller scale that could be integrated through a programme. A fourth example closes the set, which was shared by one of the interview participants. The contrast between the three interview-schedule examples and participant example is central here. The interview-schedule examples display aspects of the principles, whereas the participant example appears as if it were designed with the principles in mind though that was not the case. I will briefly review each of these examples below, applying the place-responsive principles following the "illustrative examples" format employed in Hodgson and McConnell (2019; p.50) and Boyd (2020, 2021) to demonstrate how place-responsivity may already work in practice. This is essential in answering the research questions as it gives insight into teaching practices that students and staff are familiar with and what adaptations may be effective in moving from place-based to place-responsive activities.

3.4.1.1.1 Interview Example 1: Equine stud facility

As part of the summative assessment for an online course in equine reproduction, students were asked to contact an equine stud local to them, offer to review and critically evaluate methods used to manipulate the reproductive cycle and ovulation in the mare, and

present a proposal as to how it could be improved to the benefit of the facility and animals. Data were provided from a fictitious equine stud facility if students did not have a local contact. The equine reproduction course is a 20-credit course equating to 200 postgraduate study hours with two summative assessments. The first was the stud facility proposal as outlined above. The second was a group assessment focusing on effective management of an equine stud facility encouraging reflection on the learning materials from a different complementary perspective.

Engaging with a local facility to learn of current process and share knowledge related to equine reproduction focused on a value for the learners (Principle 1), was situated and context dependent (Principle 4), potentially collaborative (Principle 5) and involved dialogue and social interaction to co-construct knowledge (Principle 6). Course teaching staff were present online to support students and assist in verifying the student as part of the University (Principle 8). By undertaking the process of actively engaging with an external facility and working with them, students, teaching staff and equine stud facility staff were sharing responsibility for the learning process (Principle 2). Students had to critically reflect on their learning from the course and apply that to the real-life practical situation, producing an output that could be shared with the facility (Principle 7).

From the perspective of this project, this example initially provided a way of connecting student with their local communities and structuring a local reciprocal learning experience. The assessment was a useful example to use with students who had experienced this course as it presented a starting point from which we could discuss place-based and -responsive activities. The invitation to share knowledge with a local facility for the benefit of the horses, clients and staff resulted in discussions related to place-aware if not -responsive learning. Since the interviews took place, the option of working with a local facility has been removed. This change was to ensure consistency of assessment for all students on the course and to minimise pressure on students to connect with a facility in the short time available for the course (ten weeks). The latter links to Principle 3, allowing time to build relationships, and one of the core themes of this thesis. In addition to the time limitations, this example also raised potential issues related to health and safety of the student, legal implications of students making proposals to the facility, and questions about formal ethical approval for a small project. These issues relate to the care theme of this work and will be discussed in more detail later in the chapter.

3.4.1.1.2 Interview Example 2: Student-led course

The student-led course is a 20-credit course equating to 200 postgraduate study hours. It was piloted with University of Edinburgh undergraduate students in 2015 (Speirs, Riley & McCabe, 2017) and has been provided as an elective to postgraduate students in the RDSVS on selected programmes since 2017, including a programme that I lead. Students are allocated a tutor to provide formative feedback and guidance on the portfolio of evidence and critical reflection students collate, which comprises the formative and summative assessments. Speirs, Riley and McCabe note the creative output from the portfolios, including drawings, video, audio and photographs in addition to text. The course has five generic learning outcomes focusing on “analysis, application, skills, mindsets and evaluation” (Speirs, Riley & McCabe, 2017; p.54) and involves a set of reflexive activities focused on

planning and review of progress. Students can apply the broad course framework to a topic of their choice, creating a course that is uniquely adapted to their area of interest. The learning outcomes were designed to be adaptive to potential uncertainties and complexities of a unique project, seen as a strength in developing academic skills and graduate attributes for an uncertain world. In addition, there is the opportunity to work on challenge projects that develop skills as "change agents" with a social impact (University of Edinburgh, 2023).

As the student-led course is designed by the student to achieve specific learning goals, it is clearly focused on learning with a value to the learners (Principle 1) and the responsibility may be shared between student and tutor (Principle 2) though the greater share resides with the student. Learning is often situated and context dependent (Principle 3) and students have guidance about the types of activities that can be incorporated into a student-led course, including in-place or virtual internships and volunteering. From my experience of tutoring undergraduate student-led projects and as discussed in Speirs, Riley and McCabe (2017), students often base their project in locations of interest, which may or may not be local or familiar to the students. The portfolios become an introduction to the places and people that students are engaging with, so that the tutor learns about the location through the shared reflective experiences of the student (Principle 7). The role of tutor is a collaboration with the student (Principle 5) as the tutor may not have a direct knowledge of the topic. The process of submitting the plan and mid-point reflective report is to build a dialogue between student and tutor (Principles 6 & 8), and the student may also interact with other people as part of their project (Principle 6). While the project can be time-limited over a period of approximately 6-12 weeks, an extension can be arranged if more time is required (Principle 3).

From the perspective of this project, the student-led course provides a University-approved structure and support for short projects. This addresses some of the issues raised in the previous example related to student support and ethical approval (care), and which will be discussed in more detail later in this chapter. The flexibility of the project format allows for inclusion of place-based engagement and potential social impact. The virtual internship and volunteering options that have been incorporated more recently as starting points for undergraduate projects include citizen science opportunities via Zooniverse (2024). To date, no student has chosen to take the postgraduate elective in the RDSVS. Those students who attended the sessions introducing the elective and explaining the process felt it more straightforward to undertake a fully-taught course rather than creating their own course. This is primarily associated with the recurring theme of time, where part-time students may prefer to opt for the prepared course as designing a course carries a sense of time pressure. Reporting on an undergraduate veterinary student-led research project, Cardwell *et al.* (2017) note that the project design and data collection elements were the most negatively rated by undergraduate veterinary students. The ability to choose any topic was reported as being too flexible for some students, which impacted their motivation. The Edinburgh veterinary postgraduate students also expressed concern that having an assigned specialist as a tutor for the student-led courses resulted in a perceived expectation of having to present advanced knowledge of the topic from the outset illustrating stresses associated with high-stakes reflections (Ross, 2014). The role of students

as change agents undertaking challenge projects positions these student-led courses as short “Living Lab” projects and this concept is discussed in more detail in the next example.

3.4.1.1.3 Interview Example 3: Living Labs

My knowledge of the Living Labs concept at the time of carrying out the interviews was limited to providing opportunities for students to research the institution using the campus as a research site. This related to the short student-led projects as discussed in the previous example as well as for Masters dissertation projects. When providing Living Labs as an example in the interview, I focused on the potential for student locations to become extensions of the University campus, enquiring as to whether local Living Labs could be supported at a distance. That distance Living Lab concept was theoretical; it was clear as I shared it that I was proposing an approach that I thought may have potential rather than a current practice. As a result, the two practical examples previously discussed proved more effective in grounding the idea of practical local engagement in approaches students might be familiar with.

Considering the principles from the perspective of the application of Living Labs that I was familiar with, the principles of learner-valued (Principle 1), situated, context-dependent (Principle 4), critical reflexive (Principle 7) learning were clearly present. There was the potential for collaborative learning support (Principle 5) with dialogue and social interaction (Principle 6) and support of a supervisor and other facilitator (Principle 8). What was less clear was the shared responsibility (Principle 2) and the recurring issue of time (Principle 3).

From the perspective of this project, I found this a useful example initially as it situated the types of activities within the “learning from experience” and “professional learning” Living Lab phases reported by Leminen and Westerlund (2019; p.259), that aligned with the professional spheres within which the postgraduate cohort operated. As my research continued, I became aware of the complexities in this approach. While there is not space to critique the Living Labs model in detail, it is necessary to note the key aspects that impact this research. Specifically, where the institution may promote the aim of being or becoming an “engine of transformational sustainability” as reported by Purcell, Henriksen and Spengler (2019; p.1344), Purcell *et al.* also outline three strategic reasons for institutions to implement these types of project: mission-led, business-led or service-led (p.1345). Through all three, the problems of commercialisation, marketisation and colonisation may be concealed and need to be made explicit.

3.4.1.1.4 Participant Example: Conservation and One Health courses

The interview with John Jeffrey presented a case example that incorporated all of the principles and inspired the student survey (Section 3.3.1). The example related to compulsory courses on two online, part-time Masters programmes on conservation and ecosystem health. The first programme was open to veterinary professionals only and the second was open to those with a science background, some of whom may be from a veterinary background. Each programme had two identical compulsory courses equating to 40 of the 60 credits required for the postgraduate Certificate element, i.e. a total of 400 postgraduate study hours. As part of a formative activity at the start of the programme, students were asked to spend time in a place of interest to them to become familiar with the

ecosystem. This initial activity was centred on gathering baseline information on the ecosystem, or the first steps in developing a relationship with a place. The following semester, students were asked to return to the same location and again monitor the ecosystem, considering at this point what conservation actions they might recommend. This required the students to practically apply the knowledge that they were gaining on the programme as well as encouraging self-reflection on their progress. Students were asked to share their observations about their chosen location with peers and staff via the course online asynchronous discussion board. Table 3.2 illustrates how the activities from the courses were aligned with the place-responsive principles.

Table 3.2: Activities mapped against principles to demonstrate how place-responsive networked learning may be integrated into course design (from Boyd, 2020; p.7).

Principle	Course Activities
1: The Focus Is on Learning Which Has a Perceived Value to the Learners	Students select a location to develop their understanding of ecosystem conservation. Their work may have a direct conservation benefit.
2: Responsibility for the Learning Process Should Be Shared (Between All Beings in the Network)	Emphasis in both courses is placed on the student as part of the ecosystem.
3: Time Has to Be Allowed to Build Relationships	Students revisit the locations in a later course a build and reflect on their initial work. This also emphasises the learning value (Principle 1) of the location.
4: Learning Is Situated and Context Dependent	Each student presents professional observations of their local ecosystems. Group responses are tailored to the specific locations and information presented.
5: Learning Is Supported by Collaborative or Group Settings	Asynchronous group discussion underpins the activities.
6: Dialogue and Social Interaction Support the Co-construction of Knowledge, Identity and Learning	Group discussion encourages student-teachers to share knowledge gathered for the activities. This may build on knowledge students had prior to starting the courses.
7: Critical Reflexivity Is an Important Part of the Learning Process and Knowing	Students return to data they collected, reflect and revise based on deeper understanding of the topics.
8: The Role of the Facilitator/Animator Is Important in Networked Learning	Staff provide guidance on how to classify ecosystems and determine ecosystem health. They respond to information shared by students and encourage students to respond to peers.

This example has three key elements that were absent in the interview examples: effectively facilitating time in place; student formative self-reflection on place knowledge; and a blend of cognitive and place apprenticeship. The first element, place time, was facilitated and protected by inviting students to return to the place they had chosen to focus

on. By allocating time for the activity across two courses and two semesters, students were able to adapt the task to their availability and interests. The reminder to return at a later date gave students the chance to know their chosen place at a different time of year and a different point in their learning. The second element, formative self-reflective activities distributed over a longer period of time, meant that students may have felt less pressure to perform. Formative activities may not be high priority for part-time, time-poor students. Returning in the second course to extend knowledge meant that any student who had not yet participated might begin the process of connecting place and learning, practice and theory. The third and final element, the blend of cognitive and place apprenticeship, recognises the input of the course human teachers, and the local more-than and human place teachers as part of the students' learning networks. Cognitive apprenticeship (Creevy *et al.*, 2018; p.308) involves a mixture of modelling, scaffolding and coaching strategies that allow specialist staff to support students as they develop their knowledge and understanding of the topic, in this case ecosystem health, and application of theory to practice. This was central to the design, as John Jeffrey described in the interview:

> JOHN JEFFREY …and I particularly like, em, like having practical sort of activities where they talk about their local situation [blustery wind picks up]… it also provides a sort of practical aspects because they are focusing on something very local, something very real… rather than being theoretical, because they get a lot of theory through the MScs. [constant whush of the wind in the trees]

This case example was included in Boyd (2020) to illustrate the place-responsive principles of networked learning and I returned to it in Boyd (2021) in considering simple steps to incorporating place-based activities in online postgraduate courses. This second piece incorporated survey responses from students (Section 3.3.2) that suggested the activities presented an opportunity to connect with places that some may otherwise not have engaged with in addition to returning to familiar sites either solo or with family. The activities helped them to appreciate their part within the more-than-human ecosystem, and in some students, presented an opportunity to begin or continue the process of caring for places that transitions from place-based to place-responsive engagement, the caring which underpins the work of a compassionate conservation scientist (Propen, 2018). This illustrates how it may be possible to think creatively about time when considering the programme as a whole, rather than operating within the restrictions of the programme timetable. However, it still comprised activities over two courses and semesters, so a longer, but not extensive period of time. This links with observations by Gray & Colucci-Gray (2018) who noted an increase in the "emerging ecological identity" (p.16) in students spending a small amount of time outdoors in one course. There is also the additional benefit to staff in providing time for to familiarise themselves with the places that students are becoming-with, which is a process that can be difficult to incorporate into a remote staff member's teaching priorities and presents a different side to slow pedagogy in recognising the need for slowness for both staff and students (Judson, 2015).

On reviewing this work, I am aware that the benefits and challenges lacked as detailed a critique of the problems of place as discussed in the literature review of this thesis (Section 2.1). Both Boyd (2020) and (2021) focus more on place-as-pedagogy, which Gough

(2008) challenges, proposing instead that places may be 'becoming-pedagogical' (p.72) and a perspective I have held for this thesis. Limited place-criticality of this early work aside, the aim was to encourage people to think creatively when beginning to invite place into online learning practice rather than feeling limited by what they perceived as permitted by their institution or resistant to complexity. In doing so, it resists the "oppressive" reductive curriculum design described by Gough (2013; p.1221), presenting instead a way that might allow for more "freedom or 'play'" (p.1222) in becoming-with place. The Eco-Listening Guide (Section 2.3.5) provides a suite of creative, practical activities that may scaffold the development of a place-responsive attentive listening practice.

3.4.1.2 Research Question 2: What effects could place-responsive distance education have on students and programmes?

The second research question was initially intended to help identify potential impact(s) as a result of implementing a place-responsive approach. As the research proceeded, the interplay between "effect" and "affect" became clearer and this will be discussed in the first results chapter.

Some interview questions outlined in Section 3.3.1.1 had been designed to investigate place-connectedness. As a result, these questions had a dual role in developing understanding across both research questions.

> To get us started, I would really like to know more about the location you have chosen for today's interview. Can you tell me why you have chosen that location? What can you tell me about it? Why is this a meaningful location for you? [RQ1]
>
> Have you ever thought about the relationship between your local community and your research? [RQ1]
>
> One idea I'm exploring in this research is that an activity which requires students to go outside and spend time in a place near to them will be more meaningful for them. What do you think about this? [RQ1]
>
> What kinds of methods or approaches do you think could be effective in creating practical learning activities [at distance/in your local area]? [RQ1]
>
> What do you think about the idea of the University supporting students to develop community-engagement projects around the world? [RQ1]
>
> Do you think this might increase engagement in learning about the subject/discipline? [RQ1]
>
> To what extent do you experience the University as "Edinburgh-focused"?
>
> Is there anything else about the connection between the University in Edinburgh and distance students that you would like to share?
>
> Is there anything else about your location that you would like to share?

A third research question was proposed in the project plan that asked what institutional policy drivers act for or against a centring of the place of the distance learner.

This question proved to be more of a theme within the project, rather than a question to be answered by the research specifically. In a study on University of Edinburgh teaching and assessment practices, Fawns *et al.* (2021) report "the university's academic processes provided their own, often considerable, constraints, even where the value of flexible and innovative activities was recognised" (p.364). While this is not specifically place-related, the constraints may impact the forms of creative activities that will be proposed in this thesis and an awareness of those constraints was explicitly noted by student and staff participants in the interview and assessment inquiry group.

3.4.2 Survey

The survey was inspired by the examples of activities on compulsory conservation and ecosystem health courses shared by John Jeffrey in their interview (Section 3.3.1.1.4). Based on that interview, it was necessary to invite the students to share their experience of the courses. The purpose was to determine if students experienced a sense of connection to the places they had chosen to study and if that connection had influenced their interest in conserving that place. The free-text format and question focus of the survey acted in lieu of an interview or focus group as the most expedient method of gathering insight from potentially time-limited part-time clinical students. Students were given the option at the end of the survey to contact me and participate in the interview; no student opted for this. The survey questions are in Appendix G.

3.4.3 Assessment inquiry group

The student assessment inquiry group developed from the storytelling presentation to students that included the invitation to participate. This group had originally been intended to pilot the use of a research "story", incorporating place and storytelling techniques with students' research interests. This was adapted following the storytelling presentation, as students who wished to participate in the group expressed a preference to focus on assessments that developed creative skills more broadly. Two questions from the annual UK-wide Postgraduate Taught Experience Survey (Advance HE, 2023) were used as stepping-off points for the first meeting. The RDSVS had scored significantly lower in student responses to these questions in the previous year's survey and this provided an effective method of inviting student perspective on these areas.

- My confidence to be innovative or creative has developed during my course;
- My ability to communicate information effectively to diverse audiences has developed during my course.

The assessment inquiry group was structured around meetings, with agendas, minutes and a planned final report, designed as a reciprocal mode of student participation and engagement in research. In this way, the assessment inquiry group design sought to challenge power relations from a democratic education perspective (Westman & Bergmark, 2019) by explicitly acknowledging students as fellow researchers with the power to report on their experiences with a view to influencing curriculum development. It is an example of "seamful design" (Fawns *et al.*, 2021; p.371) where students and staff work together to examine and critique current assessment practices.

The initial plan was to meet once for a one-hour online meeting hosted via Blackboard Collaborate to discuss assessment options. The first meeting in early September 2018 was successful such that the group arranged to meet again for a second one-hour meeting after a two-week period of reflection on the minutes and topics discussed. At this point, one participant chose to withdraw citing time pressures though wished to remain involved asynchronously, and three continued to the second meeting. Across the two meetings, the group reviewed 340 summative assessments from the 153 courses running at the time across 16 RDSVS postgraduate programmes[4], and reflected on what it meant to be creative in assessments from the perspective of students undertaking and staff designing assessments. Those discussions were important from the perspective of this research as students focused on the skills that were most helpful for them to develop as part of their studies and reflected on what was feasible to deliver within the perceived limitations of technologies and institutional regulations. The group also provided an alternate route for active involvement via conference and institution presentations (Boyd, McLean & Neu, 2019; Bennett & Phillips, 2020), again providing an opportunity for group members to develop additional skills. Preparation for these events required a third meeting in March 2019 and ongoing asynchronous discussion via email.

3.4.4 Speculative approaches

As the thesis developed, it was clear that the focus was on the present or near-future of postgraduate online education and practices. To move beyond that, particularly to consider how a low-tech, degrowth model of place-responsive online education might work in practice, required a futures-oriented approach. Working with the "not-yetness" is noted as an area that can be overlooked in educational research (Ross & Collier, 2017; Cerratto Pargman, Lindberg & Buch, 2023). The methods that have been discussed in the sections above (interviews, survey, inquiry group) may be classed as "representational" (Cerratto Pargman, Lindberg & Buch, 2023; p.177) in that they gathered data on current and/or past practices and tools. By contrast, futures-oriented or speculative methods incorporate imagination and creativity to consider emergent practices and tools. Resonating with the aim of place-responsivity to take action on behalf of a place, a speculative research approach aims "to enact change in education" (p.178). Both place-responsive and speculative approaches are relational practices (Stewart, 2020; Ross, 2023). Representational methods operate as if the world is fixed and stable; speculative methods recognise the complexity and uncertainty. This call to action for the educator as change agent (Suoranta *et al.*, 2022; p.230) requires critical ethical care and acceptance of responsibility for the potential futures that are imagined (Ross, 2023).

Two speculative approaches are introduced below: the first related to research incorporating objects- and prompts-to-think-with, and the second related to speculative fiction.

3.4.4.1 Doing research differently

The heading for this section comes from Springgay and Truman (2018; p.204) who argue that many of the methods and research approaches have been modified or experimented with in

[4] This is a higher number of programmes than noted with the interviews as this included the two online clinical programmes that I taught on (ethical exclusion criterion did not apply) and the on-campus programmes.

such a way as to "resist representation". As discussed in Section 2.3.5, the Listening Guide analytical method (Gilligan, 2015) was employed in this thesis to attentively listen to human and more-than-human. I developed the Eco-Listening Guide through creatively experimenting and playing with the Listening Guide, explicitly being active "inside" in the "speculative middle" of the research (Springgay & Truman, 2018; pp.204 and 206) and led by a curiosity to find different ways to build relationships with places and non-human beings at distance. From a speculative perspective, the development of the Eco-Listening Guide held it as both a method and an object-to-think-with.

Papert (1980 cited in Ross, 2023; p.171) coined the phrase "objects-to-think-with". Ross (2023) extends Papert's concept in describing the design and use of speculative objects (e.g. technologies such as bots) and prompts (examples, stories, ideas) to engage participants in thinking about future applications, practices and possibilities. The examples presented to student participants in Sections 3.3.1.1.1-3 (equine stud assessment, student-led course, Living Lab) functioned as prompts-to-think-with in that they provided current course and assessment examples to act as a stepping-off point for what might be in terms of place-connected, if not yet -responsive, pedagogies. The examples gave the students an idea to play with if they did not have teaching experience themselves. However, these examples were limited by being set in the known rather than the unknown, carrying with them the limitations and control of current practices in the institution. The examples responded to some of the barriers participants highlighted in terms of what was "acceptable practice" in the institution (e.g. postgraduate student-led course design, engaging with local stakeholders during courses versus dissertation projects), but they were still grounded in the past-present. This grounding in the current could potentially have "closed off" the discussion around what could be done differently (Cerratto Pargman, Lindberg & Buch, 2023; Ross, 2023). Recognising these limitations, the examples were still effective in providing that stepping-off point or prompt as planned. The next section centres on the use of speculative fiction which assisted in moving the thesis findings beyond any potential limitations by imagining an alternate future.

3.4.4.2 Speculative fiction

In discussing educational fiction, Hrastinski (2023) states "we cannot predict *the* future of education; we can only speculate about possible futures for education" (p.2, italics in the original). This thesis uses educational fiction to explore a "possible future" centred on degrowth, low-tech, relational, place-responsive educational practices and institutions. The use of fiction in this way is an invitation to think education differently and, to continue the theme of the previous section, to imagine doing teaching and research in veterinary and animal sciences differently. The four-part story that forms the spine of Chapter 6 and previously published (Boyd, 2022) was influenced and inspired by the stories shared by participants. The fiction-writing process became a diffractive lens (Barad, 2007) through which the potential of place-responsive education could be viewed after removing or re-thinking the higher education system within which it operated. This also shows how different speculative methods and approaches can be incorporated in response to the research in action, including here the speculative fiction story, the examples-as-prompts and Eco-Listening Guide method as object-to-think-with.

3.5 Analysis

This section combines the analytical processes across the interviews, survey and assessment inquiry group, as the findings from these three research phases are presented in support of each other and integrated with the speculative fiction essay in Chapters 4-6.

Beginning with the interviews, Gilligan (2015) viewed the Listening Guide method as an analytical frame to be adapted to fit the research aim and questions. I adapted the Guide based on my application of the tool to the interview transcripts over the course of the research phases and present the Eco-Listening Guide as a suite of activities to listen for the voice of places. To develop the Eco-Listening Guide, in addition to listening for the "I", the first-person voice of the participant, I listened for the place-voice, the sounds and references to the places where participants and I were located, as evidenced in Figure 3.2. I listened for the difference in tone and response when talking in and about meaningful locations, or the way an unplanned participation of a bee or a passing bus led to unexpected discussions, as experienced and reported by Lynch and Mannion (2016) in their co-located walking interviews.

The amended steps of the Eco-Listening Guide are outlined below:

1. Listening to Listen: in the original Guide, the "Listenings" refers to the multiple readings of the transcript. From my perspective, the first step of listening is in the creation of the transcript. In the context of this research, that involved listening for the human participants to create a standard interview transcript, and then extending that by incorporating multiple listenings to the audio files to pick up other participants. Tolman and Head (2021, p.156) refer to the process of "tuning in" or "tracking" the different "voices" of a single human participant; I was also tuning in to the voices of other beings on the recording. To achieve this, each audio file was listened to a minimum of three times after the standard transcript was created, a process that had also taken multiple listenings. The minimum of three additional listenings was sufficient for recordings where one or both of the human interview pair were situated indoors. Outdoor recordings required between seven and eleven listenings due to two reasons. First, the more complex soundscapes negatively impacted the sound quality of the interviews and second, I took longer trying to identify the additional elements on the recording.

2. Listening for the Plot: remains the same as outlined in the original Guide. Gilligan (2015; p.71) notes how this aspect "overlaps with other qualitative methods including thematic analysis, grounded theory approaches, and narrative analysis".

3. Listening for the I: In addition to listening for the "I", the first-person voice of the human participant, I listened for identifiable sounds from and references to the places where participants and I were located. I listened for and noted when aural/oral and/or reported visual input included other beings similar to those reported in Lynch and Mannion's (2016) walking interviews. I also listened for my use of the first-person "I" to explicitly entangle myself in the analysis.

4. Listening for the contrapuntal voice: while this remained broadly similar to the original Guide in listening for changes in phrases and/or tone when responding to interview questions, I also listened for the difference in tone and response when participants talked in and about locations that were meaningful for them. This was not always in reference to the same place where they and/or I were located during the interview.

5. Composing an analysis: this remains the same as the original Guide. The results chapters collectively present the composed analysis, particularly the first research chapter, demonstrating and evidencing the interplay of voices and emotions through the place-based interviews.

As mentioned in Section 3.3.1, NVivo was used to facilitate the analysis, which proved to be cumbersome. All transcripts were initially stored in the same NVivo project. As the analysis became more complex, I created separate projects for each transcript. Focusing on one transcript at a time and keeping my attention focused on the voices within that individual transcript was more straightforward. The nodes were colour-coded in a similar way to the coloured pencil process described in Gilligan *et al.* (2006) and the shared code book and colours provided a sense of continuity as the analysis proceeded. Once the Listening Guide steps had been carried out for all the separate projects, a new combined project was created to determine if observations were supported across all transcripts. Having a combined project allowed for a simple investigation into the broader themes across the project as a whole. For example, it was noted that emotional responses appeared to be aligned with place discussions, and while it is not possible or desirable to explore a statistical significance of this across the small and unique group, it aligned with the research questions related to the effect of place on those at distance. In retrospect, the coloured pens and paper method described by Gilligan *et al.* (2006) may have proved more manageable and, bearing in mind the cost in paper and energy in printing, potentially more environmentally sustainable than the energy and resources expended in using NVivo and storing data in the University cloud computing system. Gilligan *et al.* also state that the Listening Guide was created in resistance to the process of coding and categorizing data as opposed to coming into relation with the participants. In the section that follows, I will refer to “codes” as a more familiar term than the “nodes” used by the NVivo software or the colours or “developing voices” proposed by the Listening Guide to explain the practicalities of analysing using NVivo, before moving back into the Guide terminology. In this, I am using the coding as “a pragmatic device to illuminate aspects of shared... experience” in the “entangled expressions” of the transcripts (Gray & Colucci-Gray, 2018; pp.9-10).

The Place Poem was implemented from the outset; my research focused on place, and to include it meant finding a way to represent place in the analysis. I had a second code, Place Participants, for any reference to a place, species, or being in the text. As I proceeded with the first listenings, I realised that I required an additional code that recognised all beings in a different way. I had codes for the human being who had agreed to participate in the interview (I and MI Poem), and for those whose participation was captured on the recording or response (Place Poem/Place Participants). I required an additional code to recognise those beings that participated on the periphery of the interview. So, for example,

the chorus of squeaking gates in my interview with Sheep Flock Health, the murmur of voices as human beings passed at a distance in Cat and Nina's interviews, or the clink of a spoon in Ryker's cup. My focus had been on the participants who provided a more audible or traditionally vocal input, such as sheep, blackbirds and the two human beings who had agreed to undertake an interview.

Plumwood (2002; p.175) describes "earth others" in outlining her interspecies ethical framework, a framework that is focused on animate beings. Bogost (2012) discusses an "object-oriented ontology" (OOO) which challenges the traditional value split perceived as existing between animate and inanimate "objects", seeking instead to acknowledge that "everything exists equally" (p.6). I had gone further than some research Bogost discusses, in that I had included plant and weather beings in my Place Participants category, but I felt I could go further. The process of narrative inquiry is one of respect and relationality; I saw my failure to incorporate all I could clearly distinguish from the recording as a lack of respect. I created the code "Background Poem" to balance the Place Poem, which focused on Plumwood's "earth others". Initially, I saw this as a temporary "holding" code, which I planned to change as the research developed but it remained due to the complexity of teasing the entanglement apart. Note that I do not perceive "background" to be the same as a "backdrop", as Piersol (2014) discusses. Instead, it captures for me a sense of the foundations/grounds of the places or the scenery or soundscape that add depth to the embedded and embodied experiences of carrying out the interviews. While I recognised this disquiet in the code description for the Background Poem, in being read as "backgrounding" selected participation, I was also conscious that I could not correctly identify all elements on the recordings, nor could I include sounds from online recordings that were not immediately apparent, unless the online participant chose to share the source of the sound with me. For me, this became a variation of Barad's (2007) agential cut, where a decision had to be made as to what was inside or outwith the interview. Simply put, I was aware that I heard more each time I listened to the recordings, and some elements were too difficult to capture in words. This aligns with research that states that being in the moment and in the place may provide the deepest form of experience (Somerville *et al.*, 2011). This need for close attention to the recordings and the researcher's desire to build a relationship with the participants and participant-place precludes the use of auto-generated transcription or transcription services. Haskell (2022) notes that humans are currently still better than Artificial Intelligence (AI) at listening, particularly to complex soundscapes. If the aim of using the Listening Guide is to develop attentive listening skills, then delegating a key step in the process of attending and attuning will impact the ecohermeneutic potential and shows a lack of respect to the participants. The choice of a word cloud in NVivo symbolises the interactions and entwining of all beings (Figure 3.2) from the interview. The output is limited by my ability to distinguish sounds on the interview recordings; another ear would be able to distinguish the different engines in the traffic, for example. Adjectives and verbs directly related to the description of place beings have been included in the word cloud as they were included in the coding. Acknowledging the sociomaterial input resulting from my choice of research tool and output, I appreciate the serendipity in the random word alignment created by the NVivo qualitative data analysis software that results in "idling space", "trees singing" and "beautiful *Haemonchus*".

My original aim in using the Listening Guide for the analysis was to provide an option to listen and perceive what was felt as well as what was said when referring to places or locations with meaning to the participant, employing the Guide in a similar human-psyche-focused way as had been used before. Focusing on the contrapuntal voice incorporates multivocality as a way to surface participant and researcher emotions within the analysis through the "voices", the discordant and harmonising phrases, terms and sounds that flow through the transcripts. Gilligan *et al.* (2006; pp.9-10) explain how listening for variations in the first-person voice "takes into account that a person expresses his or her [sic] experience in a multiplicity of voices or ways". Gilligan *et al.* refer to the iterative process (p.13) of listening to and for voices, of starting with a sense of two or more different "voices" picked up when transcribing, building an initial definition, and then returning to earlier transcripts when a new "voice" is heard, or redefining a voice as understanding is expanded as further interviews are completed. This is a slow process, building what Davis (2015; p.85) describes as a "relational pattern among voices", though among "voices" expressed by an individual participant. From my perspective, it is a diffractive rather than reflective process (Barad, 2007; Hultin, 2019) in the deliberate attention to and engagement with harmony and discord within the voices. Inspired by the process of listening and the multivocal human participant, I gained a sense of polyphony by extending the methodological process to incorporate other sounds. In doing this, I framed the entangled interviews as learning ecologies (Goodyear, Carvalho and Carvalho, 2019). In talking about place importance, listening to the harmony and discord within one person and in their response to their engagement with their places acknowledges how place is important.

The survey was designed to gather the perspectives of students taking the ecosystem and conservation programmes, to determine if there was the potential for place-responsive activities in the courses of those programmes. The survey data provided an additional layer in understanding how online students were engaging with their chosen places and the perceived affordances for students and places.

Four student participants from the interviews were also members of the assessment inquiry group. This was designed as a space for co-operative inquiry where the group members collaboratively investigated the assessment practices employed in postgraduate taught programmes in the RDSVS. Assessment data was provided by the RDSVS Digital Education Unit comprising details of all the summative assessments practices across all 16 postgraduate programmes that were running at the time of the first meeting in September 2018. The two meetings and subsequent presentations provided the cycles of action and reflection required for this participative approach (Heron & Reason, 2008). Co-operative inquiry intentionally brings in four ways of knowing: experiential, presentational, propositional and practical which will be explained through the overview of activities below.

In collaboration and through the application of the four ways of knowing, the group collectively analysed the assessment types. Experiential knowing drew on all group members, as each had different knowledge to draw on, based on the assessments they had undertaken and/or had marked. Some student participants included experience from teaching and learning from their professional and personal lives in addition to their studies. Presentational knowing came through grouping assessments into themes, e.g. "traditional"

(case studies, literature review, presentations) and "creative" (podcasts, infographics, poster boards). This enabled the group to visualise the forms of assessment and critically discuss which of these forms were most effective in developing the skills that would benefit students beyond the programme. Presentational knowing came to the fore in the presentations of this work at conferences, where group members had the opportunity to share their observations within the academic network. Propositional knowing was shown in the group's proposals relating to assessments that engage the more creative, imaginative processes of sharing and presenting research, and of assessing the ability to do so successfully. Practical knowing resulted in all group members having a greater knowledge of assessment review and quality assurance practices and opportunities to engage with the academic network to propose new or revised practices.

3.6 Affordances in answering the research questions

This section reviews each of the four research phases to illustrate how each contributed to answering the research questions.

3.6.1 Semi-structured interviews

The semi-structured interviews and analysis form the main output of the thesis. The approach of listening, of giving full attention to the many participants in each interview was a slow process. Listening attentively to another being is an expression of care (Clandinin & Connelly, 2000; Piersol & Timmerman, 2017; Puig de la Bellacasca, 2017) and the process of adapting a psychological method that has been extensively used in understanding human emotions to include the previously invisible voices of place serves as a place-responsive research approach in addition to researching place-responsivity in online postgraduate distance education. Key to this thesis, it presents a way of coming into relationship with places at a distance in a similar way to the relationship building that already takes place between humans involved in online distance education.

The process of participating in the interview may provide a liminal space (Loxley, 2006), a form of ritual process where the two humans who have agreed to connect are drawing in and affecting others who are part of the lifeworlds where they are situated. If the call for a place-conscious pedagogy is such that it may bring about a transformation of place-relationships (Wattchow & Brown, 2011; Nicol, 2014), then this interview ritual may form a site or a catalyst for transformation. The borders between the human-participants and their lifeworlds become blurred, and the process of being apprenticed to these places may encourage those who chose to participate, myself included, to be more conscious of what is in our places, what are we permitted to do there, what these places will help us to do, and how our home places are interconnected (Wattchow & Brown, 2011; p.192).

3.6.2 Survey

The survey was designed to provide additional information and the student perspective on potentially place-responsive activities. Courses from the ecosystem and conservation programmes included paired place-based activities, where students would return to a location later in their studies to reflect on their knowledge and new awareness as a result of progressing in the programme. This afforded answers for this thesis relating to the courses as they presented three aspects in designing place-responsive education at a distance: by

providing a place-based activity for students at a distance, by acknowledging students as the knowledge holder of their chosen place, and by providing time to spend coming to know those places. The data from this survey was used in two publications related to the thesis related to place-responsive education online and at distance (Boyd 2020; 2021), indicating that it is possible to think creatively about spending time in place and illustrating the benefit of designing place activities across a programme, rather than bounded within five- or ten-week courses.

3.6.3 Assessment inquiry group

In a similar way to the survey (Section 3.5.2), the reflections from the assessment inquiry group serve to thicken the understanding of place-responsive education at distance particularly with reference to formative and summative assessments. The original plan was to produce a report for the RDSVS postgraduate learning and teaching committee. This was replaced with a presentation delivered in two locations: first at a national conference (Boyd, McLean & Neu, 2019) and second at an institutional event focusing on quality and enhancement in teaching and assessment practices (Bennett & Phillips, 2020). The collective observations of the assessment inquiry group informed the exploration of what place-responsive education could be.

3.6.4 Speculative fiction

The use of speculative prompts and fiction extended the thesis beyond what was currently perceived as possible and challenged what actions and activities might be possible. Chapter 4 centred on an exploration of current practices, the "what works" in inviting place-responsiveness in postgraduate online education with a sprinkling of "what if?" to speculate how this might develop (Ross, 2017; 2023). In so doing, this chapter increased the understanding of place-responsive education at a distance and the effects on students and programmes. Chapter 5 took the "what if?" question on a place-time journey inspired by the interviews and conversations of the thesis to present a speculative future. This transformed the research questions into futures questions by imaginatively exploring the application of place-responsive pedagogies in an uncertain future. This speculative fabulation grounded the place-responsive practices in future applications to develop a different understanding and raised new questions about the effect of current and future activities in studying and researching veterinary and animal sciences. As education fiction engages the emotions (Hrastinski, 2023), it resonates with the research question on the affective effect of place-responsive education. Chapter 6 introduces the Eco-Listening Guide as both method employed in the thesis and outcome for the reader to think-and-play-with. It takes the work of the other chapters and presents a practical, creative framework to invite an attentive listening praxis in online postgraduate education at distance. Attention is associated with care and relationship building, and this becoming-with is linked to place-responsiveness. Together, the chapters balance representational and speculative approaches, control and risk, certainty and uncertainty, what is and what might be.

3.7 Summary of methods and structure of findings

This chapter provided an overview of the research methodology, design and analysis, linked to the feminist postdigital ecohermeneutic theoretical framework of the thesis. It forms part

of the research audit, in conjunction with the items in the appendices as indicated in the sections above. The four elements of data gathering – semi-structured interview, survey, assessment inquiry group and speculative methods – are introduced with details of why these particular approaches were taken and how the research was conducted. Each of the sections briefly explained what these approaches and methods afforded in answering the research questions.

The following three chapters present the findings from these activities. The first chapter aids with theorising place-responsive education at a distance and considers the effects on students of current approaches and practices building on the place-responsive networked learning principles to create a set of paths to understanding place-responsive education online. The second chapter theorises place-responsive education for an uncertain future by employing speculative fiction to explore what this approach could bring to institutions on a rapidly changing planet. The third and final chapter concentrates on the output from the Listening Guide, providing the holistic output that Tolman and Head (2021) noted can be missing from a comprehensive analysis. Furthermore, drawing on the findings of the previous chapters, this final chapter proposes a novel application entitled the Eco-Listening Guide as a set of interlinked activities or paths to engage with place and place beings at distance.

As each of the three chapters incorporated multiple elements from the research phases (Section 3.1), determining the order of chapters presented in the thesis was a complex process. This means there will be a sense of moving “back and forth” through the chapters that follow, returning to key observations and layering different viewpoints. Figure 3.4 uses a triquetra or trefoil as a visual metaphor for the chapters represented as three interlocking corners of an endless knot related to paths of understanding (Chapter 4), speculative fiction (Chapter 5) and the Eco-Listening Guide (Chapter 6). The figure is a photograph of a hand-crafted piece, applying knot work as “semiotic praxis” (Picione, 2023; p.134). Knotting is a relational process of meaning-making, what Picione defines as “the very expression of becoming and transforming the bond with others and with the environment, with things and with planning”. The threads provide entry points into and out from the knot, illustrating how the output from the research phases were braided into the final thesis-as-research-assemblage, as discussed in Section 3.1. Phase 1 (preparation) is the cloth and paper foundation; Phase 2 are the strands of engagement (interview, survey and assessment inquiry group); Phase 3 is the process of stitching the knot; and Phase 4 is the output (publications, conferences), which is then woven back in. Each chapter is linked to the other two, working in harmony to create an overview of place-responsive higher education at a distance depicted as the circle of the thesis argument and approach entwined with the chapters. The image contrasts the masculine closed perspective of the knot with the feminine open perspective of threads that include the reader in the weaving. Following Jefferies (2012), you, as “reader may join the author as a weaver of texts, a teller of tales, a patterner of practices” (p.127).

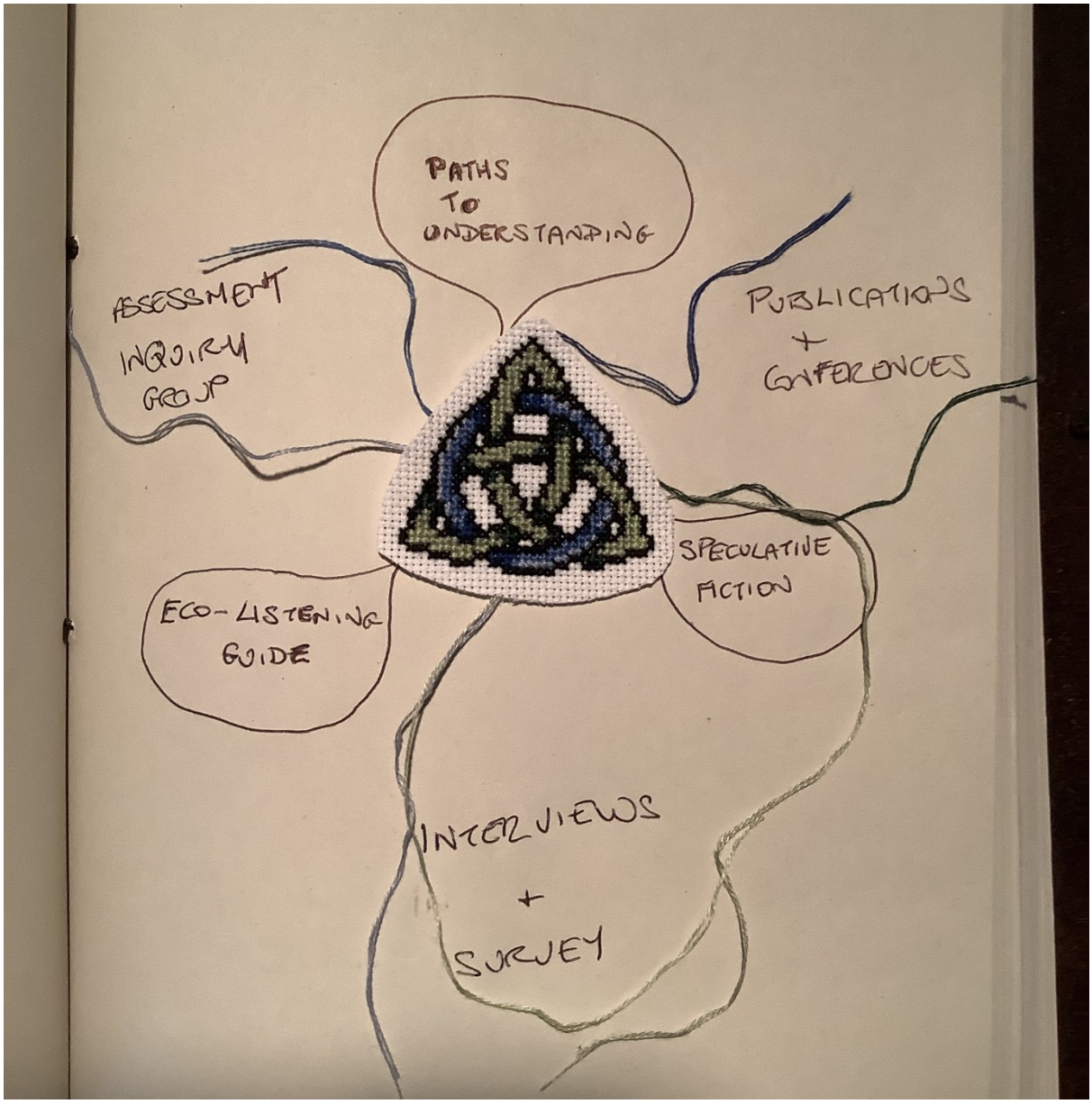


Figure 3.4: Cross-stitched triquetra or trefoil as metaphor for the interlinked nature of the methods, findings and chapters. The threads invite the reader into the weaving and provide openings in the "endless" knot and circle.

4 ⫢ Paths to place-responsive education at a distance

This chapter asks how online postgraduate place-responsive education at distance might work, building on an understanding of how elements of place-responsive practices surface within the teaching and processes currently in place at this institution. As part of this exploration, I will draw on the shared observations of interview participants, the assessment group and insight from the student survey. This foundational overview of activities and approaches that may encourage connections with place at distance will underpin a theorising of the kind of place-responsive educational practices that might be produced to support postgraduate students studying veterinary- and animal-science related programmes online and at distance.

To achieve this, the chapter is structured around a sequence of thinking "paths" that integrate the principles of place-responsive education (Boyd, 2020) previously discussed in Chapter 2.4 as signposts to explore the concept in more detail. I frame place-responsiveness as what those teaching and learning in-and-with place online and at distance might "do", investigating "how it works" rather than defining what it "is" (Mikaels, 2018; p.10). While doing so, I employ speculative methods to acknowledge the supercomplex challenges this thesis responds to (Gough, 2013). Due to the interrelated nature of the research questions and the research method employed and discussed in the methods, this exploration of how place-responsive education at a distance might work will integrate considerations of the effects that those educational practices may have. In so doing, it tackles both research questions.

The sections that follow will build on the experiences shared by participants, including the challenges and observations from the examples in Section 3.3.1 (equine stud assessment, student-led course, Living Labs), in developing an understanding of what place-responsive educational activities at a distance might do and how they might work. The conclusion of the chapter will discuss how that understanding might provide the foundations for the types of activities that could be undertaken at distance and shared online. The place-responsive principles of networked learning (Boyd, 2020) are incorporated into the chapter. It is evident that these principles are not individual elements; they are entangled, not separate. Returning to Sonu and Snaza (2016), a postdigital approach with new materialist foundations may inspire more of an intertwined curiosity than a set of structured principles. Sonu and Snaza challenge the creation of "universalizing principles" (p.260), suggesting instead ways of interpretation that explicitly acknowledge humans as part of an entangled ecosystem requiring the application of a caring, relational ethic. I do not perceive that the place-responsive principles are "universalising", though they may be uncritically applied in that way. They can be employed in a similar way to Wattchow and Brown's (2011) signposts to place-responsive pedagogies, used as ideas to explore with rather than a fixed map, what Gough (2013) describes as "points of departure rather than ports of arrival" (p.1224). With that in mind, the next section is structured around "paths" through the interviews and associated research to develop a theoretical understanding of place-responsive education at distance and online.

4.1 Understanding place-responsive education at distance and online

> *The many songs coalesce to make one song that doesn't exist in any one of the voices alone. It is an emergent strand that I can't find by unraveling the music into its separate strands. (Sheldrake, 2020; p.55)*

In the quote that opens this section, Merlin Sheldrake introduces the polyphonic singing of the Aka women in the Central African Republic. He describes a song where each woman in the group sings their individual path through the forest as they gather mushrooms. There is no lead vocalist and no main harmony. To listen, Sheldrake chose a single voice and followed where it led. I have taken a similar approach to presenting this research, following individual voices and allowing "small" stories to build a "big" story understanding (Phoenix, 2013; p.72) of how place-responsive education at distance and online might work. All of the interviews travelled along paths created by stories. The difference between roads and paths is an important distinction in the context of this work where the aim was to gain an understanding of the concept rather than extract a definitive answer. A path symbolised a more relaxed, familiar, and shared thought wander, in contrast to a well-travelled research road, sign-posted and formal. Cat, Patricia, Riley and The Eager Beaver referred explicitly to paths in their interviews, with emphasis from The Eager Beaver that we were talking about paths, "not journeys". Horton and Freire (1990) made a road through democratic, social justice pedagogies by talking and walking, with what they termed "rooted" conversations (p.7); all of us involved in this thesis have made new paths through the place-responsive education landscape rooted in our shared experiences.

Thinking of how the participants and I might "sing a path", I was inspired by Mikaels' (2018); Stewart's (2015; 2020) and Lynch and Mannion's (2021) use of Deleuze and Guattari's (1987) "lines of flight" (p.4) to explore their understanding of friluftsliv and place-responsive education. For this work, I found Tamsin Lorraine's (2010) phrase "a path of mutation" (p.147) more helpful, as conceptualised in her definition of a "line of flight".

> *A 'line of flight' is a path of mutation precipitated through the actualisation of connections among bodies that were previously only implicit (or 'virtual') that releases new powers in the capacities of those bodies to act and respond. (Lorraine, 2010; p.147)*

Taking Lorraine's lead, what follows are a set of paths that start with what postgraduate education at distance in my institution is seen as being~doing at the time of writing and where this is mutating in a becoming-place-responsiveness. There is also a resonance with the "virtual" connections "release(ing) new powers". Following the examples, stories and "connections" shared by participants within their places will help precipitate a theory of how aspects of "doing" place-responsive education may lead to a responsible and responsive being-with place and all beings at distance. Before we step out on the paths, I note the varied starting places for the stories that follow.

4.1.1 A world of meaningful places

As this thesis emphasises the importance of a meaningful place, this section returns to the meaningful locations selected by the participants to illustrate the global collaboration of thesis participants discussing a place-responsive future. In Chapter 3, Table 3.1 listed the locations of the participants and researcher, from staff participants in Scotland (Edinburgh, Midlothian and East Lothian) to student participants in locations in the United Kingdom, over to France, Vietnam, around by the North American Midwest, and on to Canada. These locations were chosen as they were home, familiar, convenient. We shared histories and stories. The interviews took us to other locations through experiences of learning, teaching and research. Through those stories, we travelled to the Scottish Highlands, Australia, Uganda, Rwanda, Mozambique, Peru, Ireland, Spain, India, Pakistan, New Zealand, Kenya, Malawi and the Cayman Islands. We travelled to all these countries through memories and experiences, while sitting, standing or walking in our chosen locations. We were joined by squirrels, sheep, dogs, blackbirds, eagles, pigeons, bees, wasps, buses, wolves, trees, mountains, oceans, islands, salmon, cows, horses, worms, beavers, goats, gorillas, sharks, locusts, elephants, sparrows, crows and crabs. Together, we created a global weave of connections and connected people imagining a different future for teaching and learning with place.

At the start of each interview, I began by asking participants about the location they had chosen for the day. Following Piersol (2010), I invite the reader to pause for a moment and consider the place chosen to read this thesis. Can you tell me why you have chosen it? What can you tell me about it? Why is this a meaningful location for you? What stories come from that place?

When you have connected with your starting point and connected your starting point to ours, it is time to take the first path.

4.1.2 Path of Meeting

This first path will be most familiar to those who are involved in teaching and learning on online programmes; it takes us to a place of meeting. The induction or welcome period as new students join a programme of study may incorporate what are termed “ice-breaking” activities, tasks that provide students with a scaffold to introduce themselves to the cohort as the first step in building relationships with those involved on the programme (Salmon, 2002). From personal experience and as discussed with staff and student participants in the interviews and assessment inquiry group, that cohort is often formed of other new students and staff on the programme. On occasion, students who have been on the programme for a longer period may join the activities, as seen with “buddy” or peer mentoring programmes designed to help new students feel part of the human programme community. Beyond the programme-level welcome, individual courses may also include introduction activities at the start to connect students, the course team and the course topics. These activities can assist students as they employ their current knowledge as a foundation for learning new topics.

When viewing this meeting time with a place-responsive lens, the question is what opportunities are there for meeting with place and place beings? This meeting begins the process of developing a relationship and potentially choosing to act for or take action on

behalf of that place and those beings, as seen in the transition from a place-based to place-responsive approach. This extends the welcome process from introducing the humans involved in the courses to introducing places; the meeting place is also "meeting *place*". Hugh, John Jeffrey and The Eager Beaver perceived that induction activities on their online postgraduate programmes were those most likely to include an invitation for students to share an image or other reference to their home, as seen with students and staff placing digital pins on a map indicating where they are based. This is the first opportunity for other members of the cohort to "meet" places and, as part of the programme welcome tasks, may be perceived as being a low-stakes process. It incorporates many of the principles previously outlined. Sharing an image or reference to a meaningful place invites the student to share something that has value for them (Principle 1) and situates them in terms of their location and the perceived context for their learning (Principle 4). All of the students should be taking part, so sharing the task of welcoming (Principles 2 and 5), supported and guided by the programme team (Principle 8). These welcome tasks are structured around a period of time, such as a "Welcome Week", where time is allocated to the process of settling in and connecting.

What may seem to be a welcoming task may be difficult for students who are not currently based in a location they see as "home", a topic I discussed in the interview with Hugh. Students may feel a sense of pressure to produce an image that showcases their location, with a sense of pressure to present/perform or promote their home location such that it has value for other students. This pressure to present was discussed in the student-led course example (Section 3.3.1.1.2). The success of these induction activities relies in part on the participation of staff, a reciprocity in sharing their own images and that Hugh referred to as an important aspect of building a relationship with a new cohort: "so I'm not just asking people to kind of share [laughs] these sorts of things... without doing some of the same myself as well". As such, staff may also feel the pressure to present; The Eager Beaver said they might share details of their location if it is a "nice place", in the mountains rather than on the Edinburgh campus, and Hugh also spoke about sharing holiday photos.

The discussion so far has focused on meeting places thorough shared images and words. The Eager Beaver and John Jeffrey reflected on the sights and sounds in online video and phone calls, and image-sharing was discussed in most of the interviews.

> THE EAGER BEAVER you get a window into people's space that they work in, you know, when you are having calls, so you see, you know, what room they're in... Sometimes they're in the field, so you hear they're, you know, you hear they're out doing stuff…

The awareness of other sounds in learning has been explored through the work by Gallagher, Lamb and Bayne (2016) on engaging with students' sonic spaces using multimedia postcards incorporating visual and auditory representations of place. The place sounds gave a sense of the of the postdigital learning ecology within which each course member was entangled. Gallagher *et al.* observed the way in which students adjusted, controlled, or adapted to the sounds in their learning environments depending on learning preferences. This resulted in an interesting comparison of what was perceived as "wanted" or

“unwanted” sound, where music could be welcome for one student but a distraction to another (p.97). This thesis is about unplugging headphones to attend to the voices of other beings. Places can also be indirectly present through participant voice. Hugh’s consideration of students’ perception of hearing different accents recognised how students and staff share places through their voices, not solely in the images and/or stories they chose to share.

> HUGH ...the students are thinking, I’m studying with the University of Edinburgh and they might have in their head, oh I’m going to be talking to all these Scottish people! … and then, then they hear an Australian at the other end… and they say auh! ...but what… what we bring to it is that everyone, almost everyone who comes to us has got points of connection, ...we’ve got this amazing spread of not only places we’ve been, lived and worked, but places we’ve travelled and so on… so uhm, so that’s really beneficial and I think all of us kind of use that informally in ah, in kind of… building those sort of you know, personal emotional connections if you like [laughs] …with our students, and I hope it makes them feel a bit more connected to the programme as a whole...

To invite stories as part of this research, I started each interview asking participants to tell me about the place they had chosen to be interviewed in. I reciprocated by sharing my place, by sharing a story (e.g. The Eager Beaver and Hugh), photos (e.g. Gloria) and video (e.g. Cat, Nina and Riley). I brought interviews to a close by asking if there was anything else about the location or the human participants’ preferred locations (not always the same) that they wanted to share with me. The invitation for place stories came naturally to me when I was carrying out the first couple of interviews. I was located in an outdoor setting and the prompt came from sounds or sights in my local area or the area where the participant was located. Inspired by Basso’s (1996) ethnographic approach working with the Apache, I amended the semi-structured interview schedule to include a question about stories specifically. I used this question first with Gloria who responded with a story of a visit from Abraham Lincoln, a horse and buggy.

> GLORIA OK, I’m on a farm, a thoroughbred farm, where we live, and I am outside in front of the pasture, ah, in front of the horses... the area is in the Midwest USA and supposedly ahm there had been a… a horse and buggy that brought Abraham Lincoln, our 16th President, out to this farm in the 1800s, it would have been like the late 1850s, and they didn’t come down near where I am today, that was a dirt road and they stopped where the dirt road ended, which is probably about an eighth of a mile from where I am sitting today.

Gloria’s place story centres the more-than-human, with the interview being spoken “in front of the horses” as an audience to our conversation. The place history focused on the horse and buggy that “brought” Lincoln to “where the dirt road ended”, rather than a formal recounting of a historic presidential visit. The shared story resulted in Gloria and I laughing about the inclusion of a president in my thesis and we agreed it felt like the story transitioned us from a formal interview process to a relaxed discussion around the topics of my research. It also made space and welcomed other stories as the interview proceeded. The sharing of place stories helped to build the relationship and to demonstrate my

engagement with the participant, their locations and my own reciprocally shared places. It was also another method of engaging with place, through oral story rather than images, which some students may prefer. In the interview with Hugh, I voiced my concerns about asking students to share their place, and they gave the following advice.

> HUGH instead of like, oh, show us something about where you live, you say ... so tell us something about where you are coming from… because they will say I come from Edinburgh, and here's Edinburgh, or well where I'm coming from is kind of this intellectual standpoint or… or my job has brought me in this direction, but I'm not going to tell you what institution I'm at, I'm not even going to tell you what city I am in… and sometimes talking about your, your space and your landscape, can be a way of protecting some of those more personal things…, but… you might be perfectly happy to talk about the lovely city where you live in, or… whatever country you live in, but whatever people choose to present, they're still going to give you some useful context that can help you relate to them...

This path has mutated from a meeting place for staff and students to ways of explicitly meeting places. Induction or ice-breaking activities involving sharing place-stories and similar biographical activities have been used to bring distance cohorts together for some time (Salmon, 2002). Research and the examples shared by participants indicates that places have already been included in a general way as part of an introductory activity. Inviting a connection with the places course participants find meaningful and including both students and staff places as part of the "getting-to-know-you" conversation is a first step in building a relationship with distant places. It makes clear to everyone that places are important. The desire to share social-media-ready images feeds into the marketisation of place, the perceived economic-aesthetic value prioritising the "tourist gaze" (Springgay & Truman, 2018; p.210) that separates rather than connects. Students may also share stories and photos about their home without realising that they may be perceived as a colonising settler, particularly if the images or stories shared are contrary to those that might be shared by a person indigenous to that place. This meeting path is the first step in the process of critically attuning to a place, of learning the stories and histories that are part of knowing that place. The path to a more place-responsive education approach would then lead on to other spaces for places throughout the programme of study, explicitly acknowledging the presence of place and place beings together with the many cultural, social, historical views that may accompany those presences. This form of introductory learning and returning is seen in John Jeffrey's ecosystem courses (Section 3.3.1.1.4). This links to the "science of embeddedness" proposed by Weaver and Snaza (2017; p.1056) in identifying ways that place participants can become an active part of the debates and knowledge-construction. If the introductory activities are structured well, these welcomes lead to a sense of affinity. We take this path in the next section as we consider how to acknowledge the role of place and place beings in online learning communities.

4.1.3 Path of Community

Travelling on from the meeting place, the next path leads to a deeper emotional connection with the humans participating in the online learning experiences. Place-responsive educational practices seek to extend this community out beyond the course group into the local more-than-human communities from a postdigital entanglement of beings, material and matter. In the interviews, I asked participants about connecting or sharing their learning and research with their community. The question was deliberately broad to allow participants to work from their own understanding of what community meant for them. Often this question resulted in participants asking "what do you mean by my "local community", do you mean...?". John Jeffrey and Riley also questioned what "local" meant, given that both felt interactions online reduced the distance, as John Jeffrey said their online students were "effectively more local than they, they seem". Riley observed that a community could include "people who share the same environment", offline or online, or people "with whom I have a lot in common". On this path, facets of community engagement and interaction will be introduced, culminating in a consideration of community from a place-responsive perspective.

The majority of participants spoke about their academic community, including study or research peers, students, stakeholders, and the public. Cat's emphasis of the importance of University teaching staff welcoming students to the online community loops back to the previous path of welcome. For them, the University was "real" because of the connections and people, echoing The Eager Beaver's observation of the importance of being connected with likeminded people more than the "nebulous concept" of the University. Gloria described engaged staff as "teachers that hear", emphasising the importance of slow time to build relationships. Hugh and The Eager Beaver discussed how relationships developed with their students over time. For The Eager Beaver in particular, this involved sharing more about their personal location and interests; they were unlikely to share photographs with students early in the programme but would do so when communicating with dissertation students. Reflections on communication technologies ran through most of these discussions about community. There was a recognition that the choice of technology had the potential to exclude students, whether because they did not choose to use a particular tool (Nina) or were unable to access it (Ryker). Students were excluded in other ways, as highlighted by John Jeffrey when talking about how the admissions system and application of text-similarity/plagiarism software negatively penalised students with different first languages and cultures of learning from the institutional preference of English.

Cat, Patricia, Sheep Flock Health, Hugh and Ryker referred explicitly to their home communities. For Cat, this was about leaving their "birth community" to travel to another location, becoming part of a research community they saw as "family". Nina spoke extensively about engaging with their "local" community, before clarifying that they were speaking from a location they had recently moved to and their plan to move again to study in another location. Both locations were in Nina's home country, so this may explain their perception of the ease of connecting with communities compared with Cat's experiences. These two participants' experiences demonstrated that students' home communities are not always "home", inclusive or supportive, which needs to be kept in mind when planning

activities that engage with local communities. Sharing research within students' local communities is a reciprocal process where the act of study may bring benefits to the place where participants are based. Patricia, Nina, Ryker and Gloria recounted how they shared knowledge learned from their studies within their human community. Patricia spoke about the importance of studying online for their island community as it meant people stayed and contributed rather than leaving. By contrast, Sheep Flock Health and John Jeffrey spoke about travelling to locations to deliver training to communities in other countries and the ways in which they connected and built relationships within the communities, with animal health and welfare as a common purpose. Sheep Flock Health shared two examples in particular of colleagues who spent time speaking with and sharing knowledge within communities, and as a result, learning from those communities about impacts on their domestic stock that could inform research in other parts of the world. John Jeffrey discussed the complexities surrounding the interface between human communities, domestic animals and wildlife, which may result in conflict or the spread of zoonotic disease, and the importance of improving communication with and between stakeholders who may hold different perspectives (Propen, 2018). Cat and Sheep Flock Health emphasised the importance of translators in helping to connect people across language barriers; this thesis extends the role of translator to the attentive practice of listening to the more-than-human community to connect across species barriers (Fine, 2022; Haskell, 2022). Sheep Flock Health referred to the use of a simple diagnostic tool programmed into a mobile application (app), where the technology was the facilitator to community communication.

These examples start to tease out the place-responsive factors and actors related to teaching in this area. The thesis approaches this place-responsivity from two directions: one gaining a deeper knowledge of the work that is already underway as staff and student researchers engage with, or learn to engage with, multiple stakeholders to share knowledge, taking a stewardship role in conservation and ecosystem health; the other, how teaching students to work in these areas requires that they develop these skills, and also the skills to begin to engage with places and more-than-human beings as stakeholders. The latter requires a different form of translation and, as Isaacson (2021) illustrates, it can be difficult to transition from communication with humans to communication with other beings. Her four-step process brings in practices that are discussed in this chapter, namely: listening to local stories, myths, histories to begin to know places better; develop a "grammar of animacy" by noting the ways in which place beings communicate; employ all senses and know the value of silence; and finally, representing "nature as partner" (p.322).

Collaborative activities such as group and peer work have been proposed as effective methods for building community with online cohorts (Chatterjee & Correia, 2020). Group activities were a topic for discussion with student participants in the interviews and in the assessment inquiry group. Some felt that group activities helped to build connection, others could appreciate the potential but had not found groupwork helpful for them. This was linked in part to personal preference, similar to the student experiences as reported by Ross and Sheail (2017):

> NINA I can't say that I tried hard to have the contact [with other students], I have to be honest...

However, the main impact on group work at least for these students was time, particularly an issue when factoring in the balance of work, study and other commitments as well as time zones.

> PATRICIA ...we had a group project and that was really a very good, and very successful way of working together, but apart from this I've noticed... most people are very busy with their private and professional lives...

The question is then why short-time groups are preferred, knowing the pressure of endeavouring to build a sense of community at the start of a five- or ten-week course. Given that the argument is for slowing down, it would be more sensible to allow students a longer period to connect, especially when time is essential (Principle 3) in the process of building trust in relationships (Delahunty, Verenikina & Jones, 2014). In the context of the RDSVS, some programmes make use of peer group activities and structures such as learning sets to provide time for students to connect and support each other longer term. Both Gloria and Ryker talk about connecting with students they had previously met on another course, so the opportunity exists for deeper human relationships (Principles 5 and 6). There may be an argument made against long-life groups due to the uncertainty surrounding students graduating at different points, or if some students are enrolled for one course and others for a full programme, or students are taking a guest elective. While the focus of this thesis is not on group activities and dynamics, it is a useful thinking exercise when reflecting on community. In response to the barriers above, the groups or learning sets could be flexible to welcome guest members to their communities, but there may also be the question of whether group assessments are useful. If the aim is to build skills in communicating and achieving a goal as part of a team, the benefit may be in preparing for assessment (formative) rather than the assessment being a group submission (summative). Beyond those group-restricted thoughts lies the question of whether small-group activities are the most effective, or whether the focus should be on more flexible networks that students can connect into or sets that focus on particular areas of interest (Anderson, 2016). This may require accepting messiness and uncertainty in exploring new ways of connecting; recognising staff and students "becoming-with" (Bozalek & Zembylas, 2018a; p.107) each other as well as with place operates from a position of mutual support and collaboration that is important in the face of uncertainty.

Failure to provide the space and time to share place-based stories through the programme of study can also negatively impact the ability to connect. In the interviews, Nina observed that a lack of images or local stories resulted in an online learning environment without any sense of the international cohort involved in learning and teaching the courses. Designing activities that invite experiences from that cohort makes space for the more international experience that Nina felt was missing in the virtual learning environment. Nina noted that there was discussion about the "Global University" before they started their programme, but little evidence of it in the online environment beyond the examples shared by their peers. At this point, it is important to recognise that the view of an online learning environment as lacking, as being a "non-place" feeds into a deficit perspective of online education, offline "natural" environments are no more assured of being "place" than online. Bertling (2018) considers the difficulty of engaging with places offline when more are

becoming disconnected non-places, like design-identical chain supermarkets and food courts. She proposes a set of relational practices that incorporate arts-based activities and multisensory awareness aimed at "revisualising" non-places (p.1629). That application of arts-based activities and multisensory attention will be incorporated into the speculative fiction (Chapter 5) and Eco-Listening Guide (Chapter 6). Providing a simple example, Gloria spoke about their enjoyment in winning a student photo competition by sharing a picture of their barn and horse, which they felt recognised their location as part of the extended University campus. Patricia's interview illustrated the importance of finding a project or activity that allows the individual to follow their passion, a connection between emotion and place. This is supported by Sheep Flock Health's emphasis that projects must be relevant to the students and the communities within which they are based, a path that will be crossed again in the next Section 4.1.4. Patricia proposed an opportunity to learn about other places, practices and cultures through international project placements, somewhat like an individual or personal version of the residential course that John Jeffrey ran.

Place-responsive activities incorporate and acknowledge connection with the more-than-human community. Facilitating a place-aware or -sensitive interview process invited discussion on local places and beings. When reflecting on their local community, Cat noted that they felt disconnected from the local Vietnamese human community, while talking extensively about the other species that they interacted with on their daily walks. Riley, Ryker, Gloria, Nina, Sheep Flock Health, The Eager Beaver and Patricia all discuss other species as part of their community network. While others did not discuss species as part of their community, they participated in co-located walking interviews and their responses are peppered with references to other species that we observed during the interview. The participation of these other species may go unnoticed and their input and influence as potential place teachers unappreciated unless teaching practices are extended to methods that respect their voices.

Allowing time is also essential when connecting with place; if connecting with other humans is difficult, connecting with other species is more so. In the case of online postgraduate distance students, it may be the case that the students are already familiar with their places and indeed one of the premises of this thesis is that students explicitly incorporate their places into their work. However, it is important to recognise that some students may be new to the location in which they are based while studying, and while place-based and -aware activities may encourage them to find ways to connect with those places, it is important to have flexibility such that students can choose their place, potentially returning to places they knew before or exploring places they would like to know better.

This path has mutated from one of connecting with other humans to building relations and becoming-with places and people. The next path is one of grounding.

4.1.4 Path of Grounding

This path focuses on how students can connect their research to their local place and place community. The interview schedule invited reflections on a different way to enact place-based activities. As discussed in Chapter 3, examples were provided (equine stud assessment, student-led course, Living Lab) to minimise the perception that this was something new for the institution; instead, it was an invitation to adapt, rethink or extend processes that were already in place. This path will mutate from the current design of summer school or residential courses to considering approaches to assist students to ground their research in their chosen places, including practical activities, research contacts, and course design. All of the interview and survey participants welcomed the idea of supporting, designing, facilitating and participating in practical place-based activities at a distance for postgraduate online students. Potential barriers or issues were raised which will be discussed in this section.

The quotes below describe three approaches to co-located activities: a summer school, a residential course, and a training course. In describing these activities, The Eager Beaver, John Jeffrey and Sheep Flock Health emphasised the importance of being co-located, seeing the opportunity of being in the same place as students as being central to getting to know the students better as well as having the opportunity to learn in situ.

> THE EAGER BEAVER ...we run a summer school in Edinburgh now every two years, so that gives an opportunity for people to come and, we don't, we don't do any fieldwork as such, but we do get out into the landscapes and go to the Cairngorms… and see beavers, well, we try to see beavers, not in the Cairngorms of course, where the beavers live…
>
> JOHN JEFFREY [In the residential course] we've taken all the students out, put them in a like a pristine tropical forest environment and they just relax [car passing] and have so much fun and then it creates a different kind of communication that... you realise it is quite artificial being in a lecture room…
>
> SHEEP FLOCK HEALTH We've also done things where we've actually worked in conjunction with the AVO [assistant veterinary officer] training centre itself, and they have a little farm a little like the farm here... And we've done things where we've simply gone and just spent a day in the field and talked about whatever the opportunity to talk about that is there in the field comes up and I am utterly convinced that that is the most impactful means of, of training, em, it can cover a large range of topics, because em we just need to think in advance about what we are covering, but it certainly complements didactic sort of training.

None of the student participants had undertaken residential or summer school activities, but they proposed alternative ways of learning from place stories. For example, Ryker highlighted the benefit of being able to access case studies with real-life examples of work in the field, which could lead on to volunteering opportunities and/or contacts to approach for practical experience. This type of contact database is currently in place for undergraduate veterinary students, allowing them to gain animal handling and clinical experience in areas of practice and local areas that are of interest to them. It requires time

to create and maintain, both in terms of the contact details and in maintaining the relationships between the contacts and the RDSVS, so the School can ensure the safety of students while on placement.

When designing courses and assessments, Hugh, John Jeffrey and Sheep Flock Health emphasised the importance of context for the student. John Jeffrey's ecosystem courses provided a helpful case study described in Chapter 3. This idea of a project to develop clinical skills through hands-on activities is also seen in the undergraduate project examples shared by Sheep Flock Health. Early in the interview, when I provided examples of practical activities, Patricia resisted in terms of the location ("everything that's going on… they are just in Edinburgh or somewhere else down south"), and in terms of being outdoors ("it would be horrible if I had to do that outside, in the... island weather, that would be a nightmare"). By rephrasing the question to allow space for the idea of choosing a personal direction, there appeared to be a switch in Patricia's perception. In sensing that the University might "permit" Patricia to go north, the discussion about possible activities for distance students changed. The interview started with a "technology is just a tool" view and voice, to "technology as a facilitator that stops me having to travel south" to "wow! could I do something in a place and a topic I am interested in", and in Patricia's case, that was centred on an indigenous knowledge base and environmental education.

> PATRICIA If we were able to… well, I mean have… study days abroad and in a region, for a project, for an assessment and em, feedback like this, a bit more flexibility in the project, a bit more open-minded so just go for your interests as long as they are in the context of the module, that, that would be ideal… [Patricia then proceeded to describe a project their son had been involved in which involved travelling to Svalbard]

Towards the end of the discussion, Patricia and I found an example they engaged with, the student-led course. As described in Chapter 3, in this course structure, the student proposes a topic, revises the learning outcomes and aims to determine what, in the context of their chosen topic, a successful outcome would be. Students then complete blogs and reports through the course, where they explore what they have been learning and contrast with the aims and outcomes set at the start of the course. This is similar to the blog assessment that Hugh described for digital education students. From a place-responsive perspective, this links with the experiential field journals described by Payne and Wattchow (2009) as a form of "somatic reflection" (p.27) and memory work (Principle 7).

Incorporating both study context and research contacts, Gloria found the equine stud facility assessment example particularly helpful as they had experience of completing that assessment as part of their studies. As they were based on a horse farm, they were able to directly observe some of the topics that were being discussed from their programme, mixing the theoretical and the practical. In addition, they were near a research centre:

> GLORIA ...like forty minutes from my house so I was able to go and witness a treadmill test... so for any online students... where they can go into someone's stable and just see what they have been learning physiology wise, I think it really adds a lot of depth to what you're learning.

Gloria's reference to practical activities led to a discussion of an academic network to link students to activities in their local area. This extends Ryker's concept of a contact database or network that could be used by new students to connect with their local research community, in whatever way they perceived as "local" and "community". Key here is the experience of the student being recognised as the knowledge-holder in their local area and context (Wattchow & Brown, 2011), which aligns with John Jeffrey's activities that invite students to share their local place-based knowledge with the course group.

Extending that focus on local community work, Nina's example of a practical activity demonstrated how working with the local community may have positive benefits beyond the learning value for the student (Principle 1) and might also help promote the University through more active public engagement. Nina suggested a local "conflict" example, linked to their own observations about public perception of wolves in the local area.

> NINA I see wolves when I walk... they are also free so I see also what is around there, how people react, I notice that tourists or people from the city... they come for the weekend and they all wish to ah yeah wolves everything OK and the local people who live there they are like divided, some say yes, some say no, I see all this, so I think is stupid I think it is a pity but it is not possible to live all together and I notice that in fact there is a big problem I thought because of space we have less and less space and we share more and more of our space and of course I think this is also a big problem, a trigger to conflict…

This exploration of conflict situations is echoed in the practical examples shared by John Jeffrey in teaching students about conservation. In considering how practical activities incorporating community stakeholder communication might present a role for research students, Nina closed with a comment on the balance between the "no limits" of having ideas and the "limits" imposed by reality, in other words, by the challenge of a real-world experience. This echoes John Jeffrey's desire to integrate the theoretical and practical aspects for online conservation students. John Jeffrey and Sheep Flock Health indirectly highlighted a limit as their work focused on training veterinary and animal professionals to safely carry out procedures in the field. While there may be future possibilities for remote training in terms of simulations and haptic devices (e.g. Seguino *et al.*, 2014), the safest approach is to have hands-on training. It is not the aim of this thesis to suggest replacing all activities with online and at distance but thinking about a de-growth sustainable model, in this case, taking the staff members to the students and training in place in their own context is important.

When considering potential limits to outdoor activities at distance, Patricia's observation was interesting in the context of "outside the courses or the assessments", in that connection and interaction for them was expected to extend beyond the set course activities but that interaction was limited by peers' personal and professional commitments. The Eager Beaver supported this by outlining the range of experiences from their student cohort. For them, any opportunity had to be "for all or not at all", accessible for all students. This is worth keeping in mind when considering the examples presented. If the goal is to identify ways to connect in a potentially meaningful way with remote learning communities,

then that will be impacted by availability and challenges of balancing commitments and priorities. Designing from a slow pedagogical perspective (Payne & Wattchow, 2009) is necessary to allow time to build a relationship with place and all beings. This requires thinking more creatively about building "time" into the course activity (Principle 3). As discussed in Chapter 3, John Jeffrey's example of the formative ecosystem activity spread across two semesters demonstrates that creative approach to time by encouraging the students to revisit the same location across a number of courses. The activities are different but related, connected through the student and their chosen place. There is recognition that a sense of kinship, a relationship and connection cannot be achieved in one visit, there is a need for repetition, for "care time" (Puig de la Bellacasa, 2017; p.201).

This path has emphasised that priority may still be given to co-located activities, noting the benefit to the student of local context (Principle 4). While there are benefits to being co-located and it has been proposed that knowing a place requires being in the place (Somerville *et al.*, 2011), it is important to emphasise that people may be in the same location, they may still not see the place in the same way (Meinig, 1979; Stewart, 2020). As a result of the Covid-19 pandemic in 2020, institutions were required to rethink how field trips could be carried out and proposals were made to include images, videos and personal artifacts to create a virtual "sense of place" (Hoke *et al.*, 2020). From my perspective, the more effective approach involved the neurology case geocaching activities designed by Nessler, Schaper and Tipold (2021) that grounded students in their place through walking activities as they searched for case information. Nessler, Schaper and Tipold compared the students' results on case activities completed indoors and those completed outdoors, finding a statistically significant difference between the two, with the outdoor activity giving higher results. Students had the option to work through the cases in groups or solo, and time was allowed to complete the cases (four weeks per case). It was noted that some students brought their dogs along with them on the case-hunt. The aim was not to develop a place-aware connection, but the integration of place and clinical study makes the entanglement of study and place explicit. By discussing their professional and clinical work, postgraduate students may already draw on place-based experiences and personal stories to link theory with their professional practices (Fawns, Aitken & Jones, 2019), supporting the idea that dialogue is important (Principle 6). Considering context also touches on the troublesome concept of "value" for the student (Principle 1), which Cat explicitly refers to when talking about incorporating practical tasks, and which Sheep Flock Health alluded to when talking about projects with local context. The addition of "value" raises the question of value for whom and the dangers of commodification (Nasseri & Wilson, 2017), and this is one of the challenges of implementing a critical place-based, if not place-responsive, approach. Frameworks like Hensley's (2016) SHEEEPS may be helpful as a reminder to engage with all perspectives.

This path mutated from a familiar journey outdoors to consider a more relational process of engaging with practical, contextualised, experience-led activities and assessments in students' globally-distributed locations. For now, we move from the path of grounding to a consideration of safety.

4.1.5 Path of Safety

This path is crossed by a number of trails, as the conversations on all the paths we have taken so far raised some areas of concern for participants when thinking about any activities involving place-based engagement. It takes us through terrain that resonates with the research question on the effects of place-responsive education on students and programmesat distance and potential barriers. These barriers include concerns related to studying in outdoor and online spaces, technology, ethics, course and assessment design. The areas of concern that will be covered on this path are not intended to be exhaustive, they are the areas that those involved in the research highlighted as most pressing. Principle 8, the role of the facilitator, is the main signpost for this path, though Principle 2 is also important, where responsibility is shared.

The first concern related to ensuring safety for students who may engage in outdoor activities at distance. Central to outdoor education is the process of ensuring the safety of students and staff participating in outdoor activities. Research on outdoor education practices, particularly when referring to training outdoor educators, will discuss the necessity of risk assessments, pre-session visits and planning (Mannion, Fenwick & Lynch, 2013; Blenkinsop, Telford & Morse, 2016). This is not solely about human safety but includes awareness for the safety of more-than-human beings (Stewart, 2020; p.51) and related to cultural history (p.135) where an ability to "read" the land or river is an essential part of the role of an outdoor educator, applying skills developed through attention, familiarity with place and knowledge of place history. Stewart also highlighted the importance of imagination (p.135), the ability for an educator to anticipate how people might respond to unexpected events on a field trip and consider what back-up solutions might be useful. For the interviews, bearing in mind environmental factors, I checked that all participants were wearing appropriate clothing, and with a pre-arranged on-site contact for distance participants (see Section 3.3.1 for more detail). This care aspect of my research preparation surfaced in the interview analysis with my repeated check-ins on the audio. The care was reciprocated, as participants checked that I was also suitably attired and comfortable during the interviews. In the interview with Patricia, I referred to the range of participant locations, connected to a discussion of the impact of weather on outdoor activities.

> SHARON … yes that is a good point that the Scottish weather is not the most conducive to eeh, sitting out... we also have some students who are in locations where it might end up being too warm or too hot or too sunny...

Considerations of safety include health, and the connections between health and place have been discussed in the literature review. Given the mental health benefit of a blue-green (water-plant) view, there may be a benefit to recommending time with those views, either indoors or out, if that can be achieved safely. This observation is not to suggest it is the responsibility of the educator to "require" students to have blue-green time, but that these recommendations may be considered as part of a consideration of safety and wellbeing. The Eager Beaver viewed time outdoors as a "luxury", a sentiment echoed by Riley, John Jeffrey and Sheep Flock Health. John Jeffrey noted how time to think outdoors during a workday was rare and valuable, often taking research conversations on new trajectories. The Eager Beaver noted that not all students can go outdoors or into the field

and their reasons link to some of the personal and professional restrictions on mature part-time students reported in Selwyn (2011a). Safety indoors is not guaranteed, and indeed students may be located in areas where it is either not safe to be outdoors, or they may be separated from the place where they feel the most connection.

The second concern related to safety in online spaces, which is entangled with the first concern. There may be a false sense that the institutional online learning environment is more "safe" than other environments, whether online (e.g. social media; Bayne, 2004) or offline (e.g. field work) when risks may exist in all forms of engagement. While this is a problematic and far-reaching debate, two aspects are outlined here. Different forms of connection may come from meeting places outwith the University online environment and staff may need to provide guidance in these more "open" places. When discussing a student-led Facebook group that had been set up as a support hub for their programme, Riley spoke about the staff members who, while not active on the group, kept a "watchful eye" that they appreciated. This is safety under Principle 8, with the role of staff members as a back-up source of support should the student leaders require assistance. There is an additional complexity in that students may have a different appreciation of the issues that need to be raised with teaching staff based on their perceptions of distance online learning (Ross and Sheail, 2017). This can result in problems developing which could have been dealt with earlier had the student raised these with staff. Providing multiple routes to support and opportunities for "task-oriented... and socio-emotional" interaction is an expectation in online learning courses, as is the recognition that building relationships and trust is an "incremental process" that takes time (Delahunty, Verenikina & Jones, 2014; p.9).

The third concern centred on technological tools as distinct from the process of studying a particular subject online. Patricia emphasised the importance of technology as "a bridge to bridge that distance" to the campus, which allowed students to study in "surroundings where you just feel safe, secure and relaxed and can concentrate on your studies". Indeed, the majority of online participants, including myself, took part in the interview from an indoor location with view to the outdoors as that felt more secure with less perceived risk of technological failings associated with low bandwidth or batteries. The Eager Beaver and John Jeffrey spoke of the importance of using tools that were accessible to students and staff, that offered straightforward connection rather than excluding or overwhelming.

> THE EAGER BEAVER 'cos a lot of our students... do mirror where I'm at in that they are a little bit older... we're not dealing with straight-out-of-school 18-year-olds totally you know, zoned into social media... that's the sort of thing that totally stresses me out... having to be on it immediately... I hadn't really thought about it like that is that those things that I might find overwhelming, potentially they could as well, so getting that balance right...
>
> JOHN JEFFREY some students who prefer to use something like Blackboard Collaborate, em, because they can talk and see us and we can see them... but we generally use Skype because it is more robust... well it's more robust if you use text only... so we tend to do that because the majority of students probably can't

participate, so... it increases accessibility because people with poorer internet connections can then.. participate...

The fourth concern recognised that safety and responsibility extends beyond health and safety of human participants to consider the ethics of being in and interacting with place. Patricia touches on this from a practical perspective, when considering what formal ethical approval may be required to undertake an activity involving working within their community: “where’s the line, when is it that you need ethical approval and when is it just a normal ordinary module assessment?”. As mentioned earlier, there is also the ethics of including place participants without their consent (Bastian *et al.*, 2017). Wattchow and Brown (2011) also warn against the dangers of colonisation through an unintentional or intentional use of places as objects to achieve goals rather than beings to become-with. What is needed is an ethics of care within teaching activities, a living and lived relational ethics that helps to scaffold responsible and responsive activities in local places and as discussed in the principles (Chapter 2; also, Tuck and McKenzie, 2015; Derby, 2015; Sonu & Snaza, 2016).

The fifth and final concern related to course and assessment design. This is a concern expressed by staff and students in both the interviews and assessment inquiry group, where students and staff were uncertain about what was “allowed” within the contexts of higher education and the institutional regulations. It carried the safety concerns of approval and acceptability in addition to accessibility. This is thorny problem that has been highlighted as part of an underlying theme in the thesis as to how institutional policy drivers act for or against a centring of the place of the distance learner, and why place-responsive education disruption may be required. The assessment inquiry group was an example of “seamful design” (Fawns *et al.*, 2021; p.371) where students and staff worked together to challenge the assessment practices and highlight the assessment formats that could be most effective in developing the creative curiosity required to engage with places.

This path focused on safety, mutating to briefly outline steps that may be taken to ensure safety in the context of place-responsive online distance education in an uncertain world. Developing a sense of safety is a shared responsibility and the skills required to be safe in a particular space may be related to local knowledge (Stewart, 2020) that students may or may not have depending on their connections in their location. Through the use of risk assessment forms and guidance, institutions may seek to create a risk-limited, commodified outdoor “experience” (Beames & Brown, 2016), but any learning experience may bring uncertainty and challenge. Beames and Brown outline the key difference between risk and challenge, where the former is related to circumstances which may result in harm and the latter an experience that invites the learner to apply their knowledge and skills to solve the problem they face. To face their challenges, it is important that learners feel “safe, secure and accepted” (p.44). A place-responsive approach to learning encourages learners and teachers to prepare sensibly for the known, while being alert for the unknown and unexpected. Holding the goal of preparing for unknown and uncertain challenges in mind, the next path is one of problems.

4.1.6 Path of Problems

This path examines the way in which students are assessed, rather than problems or barriers to place-responsive education that are integrated into each section. There is a two-fold reason to take this path: to appreciate the forms of assessment currently employed and, by questioning those forms, to mutate to a new perspective on postgraduate assessment for students studying in this area. A question many teachers may be familiar with is when students ask if the knowledge being shared will be on the test before they begin to pay attention (Derby, 2015). In the current climate of outcome-driven assessment (Gough, 2013) staff may also turn first to the outcomes and modes of assessment, and then wrap teaching around the constraints of what "must be delivered". This is seen in the comment by Sheep Flock Health.

> SHEEP FLOCK HEALTH I hate teaching students in classrooms, I hate formal tutorials and things which we are almost forced into doing because we have to, because of the way we teach our students, we have to deliver a syllabus and we have to do it on a rolling basis over a year and we have to give the same thing to everyone and all the rest of it em because you can't come out and do the same thing for everyone because when you come out you see something different every time.

This emphasis on doing "the same thing for everyone" is a recurring theme and a barrier to adopting new methods. The first thoughts from all participants, including my own examples, focused on projects, or activities where there was sufficient time (Principle 3) and, usually, credit weighting allocated. This returns us to the idea of "value" (Principle 1) that was mentioned earlier. If there is no credit weighting, then place-time may have a lower priority, particularly when considering the range of competing priorities that postgraduate students are faced with. The Eager Beaver's observations on credit weighting in the interview concurred with Stone, Downing and Dyment (2021). Conflicting priorities were also raised in the assessment group, noting that while formative activities were often helpful and creative, they were lower priority and often avoided unless they related to specific skills required for the summative assessment that the student did not already have.

> NINA …the only problem is that when there are formative assessments, they are usually at the same time as the official one and some people who work a lot it, like I do or whatever, and it is quite difficult to do it… so I think it should be better to do it [a practical activity] like a, not like a more like a formative assessment but then in such a way that people can participate whatever they do, because as you said before, we are all short of time and organisation and ah…
>
> HUGH in the past we just had that as write a separate assignment at the end, and now we're going to ask them to take some of the formative activities… and take what they did in those activities and, and revise them if necessary, if they want to, in light of the feedback they received and then that will be their assignment instead… Partly it is a practical issue for us of em, well, a constant feeling that we're asking them to do a lot in the course… and that we're now being pushed to return feedback sooner and feeding around all sorts of pressures...

As an example of time pressure influencing choice of activity from this project, initially both Riley and Ryker had opted for an asynchronous interview. As described in Chapter 3, I had created this option to provide more flexibility for participants. I had envisioned a more relaxed process, allowing space and all-important time to reflect and respond to the questions, without having to reply in one time-constrained interview. Ryker and Riley's experiences emphasise the sense of pressure to present the best view of self and place. This anxiety was reported by Ross (2014) relating to high-stakes assessment, where students performed for the audience, whether for the teacher or for peers. Even when the activity carried no credit, as with this interview, the goal of participants was to provide a "rich" introduction to their chosen places. Here, the aim was to present the best aspect of place to be recorded in the interview, so that the richness and appreciation could inform the research on place. The excerpts below are in response to my questions to both Riley and Ryker about their thoughts on the off- (asynchronous) versus online (real time) interview methods.

> RILEY [The asynchronous interview] was more convenient. Work and study week is busy, so I could fit it in when I had some spare time... I've done online quantitative research questionnaires and face to face qualitative interviews. I think asynchronous may only work for participants who have some idea of the research process and understand that you need to provide rich material. I suppose follow up questions may elicit more material but then the moment has gone and the participant may be thinking differently when answering follow up questions... I think it does [give a sense of having a conversation] but a formal one… Your presentation was the inspiration, so yes I guess I was thinking about what information I could give you about my place.

> RYKER I like this, the, the, the interaction between the two of us on the phone... it seems easier, em... wh... you presented the questions to me [for the asynchronous interview], I wrote them down …First of all, I felt like I wanted to give you a really nice representation of the area where I was... and so I thought, well, I want to just go down the road to the beach... ...and then when I began to like, think about those questions, and I thought, you know, this is huge! …This is like, there's, these are really good questions... and I want to take some time to really sit down and write it out and answer, and then life got away from me… So this [synchronous] method was more preferable.

The assessment inquiry group reviewed 340 summative assessments from the 153 courses running at the time across 13 RDSVS postgraduate programmes. Over 90% of the assessments were what the assessment group referred to as "traditional", e.g. case reports, learning diaries, critical reviews, essays, presentations and short/multiple-choice/extended-answer questions. As supported by Sheep Flock Health, the group found that the assessments were clearly contextualised to the student's experiences and course topics, e.g. herd health plans. Summative and formative tasks also incorporated problem-based learning practices, such as sharing difficult cases for discussion or reviewing welfare cases. Problem-

based learning has long been a primary pedagogy for veterinary medicine (Farnsworth, 1997) in conjunction with didactic lectures and clinical practice. Developing skills in stakeholder communication was important, with assessments on policy briefing, public information posters, and grant applications as well as formative activities on resolving group conflict. The assessments that groups were assigned followed the traditional route in preparing reports or presentations. The positive and negative experiences of group work were discussed briefly earlier in this chapter. Where "wikis" were referred to, these were used as tools for students to collaborate on group text-based tasks rather than for more creative approaches to communication. There was also the potential for staff to monitor collaboration through the wiki tools embedded within the learning environment, though staff did not avail of this functionality.

The assessment inquiry group identified a small proportion of assessments (~9%) that they categorised as "non-traditional" and which they saw as developing creative skills. These included recording a podcast and creating an infographic, both related to new forms of communication. The student-led course was also included; the group found the benefit of being able to structure a course around any topic as being interesting while also challenging. The challenge lay in the ability to choose any topic. The assessment group reported that some form of structure or a starting topic has value for three reasons: it gives students a starting point from which to adapt the assessment to their needs, it acknowledges situations in professional life where an unwelcome task must be completed, and it makes the marking process easier for staff. Related to the final point, the group observed that too much variety would make standardisation in marking difficult. This returns us to Sheep Flock Health's point at the outset about delivering "the same thing for everyone", seen as being "required" by both staff (e.g. The Eager Beaver) and students. In developing skills to address challenges or challenging problems, the group noted that there is a challenge for both a flexible and a fixed topic. For the flexible approach, the challenge is which topic to choose, which is seen as an acceptable challenge for a dissertation project but not for a short course. For the fixed approach, the challenge is in having to tackle a new topic with limited knowledge or understanding, where the interest in learning about the topic is balanced with the concern of achieving a good mark. Irrespective of the topic flexibility, the group emphasised the importance of developing creative skills, particularly in communicating with diverse audiences. Beyond creativity in communication, the group felt creativity was also needed to lead innovation and ask difficult questions. Linked to the motivation to be creative, the group included three elements: curiosity to see "what happens if I try this?", courage to take a risk when fear threatens to limit motivation, and confidence to ask for help, more information and/or to stand by an observation or discovery. Creativity is linked to imagination and curiosity; Stewart (2020; p.135) also referred to imagination with regards to responding to unexpected risks as encountered on the path of safety (Section 4.1.5).

This path started with the application of problem-based learning to provide a structured method for students to apply and evidence their knowledge, recognising that assessment as the "place of arrival" (Bayne, 2004; p.311) after exploring many learning paths. Along the way, it encountered problems that may not have a solution, mutating from

evidence-based certainty to a questioning of what is known, why and how, and what if there is no answer. McCune (2020) highlights the necessity of allowing for the creative tension between support and challenge as a key element of curricula for addressing super-complex or wicked problems for which no answer may be available. The next path addresses that uncertainty.

4.1.7 Path of Uncertainty

This is a path where we expect the unexpected. All of the principles previously discussed are needed for this path, as when facing super-complex or wicked problems in uncertain times, students benefit from some form of safety net and a teacher willing to sit with the uncertainty in company with students (McCune *et al.*, 2023). Nina's conflict example discussed earlier is a wicked problem of balancing the multiple perspectives of the local human community, tourists and the wolf population in a time of increased travel and shrinking, overlapping territories; there is no clear "right" solution.

The principles and paths have been presented as a way of teasing out an understanding of what place-responsive education at a distance might be, or more specifically, how to "do" it in terms of possible practices. In reality, it is a process of being open to what may come, to "become with" people and place, rather than being able to structure activities with certainty that this is what will be covered. Earlier in the chapter, Sheep Flock Health voiced their frustration with a teaching approach that required the delivery of "the same thing to everyone" and The Eager Beaver emphasised equity and accessibility in their reference to "for all or not at all". In truth, it is never possible to guarantee that every student will have the same experience, even within a structured classroom environment, as each individual will respond to materials and teaching in different ways. And yet it seems difficult to let go of that restrictive perspective. Indeed, Gough (2013) suggests that the constraints are deliberate and it is the ethical responsibility of the educator to choose to do teaching differently, to take up the challenge of disrupting, asking difficult questions about what is taught and how in the face of "business-as-usual" neoliberal education policies (Wals, 2021; np). If educators consider what students are being taught versus what students may need to learn for a future that cannot be predicted, this builds on the place-care-time framework, helping students develop the skills and support network that may best enable them to take action to support communities in tackling super-complex, "wicked" problems (Tauritz, 2016).

This work then operates on the understanding that uncertainty is not necessarily a negative in teaching; Sheep Flock Health's preference for teaching outdoors echoes that of Jane Dyment:

> I guess in outdoor education there are so many uncertainties, weather, birds, wind, a rainbow, mud ... and they all become teachable moments that require me to be innovative and creative on the spot... and it's totally being in the present ... It's so exciting to be in the moment teaching because it can change just like that... [when teaching online] I miss that unpredictability of teaching a subject area when I have more of the typical characteristics of outdoor learning present. (Smith *et al.*, 2016; p.311)

Responding innovatively "on the spot" and finding excitement in unpredictability are key skills for educators. Accepting that everything will not be the same for everyone is good, finding ways to "contribute to the fruitful mess" of educational complexities (Ross & Collier, 2016; p.19) is better. Ross and Collier refer to a position of "not-yetness" (p.19) which engages with not-knowing in course design such that courses incorporate flexibility to adapt to changing requirements and emerging complexities while providing clear guidance and support for students. Adopting a "pedagogy of response-ability" (Bozalek & Zembylas, 2018a; p.106-107) may "allow for lecturers to be learners, for students to be teachers" as well as a collaborative coming together of shifting positions. It recognises the super-complexity of a "safe and just" approach to learning (Rockström *et al.*, 2021), where students and staff are conscious of all perspectives and voices in the room. From a conservation perspective, it is important to recognise those voices that may be silenced, that may need someone to speak (or listen) for them, from a point of knowledge about the theoretical aspect of the ecology of a place (Propen, 2018). That speaker may not necessarily be a researcher or academic, so the process of continual learning and respectful dialogue is central (Tyler & Swartz, 2012).

Dealing with uncertainty can lead to fear restricting creativity in both staff and students at the time when creativity is most needed. Incorporating imaginative play with a view to taking on a challenge together rather than facing a problem alone (Principles 5 and 6), seeing and sharing wonder and curiosity inspired by new forms of knowing, may help. The elements of working as part of a team have meaning when seen as a way to combine strengths to tackle a challenge, motivating and celebrating the small achievements of every team member. Play does not have to be collaborative (Fisher & Gaydon, 2019), but I argue that relational and communal practices are important particularly to effectively address complex global challenges (Escobar, 2017). Play inspires creativity and openness to new approaches, which is needed when faced with the super-complex issues that may not have a solution: "[w]e play, in place, to break down common binaries; of cognitive and emotional, of knowledge and experience, of the familiar and the extraordinary" (Clark & Witt, 2019; p.95). As discussed earlier with support and challenge, McCune (2020) proposes that such binaries or dualities are essential in engendering a creative tension. This tension of opposites demonstrates how creative playful approaches resonate with the contemplative wicked pedagogies such as meditation, journaling (Principle 7) and arts-based methods that McCune outlines and which are transformative sustainability education practices (Lange, 2023).

This path has mutated from one of anxiety of the unknown to playful engagement with wonder and curiosity. That playful creativity leads to the next path of storytelling.

4.1.8 Path of Storytelling

The final path brings us to a glade where people are telling stories under the shade of old trees. This image is inspired by photographs from John Jeffrey's residential course shared to give me a personal sense of the locations we had discussed in the interview. The images showed students and staff gathered in circles under large trees, sharing experiences to build relationships and learn from each other. This path of shared storytelling in the outdoors is well-trodden, linking to the approaches familiar to those who design outdoor courses and

activities. Wattchow and Brown (2011) refer to this in one of their signposts to a place-responsive pedagogy as “the power of place-based stories and narratives” (p.182). They recommend that educators develop their skills as storytellers, as stories have power, even if they do not have the “depth and quality of stories that sustain fully oral traditions” (p.186). Moving beyond the limitations of text, oral traditions such as storytelling, particularly storytelling in-and-with place, are integral to ecohermeneutical curricula (Kulnieks, Longboat & Young, 2010; 2016).

On the surface, this research engaged with Global North-accepted research “stories” in the form of narratives drawn from interviews and peer-reviewed literature. Looking deeper, and the research explicitly attended to place stories as part of an enacted place-sensitive research methodology to know participants and their places better. Before inviting student participation, I delivered sessions on narrative or storytelling as research communication. Participants were invited to share stories about their places and their research studies, as the reader was invited to do at the start of this chapter, leaving it open to them to decide whether those stories would be personal, historical, mythological, all or none or a mixture. I reciprocated with my own stories, and we shared photos and videos to illustrate our tales. While storytelling was not discussed in the interviews or proposed as a method to connect with place, it was and is important in helping to creating a convivial space to share experiences and develop new understandings (Metcalfe, 2014). With storytelling comes “story listening”, incorporating “curiosity and care” (Tyler & Swartz, 2012; p.466). Time spent telling, listening and talking about storied experiences create an environment where new relational patterns may arise. As with the paths presented in this chapter, stories mutate other ways of thinking and may help to walk new paths through complex problems. Storytelling engages listeners through a blend of emotion and cognition, requiring the use of imagination. Research by Egan and Judson (2009) indicates that imagination is another concept that can be difficult to define and may be dismissed as “frothy, ‘artsy’, ineffective thinking” (p.127). Contrary to this dismissal, imaginative thinking is an integral aspect of the transformative, creative approach to sustainable learning and teaching (Lange, 2023) that is essential to developing the kinds of uncertainty competences (Tauritz, 2016) that are needed to address super-complex problems.

This path has mutated from research stories to the beginning of, or resurgence of, an oral research tradition, where knowledge is shared freely and stories are lessons that holistically engage an embodied learner in an uncertain world. Stories are woven into relational practices, from the first tale told as an introduction through shared stories and memories of past experiences. The best stories are grounded in place, present a challenge to be overcome, and engage the listeners’ emotions as they accept the heroine’s challenge and travel the story path together. Stories are not always fun or safe, but they are playful and communal and convivial. They are also a powerful practice to imagine a radically different future and with which comes the responsibility of speculating what that future could be (Houlden & Veletsianos, 2022).

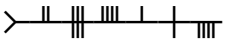
4.2 Summary: towards an understanding of place-responsive education at distance

This chapter used the framing of "paths of mutation" to begin the process of transforming current practices to incorporate place-responsiveness by first understanding current place-based practices and then "precipitating" a theory of place-responsive education at distance. The paths were drawn from the examples shared by participants based on their experiences as students and staff involved in online and on campus postgraduate education. The paths tracked across the place-responsive distance landscape following the guiding principles and signposts. They incorporated a reflective-diffraction on the effects place-responsive distance education could have on students and programmes. Along the way, they considered how institutional policy drivers may act for or against a centring of the place of the distance learner and began to address the difficult question of why place-responsive education disruption is required.

As discussed in Chapter 3, I used a number of examples as a starting point to give some context to the type of activity I thought could potentially be developed. The critiques and issues related to the "Living Labs" concept were briefly outlined. By contrast, and as an example of an effective "path of mutation", a better example may have been the "labs" that Arturo Escobar (2017) outlines with digital collaborative platforms and travelling labs as part of a transitional and transformational approach with a communal, relational ethic that "[envisions] actions that privilege bottom-up, horizontal, and peer-to-peer methodologies" (p.197) and incorporates arts-based creative activities. McCune (2020) described a conversation with a colleague where they talk about a colour palette, a common theme that sits across a programme of study, so the student has a familiar touchstone across the programme and plenty of opportunities to submit, revise and try again. The example provided by John Jeffrey demonstrates the early stages of this touchstone, where students revisit the same location later in the programme. This demonstrates a process that could become the sort of deep learning about place that Judson (2015) proposes.

Through this chapter, the paths of mutation travelled from the known to the unknown and emerging. Entangled learning ecosystems were visibly connected through an embodied sociomaterial engagement of beings and places (Principles 1 and 4). The path explorations precipitated a theoretical set of key online place-responsive practices that centred on "becoming-with" people and places, allowing flexibility to adapt to and learn from the unexpected and be open to diverse beings as teachers (Principles 2 and 4). As students and staff balance multiple competing priorities, approaches are needed that foster a slow pedagogical approach to learning online and at distance to make time for building relationships with places and people (Principle 3). Communal and convivial activities were highlighted (Principles 5 and 6), including the need for creative, imaginative activities (Principle 7) that encourage curiosity, courage and confidence. In an uncertain world, security was found in meaningful relational connections (Principles 5 and 8) and respectful, attentive practices (Principle 7). Challenges and barriers lie in the perception that consistency and accountability are required, as opposed to the flexibility and imagination to tackle the unexpected. These key ideas will thread through the chapters that follow.

Ross (2023) proposes that speculative methods and course design may help to provide the space and time for meaningful, relational and holistic engagement well-tuned to tackling wicked problems. To apply the principles and practices discussed and theorised in this chapter, the following chapter will employ speculative fiction as a method to present a place-responsive higher educational future employing a degrowth institutional model of learning.



5 ⸸ "Burn EdTech to the ground" inspiring a speculative future for place-responsive digital education

The previous chapter explored practices that are currently in place and adapted those to suggest place-responsive alternatives, centred on "becoming-with" people and places, adaptable to learn from the unexpected, and open to diverse beings as teachers. Communal, convivial, creative activities were highlighted, responding to the need for curiosity, courage and confidence to face an uncertain world. Applying that invitation for creativity, curiosity and courage, this chapter presents stories to think with as part of a speculative approach to theorise place-responsive education for an uncertain future as an extension of the first research question. It will also consider what effects place-responsive distance education could have on students and, by extension, what adaptations may be required by institutions on a changing planet. Where the previous chapter considered the past, present and a short distance into the future, this chapter looks ahead to a future that is unknowable and uncertain. Imagining this future helps to better understand the present of place-responsive education online and acts as a "point of departure" (Houlden & Veletsianos, 2022; p.3) to inspire a different future.

The title of this chapter came from a statement made by Professor Neil Selwyn (Selwyn, 2022) in a seminar on "digital education in a time of climate crisis". It was one of a number of proposed actions, in recognition of the negative environmental impact of educational technologies and tools. A similar observation was made at a seminar for the Digital Humanities Network on Indigenous Knowledge education with Jennifer Wemigwans, Karyn Recollet and David Gaertner (2020). Two contrasting images were displayed, both showing a person wearing a virtual reality headset. In the first image, a person was surrounded by a forest; in the second, the forest was burning while the person continued to smile at the virtual reality image they were experiencing. These arresting statements and images speak to the current state of climate breakdown indicating the planet has exceeded guideline thresholds (Tandon, 2023) and to the foundation of this work to find a degrowth or low-tech approach to connect veterinary and animal science researchers to places and people with a view to developing place-responsive practices at distance. An aim is to literally *ground* researchers by reducing the reliance on unsustainable forms of travel, which is no longer viable or acceptable for researchers (Le Quéré *et al.*, 2015).

Having acknowledged the crises faced, I have operated from a perspective of critical hope and "in-no-way naïve optimism" (Freire, 2021; p.12), where radical action is required. This chapter is structured around four interconnected stories taken from a speculative education fiction issue of *Postdigital Science and Education* (Boyd, 2022; Appendix A). The premise of the stories is that infinite economic growth has been acknowledged as a fantasy, and particularly in the greedy Global North, the collective decision has been made to halt reckless consumption, adopt low-growth, convivial methods, and learn to listen to the world. This is Facer's (2023) invitation to imagine a "rapid transition towards a regenerative way of living, away from fossil fuels and towards climate justice, as a mass democratic, emancipatory and participatory process of popular education" (p.69). The stories follow Selwyn's (2021) challenge that "business-as-usual" is not an option. In higher education, the

universities have become part of a global open network, supporting scholarly and community connection, a philanthropic distributed academic community maintaining and contributing to the global open knowledge network through local community living projects. Academic scholars are termed “listeners” acknowledging knowledge comes from listening to all voices of all species, following Haskell’s (2022) listening as a form of resistance and Kulnieks, Longboat and Young’s ecohermeneutical pedagogy (2010). The systems currently in use may still be available, but the first question is always “is it necessary?” (Vetter, 2018). Priority is given to open-source, low-tech, collaborative modes of practice and repairable technologies (Kerschner *et al.*, 2018). The aims are of connecting, building and restoring as opposed to dividing, extracting and capturing. This four-part story was written in response to a call to imagine educational futures in the not-too-distant future, using fiction to explore the what-could-be in education (Hrastinski, 2023). This use of imagination and curiosity in speculating a future for education speaks to the use of imagination discussed in the previous chapter (Egan & Judson, 2009; Ross, 2023). Paraphrasing Hugh’s observation in the interviews, “I’m not just asking people to kind of share [laughs] these sorts of things... without doing some of the same myself”. It could be a utopian vision, but there are indications the changes may have come too late (Swyngedouw, 2023). Instead, the stories present a vision of a world as good as it might be.

Working from a foundation of justice-driven innovation, the four-part story has taken a futures approach of imagining speculative education processes and practices that allow for the time to be attentive and to develop the skills to listen. A failure to do so would preclude knowledge from voices that may otherwise be silenced or who opt for silence as an act of resistance (Muñoz, 2019), while accepting the potential of learning from silence (Ormiston, 2019; Haskell, 2022). As stated in Chapter 1, for staff and students of animal and veterinary sciences, “you cannot really protect something you do not know much about” (Wilson & Laing, 2019; p.134), a prime reason why a place-responsive approach such as place apprenticeship is necessary. A theme of this thesis is a consideration of how institutional policy drivers act for or against a centring of the place of the distance learner. This chapter deliberately silences those voices, positioning the University as Facilitator (Principle 8). This quartet of stories operated from the speculative future where institutions and policies are centred on the place of the distance learner, “commonification” rather than commodification (Wals, 2021) affording the time, support and connection to do postgraduate taught learning, teaching and research differently.

The story begins with a blackbird singing.

5.1 Dara, Sitting Under a Beech Tree by a River in Scotland

The wind rustles through the leaves, the sound of water gently flowing past. In the distance, a blackbird begins to sing. Not much of a dawn chorus at this time of year, but there was rain overnight, and that guarantees happy blackbirds. With her back to the beech tree, Dara watches as the riverbank breathes in the sunlight. Grey shadows turn to green moss and rippled bark, the first sparkling bubbles of a trout rising. She gets up and stretches; it is harvest time and it is every hand to the task, so it will be a busy day. Coming here early is her peaceful think-time, allowing her senses time to wake with the new day.

A skein of geese threads across the sky, coming to spend winter. She has three meetings today and it is too dark under this tree to pick up enough sunlight to run her kit reliably in the morning. Leaving the river behind, she walks back to the house. Factoring in time zones, she has scheduled meetings with Embla and Alani this morning, and back to the tree in the evening when the batteries are fully charged to call Chan Băi. She has got data stories to submit to the research hub, so that means heading up to the beacon this evening. There is still enough light to work with the Natalie digital heliograph. A few weeks from now, the team will be breaking out the signal lamps as the nights get darker. Just a couple of transfers from here to the main University campus, and she is keen to see who else might be gathering at the beacon tonight.

Home now, with the sounds of the town waking up. Welig has left the solar kettle out for her, so she gathers some leaves from the pots for her teacup and pours the hot water. As the steam rises, she boots up her system, idly watching the traffic passing along the street. Not much car or bus traffic anymore, mostly bikes, horses, and carts. Logging in, she can see Embla on standby waiting for their meeting. They have got the sun before Dara has today.

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Stories have the power to carry hidden knowledge (Sepie, 2017) and these stories carry knowledge aligned with the place-connected crane bag metaphor of this thesis. The first story of the quartet is rooted in my hometown in Scotland. I know the tree and the river, the green moss and rippled bark, the trout rising for mayflies and the blackbird song, the geese and the street view from the house. The beech tree is a particularly good place to watch for kingfishers on the river, as its shadow conceals the quiet, watchful human from the sharp eye of the bird. It is a utopic image, keeping hope that the tree and river I have a connection to live on into this imagined future. The story starts at dawn in autumn in northern Europe, as the days grow shorter. It tracked the movement of the sun around the world, emphasising the seasons, times of day and cycles of the characters. It is education focusing on “globeness” (Bayne *et al.*, 2020; p.155), open and connected rather than closed and boundaried. The idea of scientists as researchers who listen attentively (listeners) is an indirect reference to Haskell (2022) and a direct reference to the importance of respectful listening, which may often be forgotten in the animal science research process (Kimmerer, 2003). Chapters 3 and 4 discussed the difficulty in balancing multiple competing priorities experienced by students and staff; this story notes that the harvest is the priority for all members of the community. Other work commitments are set aside and there is no sense of trying to do it all.

The quart-set of stories are anchored in my known life; as a teacher of students based around the world, I am already familiar with factoring in time zones for meetings, so it was not difficult to apply a degrowth filter and consider what might change in the near future if there was global agreement to ration energy and decarbonise. Seeking the most appropriate “convivial” technologies (Vetter, 2018), I focused on solar technologies as among the most common. The hunt for different forms of convivial communication technologies (Vetter, 2018) merged with my familiarity with the beacon hills across the east Scotland counties, resulted in a search for information on heliographs. The digital heliograph is named

in honour of its inventor, a school person (at the age of invention) who shared their work openly on the web (Natalie, 2015) and continued the solar theme. A heliograph is a signalling method traditionally using mirrors to reflect the sunlight, transmitting information via Morse Code through a series of light flashes. The digital heliograph, or digitally-controlled heliograph, allowed for remote control and translation of the Morse-Code flashes to text. The project proposed further improvements on the system including the use of binary code to allow the transmission of more complex data. The beacon hill in the story is situated on high ground and speaks to the historical use of signal beacons to communicate across distances (Southern, 1990) and it works with the position that postdigital is "something new and old" (Ford, 2023; p.266). My experience of place-connection when interviewing Hugh and Sheep Flock Health was through the sightlines from the University at Holyrood Park up to Arthur's Seat, across to the Pentlands, from the Pentlands to North Berwick Tor, and home to Traprain Law which sits to the east of my home in Haddington. Sharing data stories to the research hub suggests an open system, a network that can be accessed by travelling up to the beacon hill. What is silent is who has access to this data, what it might be used for, and who is funding the data collection activities. There is no indication of whether this is a truly open service or one that requires acceptance into the University community but I envisioned a form of knowledge commons (Leeds-Hurwitz, 2020; Wals, 2021) when writing the story.

Hidden within the story, but visible to those who speak other languages, are the names of the main characters in the interwoven stories: Dara (oak [Gaelic]; root of the word for druid linked to the crane bag metaphor), Welig (willow [Old English]; because my husband loves willow basketry); Embla (elm [Old Norse]; first woman created from a tree, mother goddess), Alani (orange tree [ʻŌlelo Hawaiʻi]; tree native to most of the Hawaiian islands and impacted by a range of non-native introduced species, e.g. rats), Chan Băi (cedar or cypress tree [represented in different forms of Chinese]; compilation of two Vietnamese place names, Van Chan and Yen Bai, the district and province where shan tuyet tea trees were officially recognised as heritage trees; VNA, 2019). This deliberate selection of tree-related names drawing on etymology, history, ecology, botany, culture and mythology to ground characters in places demonstrated the deeper knowledge that can be concealed within a seemingly straightforward story form. I also recognise that there will be other translations of these words, allowing for a different reading by each reader. In this story, the name "Dara" signifies the place I come from, as an Irish person in Scotland, two nations that speak languages grown from Old Irish, Goidelic roots, and represents a teacher that respects place as co-teacher.

The key place-care-time message from this story is the entanglement of all aspects of Dara's lifeworld; there is no separation of person from teacher from place. Harvest time involves all members of the community, it is not a task that is solely the responsibility of farmers. There is no sense of the traditional workday structure; there is time to harvest, teach, research and think, a deliberately slow perspective in contrast to the current fast-education culture (Berg & Seeber, 2016). Engagement with people is referred to as meetings and gatherings to suggest a more convivial connecting than "classes"; "students/staff" are not named as such to avoid a hierarchical perspective. Nina, John Jeffrey, Riley, Sheep Flock

Health and The Eager Beaver all emphasised the benefits of meeting in the outdoors in inspiring new ideas and encouraging a more relaxed conversation. That sense of relaxed connection in outdoor places is emphasised through the story, though only Dara and Chan Băi are seen engaging in an outdoor meeting. There is no mention of inclement Scottish weather, which Patricia highlighted as a particular barrier.

To return to the stories, the first person Dara has a meeting with on this fine autumn morning is Embla, the Norse mother goddess tree woman.

5.2 Embla, Cooking Dinner in a Small House, Northernmost Tip of Norway

It was good to touch base with Dara today, she is a good academic mentor. It is been a long journey to the placement, but Embla has finally been able to back up their travel log. Not many people travel far these days, since the pandemics, so they had to accept work along the way and take advantage of the opportunities that came up to reach the final destination. Dara reminded Embla that the journey is part of the learning process, they adapt to different voices, scents, and sights as they move through the landscape.

Embla spent yesterday with the Sámi grandmothers; they said something the same. As a listener-in-training, Embla has been finding it hard to accept that they cannot capture everything. That is why it was important to come here. The grandmothers teach a different way of listening, not listening to capture but to learn with, become with, and connect to. Sing the bird, not of the bird. Embla is excited to see what this new understanding will bring to their research, what they can share with the learning cohort, and how this will contribute to the listening research on the global open research network.

Tomorrow they will be going on a long hike to introduce Embla to the land, so they will all need a good hearty meal tonight. Embla brings knowledge from their family group to share in turn, reciprocity and respect. Embla's mother-kin skills in electronics and mechanical engineering to fix some of the kit that the local team were finding troublesome and unreliable; father-kin plant-growing wisdom with seeds that may do well in the new northern climate. And this dumpling stew recipe is ready now for the oven, to slow cook all day. Embla plans to add the dumplings later. They have brought herbs from their father's garden to flavour them, gifting a taste of their home in the south. Embla smiles – everything is south of here, only the sea is north.

Their fiddle is in their pack, so they will tune that and bring it along tonight too. Dara said she was going to talk to Alani today – that reminds Embla to pin her a message to let her know they are thinking of her. Like Embla, Alani is in a new place; unlike Embla, she did not choose to travel, to leave her home. As Embla wraps the dumplings and puts them in the cold store, they hope Alani is OK.

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Embla may be a Norse name, but the character in this tale has travelled to this location to learn and share skills. Beyond reference to a fiddle, there is no indication where Embla has travelled from. In this story of the quartet, the name signifies the place being travelled to, the mother goddess of the land and the Sámi grandmother teachers. While the name is female, the pronoun is "they/their". This is a travelling-north story, in recognition of

Patricia's keen interest in moving away from the mid-North perspective and learning from indigenous peoples; reference to the Sámi "singing the bird, not of the bird" links to personal experiences I had in the early part of the thesis on a visit to northern Norway.

This quart-story speaks to the slow pedagogical practices that Payne and Wattchow (2009) propose and a multi-sensory learning experience (Abram, 1996) as Embla travels to their final location. In contrast to the time pressures that may be placed on part-time students by the multiple conflicting priorities (Stone, Downing & Dyment, 2021), here the emphasis is on the necessity of travelling slowly, of moving through the land with intention, and learning *en route*, not just on arrival. This slow travelling also responds to the work that Sheep Flock Health, Cat, Nina and John Jeffrey described in the interviews, where they travelled to specific locations for teaching and research. The degrowth model does not suggest that no travelling takes place for research purposes, as there will be times when it is necessary to participate in research in a specific location that is at distance from the researcher(s)' home location, just that the most appropriate method of travel be chosen.

As a mark of respect and reciprocity, Embla brings gifts of food, seeds, music and engineering to share in gratitude for the opportunity to learn as part of a barter system (Crary, 2022), as the intersection of place-care-time. Embla is welcomed into the community and contributes while visiting. There is respect and reciprocity in sharing skills and knowledge; Embla comes to learn and listen, while sharing their own skills and knowledge. Here again is reference to a "global open research network" and to a travel log, rather than the traditional "learning log" or "learning diary" title that is more commonly used in the RDSVS. This was inspired by the student-led course use of blogs and reports, which Patricia found particularly effective when considering what form practical activities at distance could take.

5.3 Alani, Standing on the Borderland Between the Farm and the Prairie, Midwestern North America

Alani stands looking out over the prairie after her meeting with Dara, taking a pause before going in to help with breakfast. Her home is under the ocean, and the people in this landlocked state have given her refuge. The hurricanes damaged homes on the islands first, cut power and communication, impacted transport and water supplies. Initially, there was support from other nations, but then came the time where everyone was too focused on keeping their own people and countries secure. Other pandemics followed Covid-19, so travel was limited, and communication was fractured. The open network maintained by the universities became the lifeline, a reliable way to reach others on the mainland as well as around the world. The heartbreak days came where the people knew there was nothing that could be done, not enough land remaining to support the island residents. The boats took all they could carry; seed banks and storage of all kinds were transported in an effort to preserve land, species, culture, and memory.

And so she is standing on the edge of a prairie, watching the grasses and plants move in the breeze and remembering the sound of the ocean, imagining salt scents on the breeze. It is the storms that remind her most of home. When the tornadoes come, the thunder of air

and rain and wildness is the nearest thing to the hurricanes that marked the last days on her islands. Her islands; the islands that made her.

That is her role now – to speak for the islands. Arranged through her studies at the University, and with Dara's help, she is working with Ed of the Chocktaw nation and Sue from the Osage nation. Ed holds the space for her to talk of her grief. Or not talk. To sometimes sit together watching the prairie waves in good company, listening to the not-an-ocean and what it has to tell her.

Sue is more practical. Her way of listening-learning is to walk the land, letting each plant speak its message of healing. She keeps a running commentary, usually speaking more to the plants than to Alani. She gets Alani moving on days she would rather hide, and time spent on her feet with her nose to the earth has brought a different kind of healing. Both Sue and Ed are part of the community networks that restored the prairies, linking up tiny remaining pockets and patching the gaps from seedbanks, stories, and hard work.

Alani's studies have changed over the years she has been in the University. Where once she listened to the voices of her own land to preserve them, now she listens to others talk of restoration. These lessons may help her people one day in the future to bring lives back to her islands. For now, this place and these people have welcomed her. Ed reminded her the other day that the islands live through her; she is and speaks the islands that made her. She breathes the prairie air deep, closes her eyes, and listens. The sounds remind her of an old story her grandmother told her of storms and rainbows. She smiles and makes a note in her journal; she will bring that to the next community meeting to share and remember.

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Alani's name refers to the pressures currently faced by the island nations of the Pacific, threatened with being submerged due to the climate impacts driven by the actions of the Global North. The name is Hawaiian in recognition of Natalie, the digital heliograph inventor. In this story, the name connects to islands that may be lost beneath the waves and is transplanted like the story-seeds taken to another part of the world to save them from loss. As the story says, Alani "is and speaks the islands that made her". Alani's story was inspired by a story that Gloria told during the interview about a fellow student who they had met in one group assessment.

> GLORIA ...they were hit by a hurricane... and so she lost all ability to communicate with Scotland but she was able to connect with me ... through a social media outlet and let me know what was going on and if I could tell [the teaching team] what was happening... I was able to be a bridge for her and I think it was like nine months until they got all infrastructure restored... I would never know this woman except we are in the same programme at Edinburgh and this hurricane ended up, you know, she had to get help on how to speak out to let em... know what was happening in her life... and I was happy to help too...

Two things were highlighted in this excerpt: that learning network connections work in different ways to the traditional student to institution/institution to student; and that people are happy to help each other. In the previous chapter, I questioned group work and

the ability to build strong relationships over a time-limited five- or ten-week course. Gloria's example challenged that perceived limitation and showed how access to multiple routes of connection provided a safety net in these unpredictable circumstances. Gloria's use of the term "bridge" resonates with Patricia's statement: "[Information Technology] just works as a tool, as a bridge to bridge that distance". From a postdigital perspective, it is the entangling of tools and people and places at work here, coupled with care. Sue and Ed in the quart-story above carry the kindness that Gloria showed, and their care of Alani is presented in deliberate contrast to the negative treatment that may be displayed towards refugees. The anticipated climate-forced migration (Rockström *et al.*, 2021) will require kindness and a willingness to share resources and I have chosen to focus on a future of hope. Ed, Sue and Alani are on a farm in the American Midwest, in recognition of Gloria's home farm.

To return to Gloria's story:

> GLORIA She had horses, a therapy farm that had been hit, but all the horses survived and we were able to send horse feed over to her em, to help her take care... they couldn't even get em, adequate water... so it was one of those things we were able to call down and say can you get horse feed in for the horses she has... She just couldn't utilise Outlook... but, yet Facebook she could get messages to me, you know via her cell phone...

The place-responsive aspect of Gloria's story is held here in the care for humans and horses. For their peer's peace-of-mind, Gloria is a communication bridge to the University; from a place-responsive perspective, though Gloria does not know the place, there are horses that need feeding, so action is taken. I did not question who the "we" Gloria referred to was here. In other parts of the interview, "we" had been used to refer to Gloria's farming community, but this could have referred to an action carried out by Gloria's family or Gloria working with other groups or agencies to assist in providing support. The "who" is not essential information, the care at distance over a long timeframe, nine months in this case, is the key place-care-time message. In the story, Sue and Ed adopt different approaches for helping Alani reach a point where she can begin to share her stories; one gets her out and walking the land, the other gives her time and silence, both gift her their attentive company and a new focus on the prairie, while respecting the land she comes from.

5.4 Chan Băi, Sitting by a Small Fire in the Early Hours of the Morning in a Tropical Rainforest, Vietnam

It is an early start today – or a late one, he thinks wryly, depending on your viewpoint. Chan Băi has been working with the local human, snail, and crab communities. Plus the occasional elephant, but mostly the smaller creatures. Dara is up late too, meeting with Chan Băi in one of his breaks from night listening after her research meeting at the beacon. She is full of chat about the latest research that had come out from the central group and local stories from those that gathered on the hill tonight to upload their data stories and songs to the network. She also talks about the harvest and the change of pace at this time of year when every other task is set aside while her community prioritises gathering the foods that will feed them for the winter and be traded with other towns. Everything is part of the work of a listener, so no doubt she will have other tales when the harvest is done.

Chan Băi feels less lonely listening to her. Not that he was alone here – he has friends and family nearby, including the species he loves working with. But sometimes it is lonely at night on the walk through the jungle. Quiet but not quiet, with the many voices of bug, bird, reptile, and amphibian, like being alone in a crowd of people who do not want to talk to you.

He tells her about his research, his way of listening to species that humans do not yet know how to speak to. Over time, research has shown the many ways of hearing, and he is aware of his limited human listening abilities. For now, his work looks at listening to other species in the community that rely on – or avoid – the crabs and snails, including the tales from his local community and the others that are a day's walk away. His human community rely on the snails and crabs as one of their harvests, and he is the link between the species to ensure human need is balanced with the survival of the species he respects and cares for, and the habitats on which they all depend.

He speaks of the slow work of rainforest restoration that seems to be going well, though his parents still talk of the species that were lost before the global switch. The song of the gibbons is missing from the morning, they say, and he wonders aloud if the jungle misses the song. Dara asks if he will be out much longer tonight – it is twilight where she is and she is winding down after a long day. It is a few hours yet before dawn comes, and he will stay a little longer. He will rest tomorrow and do some work in the village before he packs for his biannual short trips to visit listeners in nearby villages. They pick a date for their next meeting when he is back home and her town has a break in harvesting.

Both he and Dara pause, each listening to the voices of other species carried by microphones so many miles apart. Dara listens to the song of the rainforest at night, the hum of many voices is soothing. Chan Băi imagines the river she has spoken of as the Scottish night falls. The wind rustles through the leaves, the sound of water gently flowing past. In the distance, a blackbird begins to sing.

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Chan Băi is both a travelling researcher and a member of the local human community. Again, the focus is on slow forms of travel and a seasonal route of time spent in different places to listen/research. In this story, the name connects with the surviving heritage trees of Vietnam in contrast to the non-native introduced species that Cat highlights in the interview. The cedar and cypress trees are similar, with cypress trees in North America referred to as "cedar". The choice of băi/cedar/cypress connects with the many translations of chan and băi as a fluid uncertainty echoing my limited knowledge of Vietnam. This story is inspired by two key elements: Cat's interview and David Haskell's (2022) reflections on listening to recorded sounds from the jungle. In the interview with Cat, we were both able to hear sounds from our remote-from-each-other locations; I could hear the oncoming Vietnamese storm and Cat could hear the Scottish birds singing and bus engines rumbling. Haskell tells the story of falling asleep one night listening to the sounds of the Bornean rainforest. It is a forest he knows well, he says, and the familiar sounds gift him a refreshing sleep. In the quart-story above, Dara also finds the sounds of the distant jungle soothing. Haskell writes of his experiences of feeling excluded from the conversations of other species and how hearing the silence of absent voices comes with knowing the sounds of a place as

part of a reflection on the loss of biodiversity. Both experiences are carried in Chan Băi's reflection.

The process of restoration is central to both Chan Băi and Alani's stories. The key place-care-time message from this story contrasts the time needed to know a place with the ability for a place-at-distance to provide a sense of connection and support. Time is also required to build knowledge of places while restoring slowly and to build relationships with other species. Chan Băi speaks of his work with three communities: human, snail and crab. All three are accepted as living communities, rather than "groups/communities of...". He also mentions working with "big" species like elephants; here is Cat's story, which on the surface was about protecting elephants, but extended to their care of the small creatures they encountered on their walk, including crabs (Figure 5.1). He feels less lonely "listening" to Dara and both spend quiet time at the end of the meeting attending to each other's soundscapes.

Figure 5.1: Photograph shared by Cat depicting a crab, one of the small creatures they meet when they travel along the path between their home and work place. Image is ©Cat and used with permission.

The reference to the song of the gibbon comes from my reflection after the interview with Cat. I wondered what impact the song of the blackbird, transmitted via Cat's mobile device speakers, had on the Tam Đảo forest. If the songbirds were missing, what might the response to a song be, I wondered? It is not possible to determine how the jungle species might respond to a blackbird's song (Quain, 1998; Dinker & Pedersen, 2016), but it did lead me to learn that the cao vit gibbon (*Nomascus nasutus*) is a key endangered species missing from the jungle choir (Ma *et al.*, 2020) which researchers track and learn from through their range of songs or "vocalisations".

The song of the blackbird brings the story to a close.

5.5 Storying place-responsive pedagogies

Storytelling is a form of "convivial listening", where sounds are shared with others in a group leading to connection. Haskell (2022) discusses convivial listening when noting how many humans now live in spaces that are too noisy and as a result, they tune out those sounds. This withdrawal of attention can be through physical means (headphones, earplugs) or by "acts of the will" (p.168). What is needed then is a way of learning to be attentive again, to learn how to listen. If "the original function of hearing [is] to bring the stories around us into human awareness", then a lack of attention results in a failure to attend to those stories and the voices sharing them. Developing an attentive practice, Haskell proposes, aids in connecting with the place, but also "[w]hen done with others, this opening necessarily brings us into closer human community too" (p.169). The stories presented have sought to work from this perspective of attentiveness and action, responding to place through listening, learning, collaborating and co-restoring.

Technology can also be convivial and Vetter (2018) presents a useful matrix for convivial technology as an aid to identifying the most appropriate technologies for a particular task or activity. This matrix is constructed of five dimensions: relatedness, accessibility, adaptability, bio-interaction and appropriateness. While it is beyond the scope of this chapter to explore potential technologies in detail, these five dimensions influenced the broad descriptions of technologies referred to in the quartet. While technologies were not specifically referenced, it is clear there is a socio-material entanglement of people, places, tools and technologies. The technologies connect people at distance allowing communication to take place including auditory signals. Technologies can be fixed or built, though on occasion, as in Embla's story, some more puzzling problems require help from outside the community. In contrast to "always-on" technologies, those in this story are dependent on renewable forms of energy and I acknowledge my limited knowledge in focusing on solar technologies here which can be problematic. While solar panel production challenges the "cradle-to-cradle" bio-interaction ethos (p.1783), it is intended that this will be produced in a safe and just manner in this future imagining. Finally, the appropriate technologies for the situation and context, using an unnamed electronic communication network to connect with people across the globe and a short-range communication network (signal lamps, heliographs) to report to a local knowledge centre. A further requirement of this scenario is the democratisation of technologies, which would require ongoing checks to ensure this has not been appropriated for uses that do not support the communal bio-interactive relations, e.g. to produce firearms or force adherence to a particular dogma (Kerschner *et al.*, 2018). The locations here respond to Bouma (2022) and the idea of "lighthouses" or successful living lab farms that share their work as examples for other people to improve, the Escobar (2017) ideal of communal researcher-farmer practice, community-based researchers and sharing knowledge publicly for the common good. A convivial higher education would incorporate much of what Vetter (2018) described in the five dimensions above. Relatedness is at the heart of place-responsive pedagogies as conviviality connects people and places to become-with. In terms of accessibility, Dara is uploading data stories into a knowledge commons (Leeds-Hurwitz, 2020); more specifically,

where knowledge gathered by communities and shared globally for the benefit of all beings. Leeds-Hurwitz (2020) and Facer (2023) issue calls to institutions and education leaders to undertake this task of developing what Facer terms a popular education agenda. I have imagined a future where that has happened, with the higher education institutions providing the open network maintained collaboratively by institutions across the globe.

In discussing the concept of "not-yetness" (p.19) with reference to digital education, Ross and Collier (2016) consider the embodiment of the instructor, referring to a range of methods of communication including multisensory, immersive, virtual realities. This story described interactions via real-time audio (meetings) and asynchronous text (Embla plans to "pin" a message to Alani), with the focus on extending attention into the places both local and distant. This is not to limit interaction to these mediums or to suggest that the basic forms of technology need to be audio, but not video, but to attend to a specific form of engagement related to this thesis. Audio engagement may hold space for other voices to participate as in the potential involvement of place teachers. As discussed in Chapter 3, the interview methods employed in this thesis centred on attending to the more-than-human world by unplugging headphones and focusing attention outwards, rather than prioritising the screen (Saarijärvi & Bratt, 2021). This also relates to the observations made by John Jeffrey, where their student meetings were often via Skype text or audio chat as the most accessible method of communication at that time. There is a sense that these are meaningful, relational connections, with the simple tools and technologies leaving space for the potential complexity of the lives of students and staff.

While this story was not directly influenced by the eight scenarios created by Bayne, Ross and Gallagher (2022) to imagine a digital education future, it aligns with three: extinction-era universities, the universal university and justice-driven innovation (pp.21-22). Extinction-era universities describes to the global network and highlights the problems briefly touched on earlier in terms of who can access the knowledge network systems. The universal university speaks to the globally distributed student network and reduced campus presence. In contrast to the scenario, the story presented here does not rely on virtual and augmented realities or simulations. There is no indication that these do not exist, simply that they are not appropriate for the activities presented according to the matrix for convivial technologies. There is also no suggestion that access is limited according to the richness of the nations' resources. Justice-driven innovation is the most resonant scenario, where "disciplinary structures give way to radical transdisciplinarity focused on specific social challenge areas: poverty, climate, equality, governance and justice" (p.22).

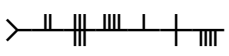
This four-part story was included in a special edition of *Postdigital Science and Education* on researcher fiction. I close this section with a brief reflection on the story summary provided by Hrastinski and Jandrić (2023) in the editorial that opened the special issue. I found their description of this story as "imagin[ing] a nearly-destroyed world en route to restauration [sic]" (p.3) challenging. The vision of a "nearly-destroyed world" was difficult to read, as my future imagining had been one of a world where a collective decision had been made to chart a new course, it was optimistic connection and community rather than pessimistic disconnection and authoritarian control (Houlden & Veletsianos, 2022). On re-reading the story, I recognised the loss and survival that could be viewed pessimistically,

as Hrastinski and Jandrić may have done. I saw hope in my imagining of a future where radical change had been taken on a global scale. Finally, I had to accept the "nearly-destroyed world" as limited time remains to make that radical change; the climate catastrophe is already here (Crary, 2022; Swyngedouw, 2023).

5.6 Summary

This chapter presented four interconnected stories to think with as part of a speculative approach to theorise place-responsive education for an uncertain future. The stories also considered what effects place-responsive distance education could have on students and staff and, by proposing a radical change to the current higher education approaches, theorised what adaptations may be required by institutions on a changing planet. This radical change started with a fictional "great switch", where a collective global decision was made to change. Escobar (2017) proposed two alternative speculative design futures. The first is a relational, convivial embeddedness; the second is a corporate techno-future "of booming techno-alchemies" including artificial intelligence and genetic manipulation (p.17). He acknowledges that these are extremes used to invite speculation. At the outset of this chapter, I noted that my approach was one of critical hope and yet it was written at a time when hope was limited. I engaged with Escobar's first future as the one that would not be easy to achieve but speaks to the 'collective "withdrawal"' that is needed for a socially just future (Selwyn, 2023; p.80).

The relational, convivial research approach broadly introduced in the stories is an extension of attentive, respectful listening to other species to develop a better understanding and knowledge of the ecosystems that humans become-with (Kimmerer, 2003; Haskell, 2022). It is an essential approach to address the "dominant hyper-separated (radically distanced)" (Plumwood, 2002; p.201) circumstances within which current online postgraduate distance education operates with regards to the more-than-human world. In the literature review, I noted the challenges that Puig de la Bellacasa (2017) issued: "How can technoscientific futurity live ecologically with timelines of care? How can sciences and technologies contribute to foster the conditions of material and effective ethicality essential to the living webs of care?" (p.215). Storytelling is ontology and methodology, it is "hopeful work as a refusal of the disimagination machine of the academy" (Houlden & Veletsianos, 2022; p.14). This chapter has been constructed in response to those challenges and invitations, speculating on a low-tech future inspired by the living webs of care shared by participants. The next chapter presents the Eco-Listening Guide inquiry model as a way of attending to and being attentive to place and place teachers at distance.



6 ᚻ Ecohermeneutical Place-Responsive Activities at Distance: the Eco-Listening Guide

> *[Ecohermeneutics] involves learning to hear the questions properly, to listen to what the world means above and beyond our wanting and doing. Our responses take us beyond educational theory into the realms of ethics, politics, livelihood, of existential possibility, but first we must learn to listen. (Derby, 2015; p.39)*

An ecohermeneutic research approach required that I identify a method of analysis that might be effective in training the researcher to slow down and listen. This chapter responds to the challenge set by Iared, de Oliveira and Payne (2016) for research and methodologies that work with the "eco/soma/esthetic experience of nature" (p.193). Payne (2010) highlighted the importance of meaning making, particularly "embodied meaning" (p.165) in developing somatic understanding of ecological relations, as part of the process of becoming-with. This embodied meaning, Payne argues, is crucial in developing more radical ecocentric learning and teaching practices, where attention is given to internal (senses, feelings) and external social relationships (relations, value). Both Payne (2010) and Iared, de Oliveira and Payne (2016) call for more research in this area, including the development of methodological approaches to theorise these concepts. As this research questions how place-responsive education at a distance be understood and theorised, and what effects place-responsive distance education could have on students and programmes, it operates from the perspective that we are always becoming with the places within which we are entangled. In the process of developing that theoretical understanding lies the ontological-methodological ecohermeneutical praxis that is currently lacking. This chapter continues to integrate the key concepts outlined in the previous two chapters by presenting a set of practical, place-responsive practices that have successfully been carried out online and remotely, and co-located. The suite of activities centre on "becoming-with" people and places, allowing flexibility to adapt to and learn from the unexpected and be open to diverse beings as teachers. These activities operate within an entangled learning ecosystem, visibly connected through the embodied sociomaterial engagement of beings and places. The communal, convivial activities may encourage creativity, imagination and curiosity. The Eco-Listening Guide as a respectful, attentive practice fosters a slow pedagogical approach to learning online and at distance with the goal of making time to build relationships with places and people.

Following on from the previous chapter's use of a speculative fiction to explore a potential future, this chapter is structured around the novel revision of the Listening Guide (Gilligan, 2015) as a set of ecohermeneutical activities that may be used by students to engage with place at distance in their work. This is a deliberately hybrid chapter, presenting my Eco-Listening Guide methodology as a key contribution, as well as extending the understanding and theorising of place-responsive education and its effects through the application of the method in learning and teaching settings. This addresses the gaps identified by Iared, de Oliveira and Payne (2016) for methods that foster "aesthetic curiosity" (p.196) with new forms of *re*presentation and Payne (2010) in acknowledging and

connecting inner and outer affective, relational worlds. The goal in employing this method was to learn to listen to *all* participants, as an ecohermeneutical, place-responsive, postdigital perspective accepts that place and place beings may participate in a learning experience as co-teachers (Blenkinsopp & Piersol, 2013; p.41) if time and attention is given to allow this to happen. Gough (2008) and Stewart (2020) posit that places are always "becoming" pedagogical (Stewart, p.49) through the practices by which we "attend closely" (Gough, p.71). This chapter is then a proposal for how attention skills may be developed by researchers, teachers and students, as well as an analysis of the process of listening that I carried out as part of this thesis in employing the Eco-Listening Guide as an ecohermeneutic, place-responsive researcher.

As discussed in previous chapters, this time and attention is closely linked to developing a sense of care for places and all beings, transitioning to a place-responsive ethics of care. Focusing on postgraduate students studying animal and veterinary sciences at a distance, it is important to find ways to develop the skills of attention and listening as part of an ecohermeneutical pedagogical practice. Haskell (2022) describes how he teaches his students "attentive listening" (p.171) by sitting quietly in a co-located outdoor place and focusing on the sounds around them. This process, he acknowledges, takes practice, but with practice, it is possible to hear both the species that are speaking in that area and the relational patterns between those that are speaking. These patterns that Haskell speaks of bring to my mind the call-and-response between songbirds at dawn and dusk. Haskell's work centres on the observations that can be made about the health of an ecosystem by listening to the species in a specific place, noting these patterns and any gaps or discord recognised through familiarity with similar ecosystems in other locations. Propen (2018) uses a similar approach in outlining her concept of "compassionate conservation" (p.4). Working with visual-material artifacts rather than audio, she demonstrated how an emotional and affective response to photographs of species can result in a need to act on behalf of a species and/or ecosystem; in other words, adopt a place-responsive approach. Returning to the concept I introduced in the previous paragraph of postdigital relational learning ecology and place co-teachers, Propen also emphasises the need for scientists and humans in general to recognise they are "not the only knowledge-makers in the room" (p.48). In response to the climate emergency, as discussed previously, researchers should be local to the place they are studying. If they are not local, rather than travelling to a place as research shows no need to do so (Le Quéré *et al.*, 2015), they should be supporting the development of local researchers and engaging with local knowledge holders remotely. Adopting a degrowth model (Selwyn, 2023) would suggest that, unless a conservationist or researcher is intending on spending a long time in a location, they are best to stay where they are and connect remotely. The goal of this chapter is both to reflect on how I, as a researcher, developed my attentive listening skills, and how these methods could be applied by postgraduate student researchers and staff to enable them to develop those skills that will enable them to become place-responsive teachers and compassionate conservationists.

Returning to the Listening Guide as a methodology for developing attentive listening skills in researchers at distance from participants and place, Tolman and Head (2021) emphasise the need for a clear presentation or "composition" of the final analysis from the perspective of the author/researcher and note this is an element often lacking in applications of the method. To explicitly address this in the context of this research, each section of this chapter presents specific aspects of the analysis. The first section provides a brief introduction to the Eco-Listening Guide structure (see Section 3.5 for the full description). The next five sections consider each element, step or "listening" in order, beginning with Listening to Listen, followed by Listening for the Plot, the I and the Contrapuntal Voice. The final section of the five initiates the process of exploring the emotional impact – the affect – of being in-and-with place in research as part of Composing an Analysis, demonstrating how the flow and sense of emotion through the interview stories may be linked to the emotional connections that human participants felt to their locations, peers and the institution as part of their learning ecosystem.

This chapter therefore presents my full "composition" drawn from my Eco-Listening Guide method, incorporating evidence in the form of poems, voice and reflection-diffraction to compose an analysis of how place-responsive higher education at a distance can be understood through the voices of participants who were participating in a place-based, place-sensitive activity. It is also a set of ecohermeneutic activities that present a way of connecting with place at a distance. These activities incorporate play pedagogies (Clark & Witt, 2019; Smith, 2019) and creative practices (Iared, de Oliveira & Payne, 2016) to invite curiosity and imagination into online postgraduate education for veterinary and animal science students.

6.1 Structure of the Eco-Listening Guide

Gilligan and Brown's Listening Guide is a process of multiple readings or "listenings": listening for the plot, for the voices of participant and researcher, for consonance and dissonance between what is said and the way it is said (Gilligan, 2015). Gilligan *et al.* (2006) defines this as a form of analysis that acknowledges different voices, highlighting the importance of research relationships. The relationship with the more-than-human world is not acknowledged or structured in Gilligan and Brown's Listening Guide. More-than-human participation is limited to the role of location as an element of the plot, i.e. "where did this interview take place". I therefore adapted the Guide with a view to listening for the voice of places both directly via the audio recording, and through the voices and responses of human interview participants.

The steps of the Eco-Listening Guide structure the remainder of this chapter as below:

1. Listening to Listen: the creation of the transcript.
2. Listening for the Plot: setting the scene of the interview and observing personal feelings and thoughts.
3. Listening for all the I's: paying attention to the first-person of the interviewee, the interviewer, and the places in which they were situated through the interview soundscapes.

4. Listening for the Contrapuntal Voice: noting changes in phrases and/or tone when responding to interview questions, difference in tone and response when talking in and about locations, and in response to external participation. Observing points of harmony or discord between voices.
5. Composing an analysis: this chapter presents the composed analysis, demonstrating and evidencing the interplay of participants, places, voices and emotions through the interviews.

I build on Breakwell's (1994) observation regarding the use of "voice" in this method, as its use moves from metaphor to physical voice, making it a broad and tricky concept. I am playing with that trickiness in this thesis to loosen the value boundaries around what is spoken with human words to make space for the words spoken by other beings. The Eco-Listening Guide is a way to listen for what is hidden within the words that human participants speak, the voices of those who would normally be "hidden" in an interview transcript, and the way in which place reflections, stories and interactions influence the interview. The latter aspect is linked to the walking interview place-responsive research methodology proposed by Lynch and Mannion (2016), where the interview was transformed due to "unexpected events" (p.335). Examples of these transformative moments are included in this chapter.

In addition to presenting the analysis that underpins the thesis, each step of the Eco-Listening Guide discusses how this could be applied as a set of activities within a programme of study in veterinary and animal sciences to develop an attentive research praxis. The next section outlines the first step of the analysis, the process of listening to listen.

6.2 Listening to Listen

In their presentation of the Guide, Gilligan and Eddy (2017) invite the researcher to reflect on "what is the real question" being asked. At the start of the research, I centred the thesis questions on a review of the various methods that might facilitate a place-responsive approach for students studying online and at distance. By taking an ecohermeneutic stance, by learning to listen as a researcher, I came to a different understanding: the real question of this thesis centres on emotional connection, conviviality and asks how conscious, caring relationships can be built with and within communities. From my perspective and at the core of this thesis is the recognition that, in order to listen, we have to address *how* we listen, whether that is the technology or the analysis or transcribing or simply being open to who might speak.

The real methodological question is how to build a relationship with beings, including place-beings, at a distance by demonstrating care through attentive listening as a research method. This relationship development and connection links to the place-emotion response highlighted through the Eco-Listening Guide analysis. The "voices" I followed through the analysis are discussed in more detail later in this chapter. At this point, it is enough to remember the basic outline from the methods chapter, in that listening for the "contrapuntal voice" involves listening for changes in phrases and/or tone when responding to interview questions. I also listened for the difference in tone and response when

participants talked in and about locations that were meaningful for them. I then reflected on the interplay between the voices.

Where the original Guide is a method of "exploring the interplay of inner and outer worlds" (Gilligan, 2015; p.69) focusing on human communication and psyche, my goal was to challenge that inner/outer world boundary, and deliberately include voices speaking "around us", "the voices that speak at the margins" and "in the absences of resonance" (p.76), which were in some cases embedded within the human responses. This sees the interview as a becoming-with, an entangled phenomenon. It is not one researcher interviewing one participant, it is a sociomaterial interweaving of all beings who were present in each moment. By attending to more than the human voices, the soundscape as "a realist imaginative object" becomes a process of "thinking with sound" (Back, 2012; p.254). The Guide comes into its own as a relational tool to help take "the silent 'material' actors seriously" (Hultin, 2019; p.96). It foregrounds the interactions, emotions and developing relationships through and beyond the interviews. Central to this sense of relationality is the "voice", and in this case, the voice of the place, or "Place Voice", one of the extensions to the Guide I propose to hold research space for more-than-human participation.

Gilligan and Eddy (2017; p.80) describe how the Listening Guide "asks the researcher in the interest of discovery to be fully attentive and present in the moment, to listen closely and actively respond, to engage rather than disengage… authentic relationship and responsive listening become integral to the process of discovery". In focusing closely on the process of listening, I was conscious of the rustling of my paper notes when interviewing Cat, the first participant, and the need to flip between pages. The sounds and distraction involved in turning pages gave me a sense of being or appearing to be inattentive to Cat. As a result, I made use of audio notes pre- and post-interview for the remaining interviews, or had pages laid out separately to minimise rustling for remote audio recording to promote a sense of engagement and attention.

In being attentive, I was also aware of the variation in what might be termed the interview soundscape or "sonic space" of each recording (Gallagher, Lamb & Bayne, 2016). This had an impact on the level of detail that I could record in the transcript, or the potential for the voices of other beings to be included as part of the interview. Those interviews that took place with both interviewer and human participant indoors and online had few additional sound details. Unsurprisingly, the opposite was true for urban walking interviews recorded on two digital recorders with both the interviewer and human participant in the same outdoor location. Interviews where the human participant was outdoors while the interviewer was indoors had a similar soundscape depth or detail as those where the interviewer was outdoors while the human participant was indoors. As I listened to the audio recordings through the process of making transcripts, I realised I not only needed multiple "listenings" to the transcript, I needed multiple "listenings" to the audio files while transcribing to hear other voices. This was over and above the multiple listenings that are required to produce a standard transcript; instead of listening to the human participant and I talking, I was listening for the other sounds, other "voices". Of transcribing soundscapes, Haskell (2022) says that a "single hour could fill a book" (p.170) and highlights the difficulty of transcribing detail coupled with the limitations of human listening ability when contrasted

with other species. I acknowledge there will be omissions in the transcript due to my limited human hearing, voices that are silenced in the process of transcribing from audio to text. Another listener might identify a make of car or bird species more accurately than I am able, but I take comfort in Ross' (2010) reminder that transcriptions "are suspect, problematic, and utterly imperfect" (p.8). In creating the transcripts for this work, my aim was to provide a textual sense of the other voices in the places where interviews were held. In the work presented, I have incorporated transcripts, field notes, images and audio where available and appropriate, but as the saying goes, "you just had to be there".

For students, this part of the activity builds on Isaacson's (2021) "Nature as stakeholder" engagement practices, specifically spending time in a location engaging all senses or listening to recordings of sounds, rather than interview recordings and transcripts. This relates to Haskell's (2022) training for students in developing attentive listening skills. It is not an activity that is isolated or separate from research; instead, it is a process of returning to place(s) and attentively listening each time. A helpful starting exercise is outlined by Lewis and Moffett (2023) in their protocol for listening which engages the listener with their body, rather than towards the recording device, laptop, screen, headphones; this is an exercise I would have welcomed prior to both interviews, and the process of transcribing and listening. This step is about making time for meeting place as the first step on the path to relationship-building and becoming-with place and place beings. Time spent attentively listening allows the student-researcher to hear the voices that are present at that moment in time in that location. Through repeated attentive listening, changes in the community can be heard.

6.3 Listening for the Plot

As noted previously, Gilligan (2015; p.71) states that this step "overlaps with other qualitative methods including thematic analysis, grounded theory approaches, and narrative analysis". Moving beyond the overlapping qualitative methodologies that Gilligan aligns with this step, Tolman and Head (2021) describe this step as "observing the landscape", incorporating a "reader review" related to feelings that arise as part of the interview and listening process (p.157). Gilligan and Eddy (2017) and Tolman and Head (2021) discuss the importance of not categorising, or "binning" (Tolman & Head, 2021; p.157) segments of the transcripts at this early stage. They all emphasise that this may be difficult for those trained in standard analytical methods, where the temptation may be to categorize the data rather than listen respectfully to the shared stories. In analysing data through the Listening Guide approach, it is not so much about the results, it is about how it *feels* when submerged in it, listening and reading it. Field notes and a research journal are essential aspects of this step and of the analysis to provide a space to reflect on the thoughts and feelings related to the first listenings. A noteworthy synchronicity between Haskell's (2022) attentive listening and Gilligan's Listening Guide (Gilligan & Eddy, 2017) is seen in the encouragement to be curious, echoing the guidance from conservationist Aldo Leopold (1949) to Laura Piersol's (2010) more recent call for place-teaching with wonder.

What could be defined as the main themes, or more appropriately with reference to the Listening Guide, what Tolman and Head (2021) describe as "developing voices" (p.158) from this listening have been used in structuring the thesis: place, care and time. There is extensive research supporting the connection between place and emotion (e.g. Abram,

1996; 2010; Lumber, Richardson & Sheffield, 2017), and between time spent in place encouraging care for that place (e.g. Cameron, 2008; Martin *et al.*, 2020; Richardson *et al.*, 2016; 2020a,b). Beyond connecting these themes, this thesis brings an additional dimension, in that it presents a way to listen attentively to a place and beings at a distance and note the influence of unexpected moments of connection within those interviews that support the argument for engaging in a place-responsive manner. It is these moments that require attention, that cannot be scheduled or designed, which may bring lessons for the researcher. As this step focuses on the plot and the participants, it is essential at this point to consider those moments where place co-teachers participated in research and learning.

Derby (2015) strongly advises against seeing the participation of more-than-human participants as distractions: "sometimes messy and ambiguous interweavings are really real, not distractions from more pressing curricular objectives or novel ornaments to embellish logico-mathematical forms of thinking" (p.3). Over the course of the ten interviews, I encountered many unexpected participants: squirrels and a lost puppy with The Eager Beaver, dogs, sheep and tractors with Sheep Flock Health, dogs too with John Jeffrey. These interactions led to discussions of grey squirrels as pest species, sheep health, and owner care of overweight dogs. Lynch and Mannion (2016) present vignettes that demonstrate how teaching plans, and research interviews, can be enriched due to the appearance of local more-than-human residents. In the examples Lynch and Mannion share, the ability of the humans to adapt to the 'chance encounters' (p.339) is central. The interview with Sheep Flock Health demonstrated a suite of learning moments embedded within an interview. This resonates with Lynch and Mannion's (2016; p.337) reference to "co-production of knowing" in the encounters between human and more-than-human beings. I have provided a series of vignettes, which draws in my reflection on the unexpected range of topics that presented themselves in addition to the expected responses to the interview questions as a result of carrying out an outdoor walking interview. The mixture of images, journal notes and interview stories resonates with the student-led research diaries or blogs that have been discussed previously in this thesis (Chapter 4) and present a creative way of thickening the research story (Willis, 2011) with place-sensitive awareness.

The series of four vignettes that follow were drawn from a co-located walking interview through sheep fields located close to the University campus in Midlothian, south of Edinburgh, Scotland (see Figure 6.1) with the participant Sheep Flock Health (SFH). The vignettes contain excerpts from the transcript, photographs and field notes collected after the interview, and notes from my reflective research journal made after the analysis. The purpose of this series of vignettes is to highlight the potential to promote a sense of place-responsiveness when the researcher remains open to more-than-human participation. Taken together, the vignettes demonstrate a process of undertaking ecohermeneutical research, where the researcher learns from place participants. They provide an example of the Listening Guide process of integrating experience, emotion and personal thoughts and observations from field notes, presenting a complete landscape. Similar to the brief storied account that Stewart (2020) shares in presenting a pedagogy of Australian natural history (pp.150-1), it describes the process of learning to be in a place, of observing patterns and relationships between members of the community including the researcher. Following Tuck

and McKenzie (2015) this activity is a core step in a critical place-inquiry method (p.105). By acknowledging the embodiment and emplacement of both me, as researcher, and the participants in the interviews, by providing context beyond stating the basic location in the methods and presenting a multi-sensory story, I am taking up Ulmer's (2017) challenge of writing myself into place, of actively engaging with the slow ontological process of connecting.

This example demonstrates effectively how the topic of sheep health extended from the place we were walking to the places that Sheep Flock Health had walked, or to places around the world that have been described to them by friends and colleagues. While Sheep Flock Health responded to my questions in the interview, their responses adapted to and were inspired by the other beings that we connected with before and during the interview. The result was an interview-lecture hybrid, which transmitted a depth of information that may have been lacking in a traditional interview format. I met with Sheep Flock Health to carry out a semi-structured interview at an interviewee-chosen location; this location was a "becoming-place" (Mikaels, 2018) where my curiosity and the stories shared inspired me to ask questions about the history, culture and ecology of the place and beings I encountered. Through the short time I spent at the location (~3 hours including pre-interview preparation, interview and post-interview review), Sheep Flock Health's introduction to the place and my solo time aligned with Hensley's (2016) SHEEEPS sustainability learning framework (p.346) in that there was discussion and reflection on the social, historical, ecological, economic, ethical, political and scientific aspects of the interview location. Returning to Ulmer (2017), while it may have been a short time, it was a slow time, as my engagement with the place continued after I left as I reviewed and wrote myself into the place through the notes and transcript.

Following Beames (2015) steps to a place-responsive educational approach, in this interview I transitioned from being place-sensitive to being place-responsive. In other words, I started the interview paying attention to the local place. I move on to recognising that I was learning something in that particular time that was directly relevant to that place (place-essential). Finally, I was becoming-with the place as what I learned took on a more complex understanding of global issues through the connections with beings in this and other places. Sheep Flock Health was a natural place-responsive practitioner, in that they integrated their knowledge with the inspiration from the place to create a woven place-story drawing in local and global threads to help me understand the concepts that underpinned their research on ruminants and their experiences as an educator familiar with teaching face-to-face and at distance.

Figure 6.1: View of the Pentland Hills from the sheep fields at Easter Bush, showing the clouds passing across a blue sky and the dance of trees in the blustery wind.

6.3.1 Vignette 1: Grounding the interview

Sheep Flock Health chose the location as it encapsulated their research interest, was close to campus and their home, and provided enjoyment in undertaking an interview while walking among sheep. I noted in my field notes that I would not have taken the route across the fields that we took on the interview. Pre-interview, this was due to my concern about trespassing, but I discovered during the interview that I was not physically able to open the gates between fields. Sheep Flock Health was frequently in these fields, opened and closed the gates for us, and was an excellent guide on the walk. The squeak-and-clank voice of the gates was recorded at intervals through the interview transcript. In my research notes, I observed that the direction of the walk "was specifically chosen to show me their [SFH's] house, not solely to discuss sheep, which I had incorrectly assumed when the meeting was first organised".

The interview took place at the end of July; the weather had been wet and windy but was dry at that time. I was wearing waterproofs, wellington boots and a woolly hat. Field notes on observations during the interview provide a deeper sense of place as I capture sights, sounds and scents that would not be included in the interview transcript.

> I saw birds in the sky, the organic food recycle truck passing by on the A703, the birds skimming in the sky, the happy sheep (see Figure 2), happy dogs, [shepherd's] dog licked my hand, I saw butterflies, there is the scent of some flower along that path that is really strong and really lovely (see Figure 3). It's now blue skies but it's been raining so you probably hear the hiss and crackle of waterproofs [on the recording]. We had a wee spot of drizzly rain first thing in the morning, but it's since been fine and the fields are looking lovely and the sheep are looking grand. (Field note 1)

Figure 6.2: Photograph of sheep "looking grand" in the shed taken at the start of the walk. This group had been brought into the shed for shearing and would soon return to the fields.

Figure 6.3: Common ragwort (*Senecio jacobaea*) photographed on the path leading to the sheep shed after the interview. Depending on the species, this is either food or poison.

6.3.2 Vignette 2: Learning by following my nose

> Based on my photo identification, the flower (see Figure 3) is "stinking Billy/Willie" or common ragwort… this is a pest of agricultural land and poisons livestock gradually if it is dried with the hay and consumed – the alkaloid destroys the liver... The Latin name includes reference to Saint James (*jacobaea*) who is the patron saint of horses – didn't know that! The name "stinking Billy" is Scottish, named after William, Duke of Cumberland (best not to discuss the Battle of Culloden in 1746!). On the plus side, butterflies, moths, bees and other insects love it. (Field note 2)

This is an example of the richer field notes mentioned previously. It also demonstrates how multi-sensory attention to the place – in this case, following my nose to the source of the strong floral scent on the breeze – led me to learn a range of new scientific, social, cultural, ecological and historic facts. These facts were entangled in my previous knowledge regarding the historical actions of the Duke of Cumberland at the Battle of Culloden and my observations of butterflies and sheep during the interview. Common ragwort should be

avoided by sheep, but is a food source for butterflies, and the information on hay segues into the following vignette on pink straw.

6.3.3 Vignette 3: Learning tangents

The following weather-inspired description of pink straw is an example of a learning tangent. I asked a question about Sheep Flock Health and colleagues' research travels. Sheep Flock Health's response started with pink straw, before coming back to discussing how knowledge was disseminated from researchers to farmers. The straw and the weather acted as co-producers of knowing (after Lynch & Mannion, 2016) in collaboration with Sheep Flock Health. The weather on the day of the interview reminded Sheep Flock Health about the story regarding the colour of their son's straw, which had inspired a learning reflection for them on the connection between weather, research into feed production and farm economics.

> SHEEP FLOCK HEALTH this weather we've just had has certainly had me thinking very seriously about what are the current challenges and the current opportunities and what do we need to be doing that's different… my son's just finished combining some em winter wheat and he commented to me that… everyone's straw is really pink this year, and the reason why the straw is pink, is because the weather has influenced the plants' uptake of elements and they are very high in potassium as a result of the weather, which is making the straw pink. And it's got me thinking well,… how is that going to impact animals that we feed that straw to as straw-based diets… it is still enough to get us thinking.

There are other examples in the transcript, such as when Sheep Flock Health spoke about how they used the view from the classroom window to invite students to consider why the cattle are put on the hills in the warmer months to avoid flies as vectors of summer mastitis, or when the sight of a thin lamb led to a discussion about lameness. Throughout, Sheep Flock Health directly engaged with our surroundings to create an interview-lesson hybrid comprising a series of "learning moments" (Lynch & Mannion, 2016).

What has not been addressed here is applying a critical animal studies lens (Dinker & Pedersen, 2016). In the previous vignette, I considered the negative impacts of a human war in 1746 but did not critically consider the lives of the sheep I encountered as "production animals" designated for breeding and slaughter, beyond the observation of the thin lamb. It was a shallow engagement where learning about sheep was a secondary focus to learning about place-based veterinary education, with a small inclusion of deeper learning about the place through engagement with straw, ragwort and butterflies. There is no learning with or for sheep. Dinker and Pedersen (2016) outline a range of activities to address anthropocentric bias, to provoke an exploration of the stories of the more-than-human beings encountered as beings separate from their connections to humans. Reflecting on the sheep recalls Nina's experience of hearing the cows calling out for their calves after they are separated, "you can hear them all night" and on reflection, I ask myself "how does an animal experience being... separated from her mother?" (Dinker & Pedersen, 2016; p.419). Place stories carried layered meanings and not all stories are mine.

6.3.4 Vignette 4: Representation decisions

> Took some great photos and the audio from the sheep is superb! I could have a whole sheep recording – how would I begin to analyse their participation? They are participants in my research as much as the human participants and the birds so far. (Field note 3)

In planning what to include in this thesis, I faced the issue of representation of all beings, and how this could be achieved in an ethical, respectful way. In this interview, six identifiable sets of voices weave through the recording: Sheep Flock Health, the Wind[5], a group of sheepdogs, at least four sheep that can be identified separately, the gate, and my own voice as interviewer and Sheep Flock Health's student. I considered whether to include a recording of the sheep, the Wind, and the dogs to acknowledge their participation, and to produce something similar where possible for the other interviews.

I am aware that, except for Sheep Flock Health and me, the beings were recorded without their permission. On reviewing the audio files, I also noted that the voices of Sheep Flock Health, the sheep, the dogs and the Wind were too closely intertwined for me to share one without the other. As a result, I made the decision to represent them through text and photographs, rather than incorporating audio. Taylor (2017) talks about the importance of attending to "marginalized voices" to help humans "better grasp who we are and who we must become to rectify current ecological challenges" (p.43). In the context of this interview, while dogs and sheep were vocal on the recording, much of the conversation focused on the range of species whose lifecycles are entwined with sheep and dependent on the weather, such as tapeworm and roundworms. Focusing solely on the beings who drew my attention due to their voice or scent tracks would fail to acknowledge the "marginalized voices" of the protostomes such as the nematodes. This attention to the less conspicuous but key species emphasises the importance of following the connections or tracks from one species to the others as part of the learning network.

This section focused on Listening for the Plot, setting the landscape for the interview and providing space for personal emotional reflection as my "reader review" of the interview. Due to the limited space in the thesis, one interview was selected that demonstrated a range of elements of a place-responsive pedagogical approach. As with Stewart (2015), the process of learning to be in the land was an essential aspect in helping to identify the patterns and relationships between entities in the location. Furthermore, responding to a research gap identified by Tuck and McKenzie (2015), this positions the Eco-Listening Guide as a potentially place-critical methodology by providing a method of acknowledging, emplacing and embodying place in data, rather than reducing to data. Moving on, the following section centres on the next step of the Eco-Listening Guide, Listening for the I.

[5] The use of a capital letter is intentional here, acknowledging that the Wind was a participant on the recording. This is respecting the Wind as Person (Wright, S. *et al.,* 2012).

6.4 Listening for the I

There are two steps, or rules, to Listening for the "I" of the participant (Gilligan *et al.*, 2006) or the "Voice of the Self" (Tolman & Head, 2021; p.157). The first is to extract every instance of the word "I" spoken by the participant, plus the verb and the other associated words that follow. The second is to maintain the order of this extracted text as it is in the original text. This process assists the researcher to come into relation with, to "tune into" or "turn up the volume" (Tolman & Head, 2021; p.157) of the voice of the participant. The extracted text is termed an "I Poem" (term coined by Debold, 1990, cited in Gilligan *et al.*, 2006).

I adapted Gilligan and Brown's Listening Guide in two ways in relation to Listening for the I. First, from my initial reading around the method, I was interested in the concept of relationality and the importance of making the researcher visible. I found the view, as described in Gilligan and Eddy (2017; p.79) of the researcher as "composer of the analysis" made too fine a distinction on what it means to be "visible". As a result, my analysis included a "Listening for the MI", as a play on Gregory Ulmer's mystory (Ulmer, 2003) and the Listening terminology; the output became a MI Poem. From this, I was able to listen to my own voice in the transcripts and come into a closer relationship with my researcher self, hearing the excitement when talking about my local wildlife and my concern with the wellbeing of my human participants. This was what I came to call my "mother hen" voice, checking to make sure human participants were comfortable, warm or cool enough, had access to water or other beverages. This is most audible on the recordings where the human participants are outdoors and online, where with the walking interviews, this discussion often took place before we turned on the recording devices and was recorded in the less emotive field notes.

Second, as the focus of my research was on place and the more-than-human voices in research places, I needed a way to listen not solely to the "multiplicity" of participant voices, but also the multiplicity of voices in the places where the interviews were situated. This aligns with the work of Piersol (2014, p.49) as she seeks methods to make space for "deep listening" in place. In her work with I Poems, Koelsch (2015) describes these as research poems as the text is extracted directly from the data. The text comes from the participants, the arrangement on the page and the words selected are the researcher's (as composer). Koelsch sees "a primary purpose [of the presentation of research data in a poetic form] is to evoke an emotional response in the reader, with the goal of forming a sense of verisimilitude with the participant's experience" (p.96). In my adaptation of Listening for the "I", I wished to listen for place. As a result, I created two new poetic structures: Place and Background Poems. In Place Poems, the text come from researcher/human participant words related to place or beings, and notes on the transcript of any direct sounds, i.e. sounds that the human participant and/or I responded to. The text for Background Poems was extracted from the transcript notes of sounds on the recording plus words related to the sound. The two I-Poem rules remained, so selecting the place or background sound noun (e.g. tree or bus), plus the associated words or verbs around it (e.g. the tree stood on the hill; bus engine idling), and I maintained the order of the extracted text in line with the transcript. The Place and Background poems could be described as ecopoetic forms, employed in ecohermeneutic research to share a sense of a place as it was heard in the

moment (Derby, 2015; pp.35-37). If listening for the "I" provides a way of tuning in to the narrator or interviewee (Tolman & Head, 2021), these ecopoetic forms help the researcher to hear the many voices of the place speak. In both instances, weaving ecohermeneutics and the Guide, it is about recognising and building a layered holistic appreciation of the place and participants.

As a comparison between the two poetic outputs, see Boxes 1 and 2 below. Both were taken from The Eager Beaver transcript; both refer to the Meadows, the same location in the heart of Edinburgh. At the start of the interview with The Eager Beaver, I asked why they had selected the Edinburgh Meadows for the interview. They said they did not really know the place, and when asked why they had picked that location for the interview, their focus was on it being a convenient green space near to the office with the benefit of seeing people and their dogs. When prompted to describe the place to someone, their response became an elegant Place Poem (Box 2). This demonstrates the value of "seeing" through another's eyes, or as reported in Koelsch (2015; p.99), the opportunity to "stand alongside" the participant as they describe what they see. This allows the reader to sense how The Eager Beaver's words introduce the place, even though they did not perceive themselves as really knowing the place chosen for the interview. The Background and Place Poems were entangled in the answers they gave to the interview questions.

Box 1: The Eager Beaver Background Poem

sound of traffic in the background, swishing along wet roads, constant background

ambulance which we might pick up, sound of ambulance siren

traffic sound quietens briefly, sound of walking feet, swishing waterproofs

noise of ambulance siren, siren noise, siren very loud – both stop talking, sound of siren slowly fading

traffic sound quieter, sound of idling engine – truck/bus

sound of people walking past having a conversation

sound of roadworks, road-digging equipment

truck engine idling, noise of the engine, sound of engine fading, large vehicle passing

sound of something hitting a manhole cover – metal clunk

Box 2: The Edinburgh Meadows, by The Eager Beaver

a place of changing character;

in the middle of summer; full of people; people are legally doing barbecues and playing cricket and drinking; the circus; the festival; loads of people;

come out of the summer; more quieter, em, but still really pleasant; all the trees turning; all the leaves will drop;

the winter; nobody here; a little spatter of snow; a more wild space; right in the middle of the city; manicured grass; can feel quite wild; winter season;

come around to spring; the cherry blossoms; iconic walkways through the middle of the park; people start appearing; people playing sports; everyone is sitting around; the weather gets nicer;

quite a small space; really central to a lot of things;

it's very inconsistent in its character

As a researcher, I "ground" my work in that of other researchers who have come before me. In this section, I sought to ground in a more literal – or littoral – sense. The particular location in Boxes 1 and 2 provided me with a way to ground my research in the footprints of my paternal ancestors, a link to my personal "biographical associations" (Basso, 1996; p.144). Somerville *et al.* (2011) propose that humans come to know other places through knowing a home place, Baker (2005) incorporates "connecting to home" as a "landfulness" activity (p.274), and I found myself reflecting on this home-connecting as the interviews progressed. I observed how I used my home place to better understand others' lived experience; I joked about Scotland's "lushness" compared to the lushness of Cat's Vietnam, conversation flowed around my bees and Nina's wasps. In transcript and field notes, I recorded the lines of sight to my home in Haddington, East Lothian. The lines stretched from Arthur's Seat in Edinburgh to the Pentland Hills near Easter Bush in Midlothian when walking with Hugh, and from the Easter Bush veterinary campus to home when standing on the hill above Sheep Flock Health's house. I was inspired to create a companion and reciprocal video of my daily walk to share with Riley, as there were so many photographs in their video collage that echoed places where I walked, albeit in a different part of the country. None of these elements discussed above were central to my research questions, but they were central to the process of place-reflective and –aware research. They were central to my coming to know the places, either directly or at a distance. With this in mind, Place and Background Poems provide student-researchers with a method to engage with the more-than-human participants in places, to work with the entanglement and themselves as part of that.

In this thesis, interview participants were invited to tell a tale from the place they had chosen for the interview. This extended the discussion that we had earlier in the interview where I asked them to tell me about the place they had chosen. The opportunity to share a story or myth created space for reflection on the history of the places, in addition to the emotional, affective descriptions of the local wildlife and view from the window invitation. Some chose to share images, others did not, some said that they did not know much about the area (The Eager Beaver) and then proceeded to describe the place based on their experience that led to a place-rich poem as seen in Box 2. Following the analysis, I shared the poems with The Eager Beaver, who was surprised and pleased with the poetry and creativity held in their words. An activity like the Place Poem (write a short piece about a chosen place, select all the place-related words, extract and present in order) may provide a way for students to share something more about a place while not feeling pressured to present the perfect "tourist gaze" photograph. It would also allow students to choose any location, to sit and write about a place that has meaning for them, beyond a pin on the map where they may be physically located. In the survey of students on John Jeffrey's programmes, students discussed the places they had selected for the course activities; not all chose places that they were able to visit or familiar with, some used the activities as a reason to visit somewhere close by that they had not yet had the opportunity to spend time in, some investigated an ecosystem based on information that was available online. The key here is choice and the opportunity to travel in the mind to the location. Haskell (2022) reflects on the way that sounds and words can take him back to places he has been, and this story-based activity may provide an option to do that. It does not negate the settler view,

though it may provide a way for all to know their locations better by engaging with the history and embedded land stories.

The next section focuses on the contrapuntal voice, comprised of the multiple voices, patterns and harmonies that Haskell (2022) notes as an advanced application of an attentive listening practice.

6.5 Listening for the Contrapuntal Voice

In my initial review of the transcripts, I followed Gilligan's (2015) description of the "voice of connectedness", being aware of any sense of different turns of phrase that indicated a switch to other "voices". For example, I observed that a change of pronoun from "I" to "We" was frequently employed by students and staff when referring to University activities, communication or policies, and defined that as the "Institutional Voice". For example, Hugh primarily used the personal pronoun "we" when talking about interactions with students. There was no explanation who the teaching "we" is, providing a sense of "We, the Programme Team" or "We, the University". This Institutional Voice weaves around what I perceived as Hugh's "self voice", which focused on "I" statements. I also noted how "we" was aligned in all participants with references to course activities and assessments, and the connected, personal "I" more frequently used when talking about conversations with peers, personal tutees, other one-to-one communications, or personal place-based experiences.

This connection between personal "I" and place linked into a second voice I defined as "Place". In some cases, this also linked back to the Institutional Voice noted earlier. For example, Patricia shifted between "I", "they" and "we" when talking about community support and interconnectedness. Exploring this sense of community and connectedness, there is a contrast between Patricia's preference to be remote and the strong connections to the local community, with "We" being the community council – another form of Institution. In reference to place-community, Gloria spoke as "we, the human place-local inhabitants of this community" when referring to activities in the local area, e.g. "we also have a county fair". Extending the concept of community, Ryker stated that "we are a rainforest really", with no clarification of who "we" is, whether it refers to those living in Ryker's local area or a wider area. There is also no indication of species, and as Ryker speaks about bees, lavender, trees, horses, humans and eagles as being co-located during the interview, the understanding of "local" or "place" community becomes more open and fluid. John Jeffrey emphasised this point when considering what, for them, constituted a "local" community. For them, "local community" referred to their research community, including students on the programme, irrespective of where in the world they were located.

A third voice appeared when referring to the range of technologies used to connect students and staff, which I identified as the "Technology Voice". This voice encapsulated the uncertainty regarding what the technology might facilitate, enable or restrict, and in some cases, recognising it as a separate being, as in "What Technology Does". When referring to the contrapuntal aspect, the "consonance and dissonance" between voices, there is an interplay between the Technology Voice and emotional phrases, and both positive and negative distance experiences. In many of the interviews, particularly but not exclusively with staff, the Technology Voice also overlaps with the Institutional Voice. My general sense

of this overlap through listenings was supported by an NVivo node comparison query, indicating that both voices overlapped or were closely associated, which was a helpful reassurance that my "feeling" through the repeated listenings was accurate, though it was an example of where it was difficult to resist the quantification of data which can be an issue when becoming familiar with this psychological, qualitative approach (Tolman & Head, 2021). Looking at this as a process of learning to listen, and the entwined nature of teaching and the frustrations experienced in response to strategic drivers from an educational institution become clearer and this will be explored in one of the examples presented later in this chapter. As with Hultin (2019), I observed that asking about connecting student-staff-University led to responses that centred on the instrumental aspect of technologies. With reference to the Technology Voice in this chapter, it is worth noting that the process of listening moves the observation from the surface discussion about tools to a broader appreciation of technologies in relationship, and in building relationship.

A fourth and final "voice" is truly polyphonic in that it comprises all those who speak in the "Background" of the audio. During the analysis, this was tagged as a form of I-Poem as described previously, focusing on the voices of other beings, e.g. traffic, human voices, music, grass-mowing. I created it when I realised that there was more input than that coming from the interview participant, me as the researcher, and the species "speaking" as Place Participants (birds, mammals, trees). When reviewing the key narrative voices, it was clear that the participants recorded through this "Background" voice had influenced the interview in a number of ways and an example is presented in the composed analyses later in this chapter.

With reference to these voices and stories, the four outlines are extended in Table 6.1. Following Davis (2015), this presents the overall narrative voices and dimensions within those voices. For example, Place Voice focuses on the change in tone and phrases when discussing a place, and incorporates a dimension of Place Emotion, referring to an expressed emotion due to being in or spending time specifically in an outdoor location. One Background voice example illustrates how the sounds on the audio recording told me what time of day it was in my town. The crows fly over morning and evening on their way to and from their roost. That sound of crows calling and cawing, coupled with the coo of the pigeons, is the sound of early evening in my town. The Guide invites the listener to pay attention to the weaving of the voices through the transcripts, and these voices all weave through and around each other, together providing an overall sense of place at distance.

For student-researchers, this step of the Eco-Listening Guide extends the attentive listening praxis to noting the patterns. My example above of the sound of the crows indicating the time of day in the location is a simple illustration of this. Through the practice of repeated attention, of respectful attunement, there are opportunities to learn more about the place, the species that inhabit it, and potentially the connections between those species. There is also the potential to hear other members of the community, such as vehicles or squeaky gates, as part of the wider array of socio-material interactions.

Table 6.1: Key narrative voices, adapted from Davis (2015; p.84).

Institutional	Speaking as and/or for the "Institution" or organisation, e.g. a "University-speaking-through-people" voice used by all human participants.	
	Dimension	Example
	University: this example is taken from the final interview, when I had noted the Institutional Voice in earlier analysis and actively changed from “we” to “I” to be visible in the research.	SHARON …the University here on campus will also help students if they want to, to study the campus, so em, wherever you happen to be, if, if you want to study how Edinburgh does things, and turn the University into your, your kind of project, em, you can do so, the University will help you to do that. So em, yeaaah, so one of the things we’re thinking about is, that I’m thinking about as part of this project, but also more broadly the University is looking at, are ways to help people worldwide to develop these kinds of ways of engaging with their community
	Community: reference to involvement with community or other organisations beyond the University	CAT I really believe in what we are doing here… and I feel, I feel very strongly about our mission and what we’re trying to achieve
	Global community	HUGH we get a really rich sense there of… [idling traffic] people from around the world, some people will be just down the road, em, but other people will be elsewhere in the UK and from all corners of the world really, we have people from aah, all around Asia, Australia, North America, not so many from South America, good serving from Africa, Middle East, and sometimes people they are ex-pat, UK people working in other countries for a while, or they’re people from those other countries studying with us at a distance
Place	Choice of words when talking about places, in the context of this work reflecting "love", fondness, care, responsibility. Talking about Place is linked to I-Poems and references to Place Participants.	
	Dimension	Example
	Place emotion: feeling inherent in being in and with places	GLORIA It is a lot nicer to be outside, em, because you’re not in the same room that you are always in. That can get kind of stale, so it is nice to hold the lecture or class or an interview outside, it is a little different, it’s em, I think it’s more relaxing!

	Practical work at distance: place-based tasks (activities, assessments) currently carried out or proposed as being possible to carry out at distance	JOHN JEFFREY we quite often ask them [students] to write about a particular disease or a particular issue in their own local context… and I particularly like, em, like having practical sort of activities where they talk about their local situation [blustery wind picks up] …so we have like a, a thing about wildlife livestock interface and we ask them to describe an important disease and the wildlife livestock interface [gusts of wind] and how it's controlled in their area
	Community work: working in/with the community	NINA I believe that it is very important to act and the best way to act is to act where you live, because there you can do small things but you can do them… I think if we wish to do something it is easier to do in the local area because already we know, we can know people, we have relations, and we see better

Technology	Choice of words and way of speaking when talking about technology. Overlaps with Emotion, and the negative and positive experiences of studying and teaching at distance.	
	Dimension	Example
	Negative driver: note the switch between what "we" tried and how The Eager Beaver feels personally "totally stresses me out".	THE EAGER BEAVER …we don't use social media either, and for a while, we tried to do it, but nobody on the team really cared that much, so nobody did it and, do you know what, that's OK, but that's the whole thing, that the sort of thing that totally stresses me out, do you know, having to be on it… immediately.
	Positive facilitator: contrast from the same interview in supporting a relationships at distance. Use of I seen here, rather than we, linked to sense of personal relationship.	THE EAGER BEAVER …particularly if there is a longer running, em, relationship, either as a PT or em, as a supervisor for a dissertation, then, yeah, I probably I do share quite a lot of the things I'm up to and they share a lot of the things they are up to, so yeah, I think that would be the most likely… way that I would be sharing that sort of stuff. …you get a window into people's space that they work in, you know, when you are having [virtual] calls, so you see, you know, what room they're in, or if it's in a conservatory. Sometimes they're in the field, so you hear they're, you know, you hear they're out doing stuff…
	Technology as Being/Personhood	[RILEY asynchronous offline interview] SHARON Did you select that particular tune for the video? It's gorgeous! RILEY No MacBook chose that, but when I reviewed the video I think he did a good job. A country and western tune just wouldn't have cut it and bagpipes are just so cliché!

Background	The background sounds that are not always "named" but participate in the research. The aim was to foreground those voices that are recognisable enough to be transcribed. These auditory tracks are often not individualised and difference is not recognised, as with “traffic” rather than make/model. Place Participants included here as linked to place soundscape.	
	Dimension	Example
	Urban soundscape	[CAT interview] Traffic; motorcycle; grass mowing in the distance?; heavy traffic; bus passing; grass mowing continues, or someone cutting wood with electric saw?; ambulance approaching…; ongoing mowing/sawing; …ambulance passing
	Place participants: from the sounds of dogs, pigeons and crows, I know it is evening in my hometown	[PATRICIA interview] dog barking; pigeons cooing; dog barking; crow calling; pigeon cooing; crow cawing; crows cawing; pigeon cooing; crows cawing; pigeon cooing; pigeon stops; pigeon cooing
	Related to interview (sounds of walking, etc.): as per Hultin (2019) this adds a Scottish November depth to the interview.	[JOHN JEFFREY interview] crunching of shoes on rough ground; steady sound of shoes crunching on rough ground; sound of walking switches to muddy squelches; very squelchy footsteps; passing dog-walker; Pause; sound of walking; sound of walking has changed back to drier ground

6.6 Constructing an Analysis

This is the crucial element of the Eco-Listening Guide analysis, and the aspect that Tolman and Head (2021) indicate is often omitted. They observe that research papers focus on earlier elements of the analysis as demonstrated in Koelsch (2015) on I Poems. From the perspective of this thesis, the balance between the two elements – the methods and the respondent – the "how to listen" and the "what we were listening to" (or what we were saying/not saying) are covered here, so the first steps of the Guide allow us to hear other voices (poems), where the final step provides some indication of how it feels as a result of hearing those voices – the effect and affect. Davis (2015; p.84) makes a key clarification about his analysis, in that his "aim was not to re-present these… narratives… but to offer a different reading".

In presenting the analysis, researchers (e.g. Davis, 2015; Tolman & Head, 2021) employ different font styles to illustrate the interplay of different voices and aspects within the text. In the sections that follow, the voices introduced in Table 6.1 will be identified as outlined in Table 6.2.

Table 6.2: Font styles employed to highlight the interplay of voices within the presented transcript excerpts.

Voice/Aspect	**Style**
Institutional	underlined
Place and Place Participants (as referred to by human participants)	*Italics*
Technology	SMALL CAPITALS
Background and Place Participants (audible on the recording)	[square brackets]
I Poem	**bold**
Emotion	heavy underlined (double underlined if overlapping with Institutional Voice)

The next section presents two examples focusing on stories shared by Cat and Gloria as an introduction to the process of composing an analysis. It also takes the reader through my early exploration into the interplay between voices and elements, as a further method to elucidate the evidence supporting the impact of places on those co-located and at distance. Tolman and Head (2021) refer to the need for researcher curiosity and empathy when listening to the stories shared and emphasise that that process of listening "is a path of discovery" (p. 154). The next section comprises the first steps on that path. For the student-researcher, this first step centres on spending time listening to the stories and histories of the places they are researching from multiple sources as part of their place-responsive apprenticeship. It is about building meaningful relationships with humans-in-place through the communal and convivial activity of storytelling.

6.6.1 Stories of place and participants

> *Although we have particular paths we want to cover related to the substantive and theoretical foci of our studies, narrative interviewing necessitates following participants down their trails. (Riessman, 2008; p.24)*

Central to this postdigital place-responsive thesis is recognising how places and all beings are entangled, and exploring how that entangled relationship can be developed remotely/at a geographical distance. This is an essential aspect of adapting education for students on veterinary and animal science programmes, as it operates from the position that student and student-as-researcher are integrated within ecosystems and the biosphere, rather than separate observers. Appreciating this integration is key to developing an ethics of care and a compassionate conservation approach. With semi-structured interviews, that entangled relationship exploration was encouraged by starting and ending with an open place-focused question that made space for place-based stories. The goal in inviting stories was to encourage participants to focus, to "sense" their places, a process that may help to foster an attitude of care and emotional connection to place (Basso, 1996; pp.106-7). The potential for an emotional connection to place is core to place-responsive education. Here, it was also part of a broader review as to whether remote places could be sensed at geographical distance, as this may provide an area for further study beyond this thesis.

In line with Basso's (1996) research, the Eco-Listening Guide analysis highlighted an overlap between "emotion" and "place" when participants are talking about their location and/or place participants, and an example is presented below. This connection between place and emotion, talking about my place allowed me, as a researcher, to reciprocate in sharing my place stories as well as learning about other places, which are perceived as effective ways of connecting with places.

> CAT **I live** maybe 10 or 12 minutes walk away from *the sanctuary* so **I walk back and forth** on that *road* at least four times a day em so yeah [sound of a roadsweeper] **I feel** really connected to the *national park* or well maybe not the *national park* as the *paths* that **I keep travelling**, like **I really notice** all *the little animals* along *the road*, helping them get off *the road* before they get squished [heavy traffic, bus] and **I really notice** *the trees* and the cycles they go through and *the plants*, yeah, it's really beautiful

Cat's description of their connection to the paths they "keep travelling" brings to mind Ingold's (2011) "wayfaring", as we have seen familiar landscapes from a different perspective as we have travel through the chapters of this thesis. This path-travelling connects with Loots *et al.*'s vision of a rhizomatic narrative inquiry, where each story, each voice, provides another entry point into an understanding of the place-responsive at distance concept, "connecting and rupturing" (Loots, Coppens & Sermijn, 2013; p.121) as the stories are performed by the participants. It also brings to mind my experience of carrying out the steps of the Eco-Listening Guide, "back and forthing" on the paths of narrative inquiry (Clandinin & Connelly, 2000; p.167). Cat's repetition of "I really notice" (I-

Poem) emphasises that back-and-forth, and how their sense of connection with place and beings was built through familiarity with the paths – "maybe not the national park as the paths". This pathworking is connected to the thesis metaphor of the crane bag and the process of collecting treasures and stories on the lived path.

As discussed, this chapter builds on work that recognises the importance of being in or having a view to outdoor spaces (Lumber, Richardson & Sheffield, 2017; Myers, 2020; Richardson *et al.*, 2020a,b), while endeavouring to maintain a balance between outdoors, indoors and online. For the purpose of the interview, participants were invited to choose the place they felt comfortable in. The examples and stories shared by participants in these interviews were predominantly positive. Even in difficult situations, such as Gloria's example of the impact of a hurricane on their peers and Hugh's reference to pastoral support for personal tutees, the connections with and between places and their peoples was perceived as a benefit. Not all students and/or staff may be comfortable or feel safe where they are located (Bradbury-Jones & Isham, 2020), and being cognisant of that fact is a challenge to designing any activity focusing on place. This was highlighted by The Eager Beaver, who noted "some awful stories like of people being attacked" when first asked if they knew any stories about the Meadows in Edinburgh, not a place to "hang out when it's... the middle of the night", in contrast to the day-time perspective of the earlier Place Poem (Box 2) and speaking to the "inconsistent character" of the Meadows.

The responses indicated a positive association between place and emotion, in terms of a sense of wellbeing in being or with a view of the outdoors, as well as specific reference to care for other species and places. This connectedness and care has been critically explored in this thesis as it underpins the effect that building a relationship with place can have on education. It is that sense of connectedness that an ecohermeneutical, place-responsive approach may bring to digital education and what fostering that connection may encourage in terms of ethics of care. With regards to the exploration of where this goes beyond the people community to other beings, that could be an area for research after this thesis, building on work already underway in pro-environmental behaviours (Kuo, Barnes & Jordan, 2019; Martin *et al.*, 2020), to determine if developing an ethics of care in a small way for the local community may encourage students and staff to take more decisive action to protect remote places.

As mentioned earlier in this chapter, the "real question" of this chapter is how relationship with beings can be developed at a distance by demonstrating care through attentive listening as a research method. This relational development and connection links to the place-emotion response highlighted through the Eco-Listening Guide analysis. The next section addresses that real question by following the surprising and unexpected "wow" moment of three interviews central to presenting a composed analysis.

6.6.2 The "Wow" moment: the interplay of emotion and place

Gilligan and Eddy (2017) and Tolman and Head (2021) refer to the "wow" moment in the interview when something new and unexpected is learned as a result of the interview experience. These are creative 'richer moments, "movements" and episodes of eco/soma/esthetic enjoyment [which] serve to (re)vitalize and (re)animate the curiously

critical "consciousness"' (Iared, de Oliveira & Payne, 2016; p.197), "illuminating moments" that change perspectives (Washington, 2018; p.39). For student and staff researchers, this step is a culmination of the whole process of attention, when looking back over a period of kin-building, noting key experiences that increased their understanding, changed their perspective, or otherwise made them stop and wonder.

Three "wow" moments from this thesis are presented below, evidencing the interplay of the place, participants and emotions. These research stories incorporate the structure of the Eco-Listening Guide to present brief composed analyses focusing on attentive listening, barriers to place-based teaching, and place co-teachers at distance.

6.6.2.1 Attentive listening: Ryker and the teacup

Landscape: Ryker is a postgraduate student studying an animal science qualification part-time, online and at distance which they balance with work for the Canadian equivalent of the UK Health and Safety Executive. The interview was recorded online in early August with Ryker in their home study on their farm on Vancouver Island, British Columbia, Canada. I was in my office at work on the Easter Bush campus, Midlothian, Scotland. We were both recording indoors with windows open and a view to the outside: Ryker to their garden and me to the Pentland Hills (similar view to Figure 6.1). Due to the time zone difference, I had stayed late in work, so the building was quiet. Thought it was evening for me, it was sunny in the office as I had the blind pulled up to stop it banging in the breeze. In Canada, Ryker was pleased that there had been rain, as it reduced the likelihood of wildfires as they had experienced the previous summer.

Reader review: In the interview, I spoke about the innovative use of mobile phones for communication and teaching in the Global South. This was a response to Ryker's reference to those "nearer the equator" compared with those from northern latitudes. It was a difficult topic and I note in my field notes that I felt I was in a difficult space finding a way to maintain the interview relationship in response to my perception of people being othered in terms of access to technologies, wealth and animal welfare.

Assembling the Evidence: two excerpts are presented related to the Technology, Self and Background Voices.

The following excerpt follows the Technology and Self Voices, and Ryker's positive view of technology facilitating community-building:

> RYKER what **I feel** is that WE ARE A GLOBAL COMMUNITY, AND THIS TYPE OF TECHNOLOGY AND JUST BEING... TOTALLY ACCESSIBLE JUST SOLIDIFIES THIS GLOBAL COMMUNITY THAT WE HAVE AND **I EM**, IT'S, YOU KNOW, VERY EXCITING, IT'S... UNBELIEVABLE TO THINK THAT WE CAN HAVE THE SAME EXPERIENCE ON COMPLETELY DIFFERENT PIECES OF THE PLANET... IT'S SO EASY TO HAVE ACCESS TO TECHNOLOGY AND, AND STUFF, WHERE IT JUST SEEMS A BIT MORE COMPLICATED IN, AS YOU MOVE CLOSER TO THE, THOSE WARMER ZONES...

The Background voice stood out in the listening process as central to the "wow" moment of this interview, with a Background Poem presented in Box 3. The sound of Ryker making a drink, the clinking teaspoon on a cup, their repeated "yeah, yeah" carried a sense of

distraction. I did not note it during the interview, but when I listened to the recording, I noted my hesitancy (increased use of "em") indicating some awareness of the activity on the other end of the call.

Box 3: Ryker Background Poem
sound of liquid being poured into a china [porcelain] vessel/cup?
rattling sound ... clatter sound ... scraping sound
rattle ... clatter of china ... china and clink of cutlery, spoon stirring in a cup and cling of being released
clink of cutlery ... clatter ... clink of spoon in cup ... clatter ... clink of spoon
rustling sound ... clink of spoon in cup
creak of a chair ... rustling sound

Composition: As part of my interviewer skills development, I was conscious of how I demonstrated attention and connection through the interviews, particularly those online where facial gestures and other cues were missing (Saarijärvi & Bratt, 2021). In my field notes, I reflected on how whether my use of vocal sounds such as "mmn-hmm" indicated I was listening. I included stories from my experience and my location to build a relational dialogue and connections with human participants. Ryker was the last interview, so I had begun thinking about the developing voices and harmonies. Even so, I was not conscious of the Background Voice until I focused my attention on it through the listening process. Working from the dialogic approach discussed by Piersol and Timmerman (2017), the beverage-preparation sounds could be perceived as distraction for both interviewer and interviewee, or may indicate that I succeeded in creating a relaxed space for dialogue such that Ryker felt comfortable in preparing themselves a drink before settling back ("creak of a chair") to continue our chat. Piersol and Timmerman also emphasise the importance of "honor[ing] connection *and* difference, as one attempts to listen to what the other is offering while still maintaining one's own uniqueness and autonomy" (p.13). I found this helpful when reflecting on the difficulty I discussed in the Reader Response section in holding the space for "connection *and* difference". My reaction was encapsulated in the Listening Guide invitation to "actively respond, to engage rather than disengage" (Gilligan & Eddy, 2017; p.80).

Ryker has a primarily positive perception of technologies at the start of the interview with "this type of technology" [Blackboard Collaborate] being "totally accessible". The switch between I and we in the excerpt I linked to a sense of community, rather than the I/We switch seen in the staff interviews when talking about how particularly tools are promoted by the institution. Later in the interview, Ryker discusses the use of different social media tools that are prohibited due to their professional role and problems they have experienced connecting by University email. In contrast to the initial view of "totally accessible", this evidenced how there can be problems connecting at distance when discussing specific tools, applications and technologies. Ryker indicated that they saw mobile technologies as a deficit model, expressing surprise that this could be an effective primary mode of online

engagement. There are links to Sheep Flock Health's observations about the difficulty they personally experienced reading material on small screens. Ryker describes how they purchased computers for students from Mozambique that they had hosted in Canada, noting that the students had still been able "to do all, anything..." prior to receiving the computers. From a degrowth model, it is interesting to note that, based on Ryker's extensive travel experiences, mobile technologies are currently an effective and, in many locations, primary form of learning, connection and communication with reliability and accessibility as key requirements for tools (Vetter, 2018).

6.6.2.2 Barriers to place-based teaching: Sheep Flock Health and the economics of ecohermeneutics

Landscape: Sheep Flock Health is a member of staff involved in teaching across a range of veterinary and animal science courses, both online and on-campus. They have also travelled extensively for research and to train people with veterinary and veterinary-associated roles. Their research area of interest is sheep health, as their pseudonym states. as mentioned in the Plot vignettes (Section 6.3), this interview was a co-located walk through fields on the Easter Bush campus. It was recorded in July on a dry and blustery day, though the weather had been cold and wet the day before.

Reader review: my broad perspective on the interview has been discussed in the vignettes earlier. I was aware of Sheep Flock Health's interest in teaching outdoors, but before the interview, I had not appreciated their depth of frustration with the limitations of time and the perceived barriers to teaching outdoors. This has been demonstrated earlier in the thesis "I hate teaching students in classrooms, I hate formal tutorials". Sheep Flock Health had experience of successful place-based projects

Assembling the Evidence: three excerpts are presented focus on the interplay between Time and Institutional Voices, with a strong emphasis on a barrier to this form of teaching.

> SHEEP FLOCK HEALTH Em the trouble with a research career is that is all about getting grants [noise of gate] and it's all about impact of the science... and that ... is actually measured in terms of sort of its academic excellence, so genomics, genetics, immunology, em these are the sorts of areas that em are undertaken these are the sorts of areas that funders will fund even under the context of global challenges etc. and so what tends to happen is global challenge research tends to be underpinned with what can how can they how can people take and badge it as being globally relevant and there is not really the scope for what we've been talking about here, which is to say, well what are the real issues what needs to be done in order to be able to apply this research which is inevitably going to be able to save the world in the long term **I have no doubt** about that but what needs to be done to actually set the, the groundwork, and the trouble is, that's not research that's actually education, and no one funds education, you know, em it is really difficult.

Composition: The excerpt above demonstrated an intermingling of Time, Institutional Voice and Emotion. As mentioned in the methods chapter, a theme was proposed in the project plan relating to institutional policy drivers acting for or against a centring of the place of the

distance learner. This surfaced clearly in this interview. Derby (2015) talks about the pressures of managerialism, of controlled objectives in contrast to the serendipitous teachable moments (p.4) that allow students and staff the space to engage relationally with place. The full interview transcript and vignettes presented earlier show where Sheep Flock Health demonstrates their natural place-responsive teaching approach in responding to "seeing something different every time". Time as a broad theme flows through the interview. Sheep Flock Health refers to their age and experience both through their personal history on farms and as a veterinary surgeon. They discuss how important opportunities to connect with places, species, communities, community leaders, students, animal and veterinary professionals and other researchers all take time and consider the "efficiency" of the different approaches to teach and engage.

In the interview and just before the excerpt above, they returned to a phrase they had used earlier in the interview of being "almost forced" in this case to undertake research. The "almost" is explained in their obvious enjoyment of being involved in practical research projects. There is a clear sense throughout their interview of the adage of "time is money" and the priorities of institution and grant funders, specifically with regards to global food production. In their discussion of grants and funding, the research is aligned with areas that may result in more rapid profit generation, e.g. biotechnology (Stengers & Muecke, 2018) rather than convivial place-based education practices. The barrier phrase with repetition "what **can** how **can** they how **can** people take and badge it as being globally relevant" suggests a neoliberal, capitalist, colonising funding model (Suoranta *et al.*, 2021) of "taking and badging as relevant" in contrast to a place-responsive approach to teaching, which Sheep Flock Health notes as being grounding in the "real issues" that are "inevitably going to be able to save the world in the long term". There is contrast between "how can they [the funders]... badge it" and Sheep Flock Health's conviction "I have no doubt about [the research that needs to be done to save the world]".

6.6.2.3 Place co-teachers at distance: Cat and the Blackbird

Landscape: Cat is a postgraduate student studying an animal science qualification part-time, online and at distance which they balance with work at the Vietnam bear rescue centre. They had emigrated to Vietnam to work in conservation and species recovery programmes. The interview was recorded online in mid-July and we were both outdoors. Cat was on their mobile phone in the Tam Đảo national park in Vietnam, sheltering under a metal shed roof in the early evening with an umbrella to stay dry out of the monsoon rain. I was sitting in my garden on my laptop in Haddington, East Lothian sheltering from the Scottish summer midday sun with a sun hat and large green garden parasol.

Reader review: Early in the interview when describing their location, Cat had provided background history of the location and the reforestation work that had taken place in recent years. While reforestation had taken place, forest species continued to be impacted. My field notes are included below, written at the time of the interview, as these capture my response in the moment. This interview has had an ongoing emotional impact for me.

Assembling the Evidence: two excerpts are presented; the transcript excerpt focuses on Self and Place Voice, Place Participants and Emotion, and the field notes support the emotional impact of the presence of the Blackbird as a place teacher.

> [Blackbird starts singing] CAT Oh **I can hear** *the birds* your side! ... Oh **I can hear** *the song birds*, oh soo pretty!
> SHARON **I think** that's a *blackbird* sitting on the roof somewhere, but he's getting picked up in the echo. **I'm glad I got to share** my *birds* with you, that's good
> CAT So special, there is a definite dearth of *birds* in *this forest* very, very, very, very sadly.
> SHARON That is sad, but hopefully with *the trees* and everything in place *maybe* that might be something that happens in the future?
> CAT **I hope so**.
> SHARON Yeah, that is sad. Sigh, Oh **I'm twice as glad I was able to share** *the twitterers* with you from this end. Em that is nice [Blackbird stops singing; bus stopped at lights, engine idling]
> CAT that was so nice!
> SHARON **I like that**, that's kind of nice, the, **I like the idea** *the birds* have decided to have a conversation with you, you're having a Skype with *East Lothian birds*
> CAT Yeah, that's amazing! *Scottish birds*, hello, hello there!
>
> I'm very moved by the impact the singing birds has on Cat, that [they don't] have many birds, that is so sad. I don't know what to say, so I'm writing notes instead, keeping my head down. Cat's talking to the birds, I feel like there is a conversation going on without me, between [Cat] and the birds, and I'm suddenly on the outside of this. (Field note 4)

Composition:

Lynch and Mannion (2016) describe how walking interviews "threw up surprises" (p.333) that proved central to an awareness of being emplaced and connected. The "wow" experience with the Blackbird and Cat in this first interview is a notable example where place "spoke" with a Blackbird's voice through devices connected to a communication network, evidencing that it is possible to have a correspondence between entities at distance. The experience helped me to understand what it might mean to engage with a place co-teacher and to acknowledge that where one person may hear a teacher, another may just hear "a bird". In their work on environmental education, Derby, Piersol and Blenkinsop (2015) call for a critical questioning of and a resistance to romanticizing encounters with urban nature, such as the Blackbird singing from a rooftop in a small Scottish town to the backdrop of Scottish buses. Here, as part of that resistance, Cat was located in Vietnam listening to the Blackbird's song via a mobile device, transmitting that sound into a songbird-free jungle that had been replanted with pine, potentially intended as a farmed monocrop by French colonisers as forest restoration has only recently begun in the country (Ives, 2010). Neither jungle nor town is a "pristine wilderness", in both cases the landscape has been managed by humans. My view is that both Cat and I were aware of and

shared sadness about the loss of species and ecosystems; the Blackbird song created a space for us to acknowledge the grief and memorialise loss (Windle, 1995). The song was a reminder and lesson from the Blackbird to the humans to continue acting on behalf of our places, and in so doing, to “reworld... damaged worlds together” (Taylor & Pacini-Ketchabaw2015; p.526).

6.6.2.4 Summary

These three storied presentations function as brief case examples of the application of the Listening Guide to demonstrate how the voices I identified through multiple listenings flowed in harmony and discord. The cases include excerpts related to key surprising moments in each of the interviews. These three examples were selected because they aided me in coming to an understanding of the potential for place-responsive pedagogies, the barriers that may be perceived as preventing the application of these pedagogical approaches, and the importance of developing attentive listening practices for all forms of research engagement. Each example introduces a different perspective related to affective engagement, the use of technologies, and place co-teachers that will inform the chapters that follow. The research questions were my “touchstone” (Gilligan & Eddy, 2017; p.79) while listening: how this helped me understand place-responsive education at a distance, to theorise this concept and connect with previous research, and sense what effect place-responsive pedagogies may have on students and staff. Within this I was also developing an understanding of how an attentive listening research practice can help to build a relationship with beings, including place-beings, at a distance. While these are necessarily brief synopses of the analytical process due to the space limitations, the moments were transformative in that they added a new layer to the understanding.

As defined in Table 6.1, "place voice" broadly encompasses the sense of care and emotional connection with places. In Cat's interview, for example, place voice was highlighted in the repeated use of the word "love" for both of us when talking about our places. The analysis that underpins this chapter demonstrates how these voices overlap, as does the connection between displays of participant and researcher emotion, and stories of place participants. This range and depth of emotion related to place highlights a limitation of the second interview question: What effects could place-responsive distance education have on students and staff? The focus is as much on affect as effect, as place-responsive and ecohermeneutic activities may have an affective aspect in engaging with and responding to place-based stimuli and entities (Cameron, 2008; Derby, 2015). That affective stance may be perceived as a weakness in approaches to scientific research, if the aim is to present an image of the impartial, unbiased and emotionless observer (Deloria Jr, 1997; Stengers & Muecke, 2018). This separation of cognition from affection may be observed in standard pedagogical approaches with learning outcomes built on a cognitive framework. Writing about affective educational objectives, Krathwohl, Bloom and Masia (1964) emphasise how entwined cognitive and affective outcomes are in any educational achievement, acknowledging that it is easier to determine a “right” answer to cognitive objectives. Objectives with an affective element may have many “right” answers, with the most appropriate being the answer that the student perceives as right for them and their context. This incorporates an element of uncertainty related to grades and assessment that

institutions, staff and students may find difficult to adapt to (Derby, 2015) and which circles back to the frustrations expressed by Sheep Flock Health in terms of the perceived controls and barriers to teaching with and in place. And yet, the ability to respond to these uncertain moments, to link the affective and cognitive skills is a required competence for tackling super-complex problems (Tauritz, 2016) such as ecosystem collapse. This is challenging in the face of the current drive to rationalise emotion and emotional responses, to "corral and contain" as described by Kenway and Youdell (2011; p.132) by applying terminology related to emotional "literacy" and "intelligence", rather than from a place of caring. This place of caring is also an essential aspect of teaching for an uncertain future, as Piersol (2010) notes that teaching "for complexity without including wonder, learners might be left feeling confused and powerless" (p.204). She notes that the reverse, focusing on wonder and unexpected events without building relationships with place may leave learners feeling "overwhelmed and powerless". Returning to the affect~effect of place-responsive education, it is necessary to recognise the motivation and potential presented by making space for students to build relationships with-and-in places and be open to unexpected encounters should they arise.

For students, the opportunity to record and reflect on "wow" moments emphasises the significance of "chance encounters" (Lynch & Mannion, 2016; p.139) and may include the input of multi-species place teachers, as did the example of the Blackbird and Cat. This is an explicit recognition of place as teacher and "Nature as Partner" (Isaacson, 2021; p.322). The encounter may lead to what Isaacson terms "generative questions", where the researcher considers what the perspective of that teacher may be, given their distinct and separate life as part of the nested ecosystem (Lange, 2023). While there may not be an answer to those questions (McCune *et al.*, 2021) the act of creating the questions from the perspective of another species may present a speculative opening and an "ongoing provocation" (Springgay & Truman, 2018; p.209) to decentre the human (Dinker & Pedersen, 2016). Those working in the veterinary and allied professions, such as animal behaviour and welfare, are experienced in reading non-verbal cues from a range of species, including humans (Fine, 2022). The Eco-Listening Guide is a method of training in attentive listening to extend this skill set and may be of particular interest when researching an inaccessible location, whether due to human limitations (hydrophones are required to listen to aquatic species; Haskell, 2022) or the limitations we set on ourselves (travelling only when necessary; Le Quéré *et al.*, 2015; Vetter, 2018).

6.7 Summary

This chapter presented a path through the Eco-Listening Guide, comprising the steps of constructing the analysis and demonstrating how these steps could form activities to engage students with place-responsive practices. Examples were provided to illustrate how the Eco-Listening Guide analytical approach may help the student/staff researcher develop attentive listening skills, as per Haskell (2022) and summarised in Table 6.3. The overview of the key narrative voices that surfaced through the analysis was presented, together with key, or "wow" moments from three of the interviews to present a composed analysis and consideration of aspects of place-responsive pedagogies at a distance. These aspects centre

on the importance of slowing down to listen, of attentive listening as a demonstration of care, of the postdigital intertwining of technologies, bodies and places.

Table 6.3: Overview of example activities to develop student listening skills following the steps of the Eco-Listening Guide. Activities are flexible to allow for remote listening activities, e.g. marine soundscape recordings. Students may find it helpful to keep a journal or blog.

Step	Overview	Example activities and questions
1. Listening to Listen	Applying techniques to develop listening skills.	Spend time becoming familiar with the soundscape of a chosen location. Focus on listening rather than taking notes. How easy is it to sit and listen? What difference does it make to walk and listen?
2. Listening for the Plot	Becoming familiar with the beings involved. Observing personal feelings and thoughts.	Identify a place teacher who may be able to provide more information about the chosen place. Listen to sounds and stories. What feelings come from the stories? Did anything unexpected happen? What can be learned from that?
3. Listening for all the I's	Attending to the first-person of the main participant(s), the researcher, and the places in which they are situated through the soundscapes.	Write a short piece about the location. Extract all the place-related and associated words to make a short sentence. Present sentences in order as a Place Poem. Share the poem with others. What new perspective comes from creating a poem about the place? What new perspective(s) come from sharing the poem?
4. Listening for the Contrapuntal Voice	Observing points of harmony or discord between voices. Listening for the absent voices.	Return to the recordings or location on different occasions. How does the soundscape change depending on the time of day or season? What lesson does the pattern of sounds carry?
5. Composing an Analysis	Exploring the interplay of participants, places, voices and emotions. Finding the "wow" moment.	Review what has been learned from the location and place teacher(s). Did experiences result in increased understanding, changed perspectives or moments of wonder?

The adaptation and application of the Eco-Listening Guide method has been shown to have the potential to be used as an ecohermeneutical tool, inviting place participation in research through developing skills in attentive listening. The technologies currently employed to connect human learners and teachers working together online and at distance may also be extended to connecting place beings and place co-teachers to allow for

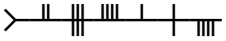
unexpected lessons from a distance that may connect human learners more deeply to the places where they are located. These broad observations carry a caution; these are observations from a small number of interviews and are not generalisable. They are presented as research stories and inspiration, building on previous work on place-responsive education. More importantly, they are deliberately place-grounded research stories, resisting what Lummi scholar Michael Marker (2018) calls the "university-based research paradigms of placeless-ness" which invites research that is "generalizable, universalized, and therefore *not specific to places*" (p.7, emphasis in the original). I note that the humans involved may not all be indigenous to the places they were speaking of, from and with, and may therefore carry with them settler perspectives and limited depth of knowledge. All were engaged in building relationships with place and becoming-with the meaningful locations they had chosen.

The two focus areas of degrowth and listening introduced in the literature review are evident here. Attentive listening frames audio connection as equal to the visual, webcam-on connection, rather than being a deficit form of connecting online at distance. When thinking about how students and staff connect and build places at distance, this thesis argues that connecting with places and place beings is also possible. From a degrowth perspective, audio-only may use less energy than video when communicating, as well as inviting the researcher and participants to turn their attention out into the world, rather than human-centred and focusing on face-to-face interaction, whether online or co-located. The Listening Guide is a slow methodological approach, providing time for the researcher to come into relationship with the participants, and in the case of this thesis, with the place participants included and identifiable in the recording. It may be an approach that can be adapted further to be applied in a conservation project, in response to the need for Global North researchers to cease air travel and support local researchers by communicating at distance and online. This ecohermeneutics-at-distance approach links to social eco-justice in ensuring space and respect for local knowledge and communities of practice as a key part of the place-based research (Kulnieks, Longboat and Young, 2016). It directly addresses a gap in the literature for eco-soma-aesthetic methodologies that foster aesthetic curiosity and explicitly recognises our place as relational "beings-in-the-world" (Iared, de Oliveira & Payne, 2016; p.197).

Gilligan (2015) invited adaptations as appropriate and the proposal here is that the Guide could be presented flexibly as a set of tools that students can apply in getting to know their places over time. This is method as speculation and play, creative and curious (Springgay & Truman, 2018; Smith, 2019). As an ecohermeneutic practice, rather than "read and read and read" (St Pierre cited in Springgay & Truman, 2018; p.205), this is "listen and listen and listen". Given the time pressures shown as a key theme in the thesis, this approach is not designed to be rushed. Gilligan specifically described the Listening Guide as an intentionally slow process as is the process of becoming-with places, building a place-responsive relationship based on action-with-care. In the place-responsive principles (Chapter 4), short-term group or team activities were questioned due to the limited time to build relationships. Short-term place-based activities should also be questioned. Where the Guide could be split into separate activities to be undertaken independently, the strength of

the method is in the layers of listening and attention accreted over time through attention to each step of the process (Tolman & Head, 2021). The recommendation here is to spread the activities over time, returning to the same place(s) of the duration of a programme of study to add a new layer of knowledge and sediment a new understanding of the other members of the ecosystem and the listening human as part of that.

The following chapter concludes this thesis, bringing together the findings and observations in a critical review of the research at the present point and what the future may hold.



7 Conclusion

This chapter provides an overall summary of the findings of the thesis, their significance in addressing the research questions and their contribution to the fields of outdoor, digital and veterinary medical education. There are four parts to this chapter: first, a brief review of the gaps identified from the literature and the research questions; second, a critical consideration of how the findings addressed these gaps and questions; third, acknowledgement of the limitations of the research and planned future work to develop this research; and fifth, closing statements.

7.1 Review of research questions and corresponding gaps in the research literature

The purpose of this thesis was to theorise what the explicit inclusion of place might look like for postgraduate online distance education in veterinary and animal sciences, specifically as a result of applying place-responsive pedagogies. This research addressed the following questions:

- How can place-responsive education at a distance be understood and theorised?
- What effects could place-responsive distance education have on students and programmes?

In the literature review (Chapter 2), the significance of this work for the three main research disciplines related to this thesis was illustrated, in digital, outdoor, science and clinical education. In the same chapter, I took the stance of working from a holistic education perspective, rather than focusing on different disciplines. I return to that stance in this chapter by providing a brief summary of the areas that this work responds to by broad theme rather than discipline and directly aligned with the research questions.

Understanding and theorising place-responsive education at a distance is essential in recognition of the postdigital learning environment within which postgraduate students and staff operate. Postgraduate part-time students across disciplines draw on their personal and professional place-based connections as part of their learning (Fawns, 2022). An ecopedagogical approach operates from this recognition and acknowledges the places and beings that are entangled in the learning environment (Greenwood & Hougham, 2015). Ecopedagogies are relational and building effective, affective relationships takes time, so innovative, slow methods of connecting, communicating and caring are called for (e.g. Smith *et al.*, 2016; Chik *et al.*, 2023). Ecopedagogies are an emergent research area (Jandrić and Ford, 2022), which involves learning from people, places, cultures and research that have not forgotten how to connect (Kulnieks, Longboat & Young, 2010; 2016; Tuck & McKenzie, 2015; Sepie, 2017, Escobar, 2017). This attentive, place-sensitive learning approach is currently limited in part-time postgraduate distance education online indicating a gap that this research addresses.

Determining the effects of place-responsive distance education on students and programmes built on observations to date. Postgraduate online teaching, particularly on professional programmes, can be impacted by outcome-driven courses and time pressures on students and staff (Sheail, 2018; Fawns *et al.*, 2021). Affective connection with people at

distance has been well-researched (e.g. Bayne, Gallagher & Lamb, 2014; Delahunty, Verenikina & Jones, 2014) as has affective connection with co-located place and place beings (e.g. Stewart, 2020; Lynch & Mannion, 2021). What was missing was work related to affective people-and-place connecting and relating at distance. In some cases, there was a noted lack of connection experienced in online-outdoor teaching and a call to demonstrate that place-connection at distance was achievable (Smith *et al.*, 2016; Edwards *et al.*, 2021). In other cases, there was clear connection and significant enhancement by operating from a place-based if not -responsive position (e.g. Chua *et al.*, 2020; Nessler, Schaper & Tipold, 2021), indicating the potential for a positive effect of including place-responsive activities. This thesis has extended the understanding of the place-responsive concept and presents a practical method (the Eco-Listening Guide) as an example of a suite of activities to build a sense of place-responsiveness.

Raising the question of the enhancement for human education highlighted a deeper question of the effects of distance education on places and place beings (Greenwood & Hougham, 2015; Tuck & McKenzie, 2015; Jandrić and Ford, 2022). Place-responsive practices and a caring ethical approach is required to identify those effects (Edwards *et al.,* 2021) with the goal of ameliorating, if not preventing, impacts where possible. Where not possible to prevent or reduce human impact, to envision a socially-just future where that might be achieved by incorporating speculative futuring into research (Hrastinski & Jandrić, 2023; Ross, 2023). To carry out that kind of futures-work requires staff and students to adopt creative, imaginative approaches to tackle super-complex problems and while essential, these approaches are not traditionally incorporated into teaching (e.g. Iared, de Oliveira & Payne, 2016; McCune *et al.*, 2021; 2023). The creative methods both employed in this research and presented as practical activities serve a dual role of providing an output for the thesis and explicitly working with a care ethics framework.

The research focused on conservation as an area in veterinary and animal sciences where a compassionate, caring ethic is being embedded (Propen, 2018; Fine, 2022). This presents a key opportunity to incorporate place-responsive practices within an area that is primed to engage with the practices. The next section reviews the findings and contribution of this work in addressing the questions and responding to the gaps identified in the literature.

7.2 Critical review of findings and contribution

This section returns to the research questions and the gaps identified in the previous section to structure a review of the findings of the thesis. This will include details of the significant contributions this thesis makes and the implications for online postgraduate programmes in the veterinary and animal sciences.

To understand and theorise place-responsive education at a distance and identify the effects place-responsive education at a distance could have on students and programmes, Chapter 2 presented the place-responsive principles of networked learning developed as part of this thesis (Boyd, 2020). Chapter 3 (methods) included examples of practices currently in place at the University of Edinburgh. The majority of these examples, assessments and courses were drawn from the experience of students and staff at the

RDSVS. To extend those examples and appreciate other perspectives, in Chapter 4 (paths) staff from other disciplines shared their experiences of teaching and supporting online. Integrating place-responsive principles, this chapter outlined the transition from place-based to place-responsive engagement with places entangled in student and staff learning ecologies. The mutating paths demonstrated the potential and requirement for creative place-responsive activities as part of a holistic compassionate conservation science.

Chapter 5 (speculative fiction) followed the foundation paths laid in Chapter 4, employing a speculative fiction method to imagine a future where degrowth principles underpinned the design of place-responsive research practices enmeshed in the places of students and staff. Here, teaching and learning at all levels were relational and communal in support of place-as-ecosystem and university as connection and connector. It presented a theoretical future where place-responsive education at a distance was an essential element. The effects on students, staff and programmes centred on sharing knowledge for the benefit of the networked communities. The degrowth, low-tech-as-first-choice approach provided an insight into a low-haste, slower mode of study and research, where the aim was reciprocal, respectful, relational learning practices. The speculative method was both a demonstration of the creative, imaginative activities that are proposed by this thesis and a way of exploring the influence of place-responsive pedagogies on distance learning. The goal of this chapter was to look ahead while grounding the ideas presented in the previous chapter through a set of future-vision examples.

Returning to the present, Chapter 6 outlined a new and revised version of Gilligan and Brown's Listening Guide as an ecohermeneutical tool to develop attentive listening practice, named the Eco-Listening Guide. Attentive practice has been shown to have a specific impact on conservation science and as such, has a direct impact on the student cohort of this study. This project is the first comprehensive investigation of place-responsive higher education at a distance. It extends understanding of the concept beyond co-located place-based activities and emphasises the necessity of acknowledging the role of place teachers as part of an entangled, socially-just pedagogical practice. Although this research focuses on postgraduate students in veterinary and animal sciences, the findings will also have a bearing on learning and teaching in other disciplines. As clearly demonstrated from the literature review, the inspiration for this work draws on research from a wide range of disciplines. Reciprocally, I propose that ideas from this work, disseminated effectively, will have implications for the understanding of place-responsive education and its effects on students and programmes from different disciplines.

7.3 Limitations and future work

This thesis explored and proposed ways for students and staff in online postgraduate programmes to engage with place and develop place-responsive pedagogical approaches. The key limiting factor or barrier highlighted by participants in the interviews and the assessment inquiry group around what was possible and "permitted" in designing postgraduate programmes, courses and assessments. This emphasised need for balance between accessibility for all students and flexibility to adjust to unique topics and place-priorities. The application of a speculative method was necessary in overcoming this

limitation, as it allowed for a creative, unbounded imaginary that operated within a transformative sustainable educational future. Between the speculative then and the now of this thesis lie a number of actions that can follow the completion of the research.

The first gap that will be addressed following completion is dissemination of the findings. As noted above and in the literature review (Chapter 2), while there is research on postgraduate clinical education, there is limited published research addressing postgraduate Masters programmes. In addition, while it is clear that place and students are connected and engaged, and this research has shown the need for place-responsive activities for online, part-time distance programmes, there is little research on place-based and -responsive work. The next step then is dissemination to highlight the importance of this work in addressing both gaps and the need for more research in this area.

As stated in the introduction and through the thesis, this research has a strong focus on method, introducing a novel application of a method, the Eco-Listening Guide to connect with research places. This "hermeneutic phenomenological approach of eco/soma/esthetic experience" is theoretical and methodological and further empirical work is required to meet the three-part challenge set by Iared, de Oliveira & Payne (2016; p.193). There are key areas for empirical work that would address that gap and follow on from this small-scale, theoretical exploration: piloting the Eco-Listening practice with students; continue studying the "chance encounters" through an extended empirical study; and engaging and collaborating with researchers in similar areas to identify additional practices.

Considering these key areas, the Eco-Listening practice will form part of the sustainability thread in a course that I lead on veterinary professional and clinical skills. The Eco-Listening Guide can also be incorporated into current programmes by designing Masters projects with colleagues and students and investigating the integration of the Guide within the student-led course framework. I will liaise with colleagues to proceed with that. In terms of external collaborations, I will contact David George Haskell to propose an online version of his attentive listening practice (2022). Finally, I will continue my involvement in the University curriculum development project with a focus on encouraging less hasty pedagogies (Facer, 2023) that integrate place-pedagogies as practices that thread through programmes, with students meeting and returning to places. This will centre on rethinking the design of higher education programmes, focusing on what the student has come to learn, so that learning is responsive to the needs of the individual, their place-community, and the planet.

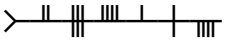
Beyond these actions lie the fascinating areas for developing this work further. While the focus of the Eco-Listening Guide is on listening, participants referred to things they could see (e.g. animals), feel (e.g. rain), and smell (e.g. lavender). Listening is not separate from the other senses (Abram, 2010; Flint, 2022; Haskell, 2022) and the Eco-Listening Guide can be adapted to develop multi-sensory attentive practice. There are a number of areas integrating digital and environmental education (Wals *et al.*, 2012; Ford, 2023), doing what Wals *et al.* term as "connecting biophilia and videophilia" (p.544). The activities proposed in this thesis are an early step in responding to this, with potential to collaborate as part of an auditory extension to citizen science projects.

7.4 In closing

The aim of the thesis was to determine how place-responsive educational approaches could be incorporated into online postgraduate distance education in veterinary and animal sciences and what effects this could have. The Eco-Listening Guide and place-responsive principles of networked learning that I have presented provide convivial approaches by which this can be achieved. The focus has been on low-tech, accessible modes of communication and connection operating from a degrowth model in recognition of the impacts of technologies and travel on the planet.

The central thread of this thesis was on reconnecting Global North educational practices into the learning ecology of the planet. As such, while the more-than-human participants were acknowledged and reconnection invited, this remains a human-centred work. The question of what benefits online places have for the more-than-human world still remains as a puzzle. In concluding the thesis, I return to that question with the realisation that, if this practice increases attentive practice, reduces travel and improves remote research techniques, then perhaps the main benefit for the rest of the world will be in limiting unnecessary human presence and impact on species and places. To balance this sobering reflection, I note that it was the digital connection between remote places and an unexpected song that had the most profound impact on my research.

The Eco-Listening Guide welcomes moments of wonder. In the first interview, the voice of a Blackbird changed the course of this research. All the factors were at play: place, care, time, human, technology, and attention to a more-than-human world. The Blackbird sang, our devices gathered and transmitted the song, Cat was in a quiet place, and we were tuned to one primary sense (attentive listening), our conversations about our surroundings had kept our focus outwards. That moment of the unexpected became a moment of shared loss. The online connection did not directly benefit the Blackbird, but its presence affected Cat and I. The Blackbird's song brought us wonder, loss, knowledge and memory and it gave me the inspiration, curiosity and courage to imagine a more just and equitable future.



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Appendix A Publications and presentations relating to this thesis

Publications included in the appendices are my own work and are either open-access or I have permission from the publisher to include.

Peer-reviewed papers

Boyd, S. (2021) 'Taking time to get messy outside the online classroom', in T. Fawns, G. Aitken and D. Jones (eds), *Beyond technology: online postgraduate education in a postdigital world*. Cham, Switzerland: Springer, pp. 21-37. https://doi.org/10.1007/978-3-030-77673-2_2

Boyd, S. (2022) 'Solar-powered Scholarship', *Postdigital Science and Education*, 1-4. https://doi.org/10.1007/s42438-022-00372-7. [this has been integrated into Chapter 5]

Conferences and events

Boyd, S. (2018). Making digital compost: place-responsive pedagogy at a distance. In *International Conference on Networked Learning, Zagreb, Croatia 2018*. Available at: https://www.networkedlearningconference.org.uk/abstracts/papers/boyd_19.pdf

Boyd, S., McLean, N. and Neu, M. (2019) 'Getting Creative with Assessments for Distance Learners', Association for Learning Technology (ALT) Annual Conference 2019, Edinburgh, United Kingdom, 3/09/19 - 5/09/19. Available at: https://altc.alt.ac.uk/2019/sessions/a-053/

Boyd, S. (2019) *Listening for the voice of places*. Poster session presented at Interweaving, Edinburgh, United Kingdom. http://interweaving.education.ed.ac.uk/index.php/poster-presentations/

Boyd, S. (2020) Place-responsive principles of sustainable networked learning. In *International Conference on Networked Learning, University of Southern Denmark 2020*. Available at: https://www.pure.ed.ac.uk/ws/portalfiles/portal/149934431/826402_20._boyd_place_responsive_principles_of_sustainable_networked_learning.pdf

Boyd, S., McLean, N. and Neu, M. (2020) 'College of Medicine and Veterinary Medicine Good Practice Showcase 2020'. Teaching Matters blog post of event: Bennett, V. & Phillips, C., 9th December 2020. Available at: https://www.teaching-matters-blog.ed.ac.uk/college-of-medicine-and-veterinary-medicine-good-practice-showcase-2020/

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Making digital compost: place-responsive pedagogy at a distance

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Abstract

Students studying at a distance are situated at a location remote from the campus, connecting to the institution via learning networks such as virtual learning environments, and communicating through a range of synchronous and asynchronous tools. While students may perceive a link between their physical learning environment and the institutional campus, their physical location may not be explicitly acknowledged or included in the learning activities of distance programmes beyond opportunities to participate in summer schools.

As place is defined as a location which has meaning for an individual, I propose that further research is required to explore the role that these meaningful locations can play in the learning experience of students studying at a distance from the institution. I question whether it is possible to develop a form of emotional connection to place at a distance, through artefacts and stories shared digitally by someone who feels closely connected, or related, to a place. I consider what the benefits may be of developing a more place-aware approach to teaching and learning in this context.

This paper outlines the early stages of a PhD research project investigating the importance of place for distance learners studying online. I will briefly describe methods previously used in outdoor education which may provide a way of capturing a sense of place at a distance. These methods include storytelling and walking interviews, with both options making use of mobile technologies. The use of these methods may also foster a stronger connection between students, the locality where they are based while studying, and the institution. Through this process, it may help to reduce the sense of social distance which can affect students studying at distance.

Incorporating activities traditionally used in conservation and outdoor education may demonstrate how education for sustainable development principles and practices can be integrated into distance education. If successful, this may help to address the missing element of teaching "in" the environment, providing a route to facilitate experiential place-based learning for distance students. This may also encourage a sense of care for the environment, as part of an affective approach to learning.

Keywords

Place, distance education, mobilities, education for sustainable development, storytelling

Introduction

Bayne, Gallagher & Lamb (2014) define "distance students" as those undertaking a programme where there is no requirement to be present on-campus. Gallagher, Lamb & Bayne (2016) continued this work, investigating the study locations of distance students, extending beyond text and visual representations to include sound recordings to gain a deeper appreciation of the students' learning environments. Both papers highlight the challenges in understanding what it means to study at a distance and reflect on the fluid nature of the developing campus learning network.

Gallagher, Lamb & Bayne (2016) propose that distance student learning environments warrant further investigation. In this paper, I will report on the early stages of my PhD project exploring the importance of place for distance students. I will consider the benefits of a place-responsive pedagogical approach and how that approach could be applied to the distance campus through the "networked" campus. Traditionally, place-responsive teaching events have involved staff and students synchronously located in the same physical space. The project will investigate whether it is possible to create a version of this process at distance with the same aims of fostering engagement for student and staff in a meaningful location which is "local" for the student and "distant" for the staff member.

Two methods will be outlined which may help with developing place-responsiveness in distance education. Both methods involve gathering data from the places, through both digital and analogue methods, to incorporate into stories. Inspired by her partner, Haraway (2016) proposed the term "compost" as an alternative to posthuman, as human and more-than-human alike become compost. I see the data gathered and shared through these networked stories as forming "digital compost", acknowledging that the networked relationships include human-to-human, human-to-more-than-human, human-to-things, and human-to-place.

Stories of Place

A place can be defined as a meaningful location; a point on a map, which has been "claimed" by being named, bounded and recorded. Places often carry political, cultural and historic meaning, with sites of historic significance or marks of colonial power captured in changing borders and place-names. More than that, the notion of place can have personal, emotional and spiritual meaning. In a broader sense, each "place" is a multiplicity of stories which are constantly changing, incorporating culture, history and location, human and non-human. There is an ongoing relationship and development of the story that exists between a person and a place, however that "place" is defined. This is a story which, as Massey (2005) states, will be different for each person.

I aim to investigate methods that may enable distance students, staff and the institution to develop a sense of the diverse places of their global learning community. That raises the question of whether it is possible to develop a form of emotional connection to place at a distance, through artefacts and stories shared digitally by someone who is closely connected, or related, to a place. Archer (2010) issues an invitation to think more openly about “relationality” rather than “relations”, and recognise how enmeshed humans are “with nature, with artefacts, with others”. She calls for a new “open ground” for reflexivity that echoes in a large part the increased awareness that Alexander (2002) invites with his concept of “wholeness”, or awareness of the completeness of each "thing", both individually and in relation to others. Alexander's work relates to Wilson’s (1984) concept of biophilia, namely “the innate tendency to focus on life and lifelike processes”. Wilson talks of the way humans are drawn to “elegance” (p. 60) and “patterns” (p. 116) in an echo of Alexander.

Gersie, Nanson & Schieffelin (2014) make a comparison between “environmental” storytellers and game designers. Game designers, they state, wish to “draw the player... into the designer’s imagined world” in contrast with “engag[ing] people directly with the intricacy of the physical world”. Unlike Gersie, Nanson & Schieffelin, Jenkins (2004) sees game designers not as lacking, but as exceeding traditional storytellers, by becoming “narrative architects” of worlds, or “spatial storytellers” (p. 121). He outlines four narrative types or formats (p. 129): “evoked... can enhance our sense of immersion within a familiar world”; “enacted... structured around the character’s movement through space”; “embedded... a memory palace whose contents must be deciphered”; and “emergent... rich with narrative potential enabling the story-constructing activity of players”. These formats are analogous to the activities seen in outdoor education activities (e.g. Wattchow & Brown, 2011).

From my perspective, the divergence between off-line and on-line storytelling proposed by Gersie, Nanson & Schieffelin (2014) fails to take into account developments in research and technology, and the creative potential of connecting with a global network. I agree with Pinto (2016) that a holistic pedagogy can be created which allows for both the physical and the digital.

Networked Campus

Bayne, Gallagher & Lamb (2014) suggest that the definition of "distance education" is perceived as being a de-privileged state, in comparison to being located on-campus. However, they recognise that the concept of "distance education" is in flux, where on-campus students are increasingly making use of mobile technologies to study off-campus. University campuses are becoming “location-based social network[s]” (de Souza e Silva & Sutko, 2011). This networked campus may provide a source of what Stenglin (2016) describes as “bonding” (emotional connection) and “binding” (structure and security), connecting the institution and the student to help minimise the sense of social distance (Ravelli & McMurtrie, 2016) which may be generated by studying at distance.

Researching the process of studying at distance requires an explanation of “how it draws in complex networks of people, things, and places” (Gourlay & Oliver, 2016, p. 77). As stated by

Boys (2016, p. 70), it is about “getting under the surface of the multiple spaces of different participants (both human and non-human)… to take better account of the complexities of our everyday entanglements across both conceptual spaces and actual – situated – spaces”. This “entanglement” brings to mind Ingold’s (2011) concept of meshwork. In this view, the institution is not constructed of linked nodes in a network, but exists as a complex meshwork of relations, actions and potential.

In discussing the definition of networked learning theory, Cronin (2014) highlights that "networked" refers to the connections between people and resources and is not necessarily online, though the addition of an online connection provides greater potential as it can lift, to an extent, the limitations of space and time. Gourlay & Oliver (2016, p. 79) propose that students have the potential to study “nowhere and everywhere” through the affordances of technology. Students' places become hybrid spaces (de Souza e Silva, 2006; de Souza e Silva, Duarte & Damasceno, 2017) where, as Thompson (2014) asserts, the physical and digital become entangled. An awareness of students' meaningful locations, their physical places, can be lost in the meshwork.

Becoming "Place-Responsive"

A "place-responsive" or "place-aware" approach to learning is in contrast to the "everywhere-anywhere-nowhere" feeling that is becoming increasingly common in the modern landscape (Wattchow & Brown, 2011, p. 52). It is developing a meaningful sense of, and attachment to, "place" as opposed to "placelessness" or "rootlessness" (Relph, 1976). Wattchow & Brown link the rise of place-responsive studies in recent years to the growing concern about the threat of modern development to the sustainability of places.

Sustainability pedagogies (Cotton & Winter, 2010), taken from the environmental education discipline, include many of the practices seen in networked learning, including student-centred, participatory and enquiry-based approaches. Mulà et al. (2017) emphasise that sustainability concepts should not be seen as an "add on" to the current curriculum, but be integrated into a holistic approach which may require changes to current educational practices. The social nature of networked learning echoes the "community-as-learning-resource" approach of sustainable education, also termed Education for Sustainable Development (ESD). What is perhaps less obvious is "environment-as-learning-resource" within the learning network, though this is being addressed in part by work on mobile learning and multimodality (Gallagher & Ihanainen, 2016; Lamb & Gallagher, 2017).

The aim of ESD is to foster education "about, in and for the environment" (Cotton & Winter, 2010, p.41). Education "in" the environment is key because of the impact it may have on learning "about and for" the environment and the intention of the learner to take action in protecting that environment (Nicol, 2014). Archer’s (2010, pp. 9-10) challenge is to allow that “our relationships with the world are multi-faceted”. This relational approach is in line with developing an “ethic of care” (Martin, 2007), a caring relationship between the student, their research and their location, and between the institution and the student's community and place. Caring goes beyond the relationship between human and more-than-human to passion for the subject itself within an authentic learning and teaching experience (Kreber et

al., 2007). Baker (2005) promotes taking a "landfull" approach, where active presence, observation and reflection on a chosen place can move the student beyond a surface knowledge to a deeper relationship with their land and an associated drive to care for their place and their community.

In distance education, it is possible to educate "about and for" the environment. Educating "in" the environment is more difficult and is usually achieved through summer schools or short place-based research projects. This can potentially exclude students, whether due to commitments that prevent travel, limited finances to cover the trip, or lack of interest in leaving their "home" location. Outdoor education, with its focus on experiential education in an outdoor setting, can provide place-responsive methods which may facilitate "education in the environment". The sense of care and relationship developed may then be shared within the learning network, allowing students, staff and institution the opportunity to better know and appreciate their global community.

Place-Responsive Methods

At this early stage of the project, I have selected methods which may allow for a deeper sense of place at distance to be explored. These methods include walking interviews and an adaptation of storytelling activities that have been developed for enhancing place-awareness or place-responsiveness in outdoor and conservation educational practices (Gersie, Nanson & Schieffelin 2014; Lynch & Mannion; 2016). These are similar to the methods employed by Gallagher & Ihanainen (2016) in their field activities, where participants created multimedia compositions. I also take inspiration from Nadir & Peppermint's (2016) and Lamb & Gallagher's (2017) research, where mobile technologies were effectively employed to create multimodal walking tours. All demonstrate it is possible to facilitate a holistic experience of being immersed in a location where all actors (human, more-than-human, thing) are included.

Storytelling

Wilson (1984, p. 80) says that the mixture of enjoyment and ease of sharing mean that “stories [and symbols] invade the developing mind more readily”. Storytelling can hold a space to admit and explore emotion, to acknowledge “feeling” in research (Naess, 2002). This interaction of “learning, emotion, and action” (Oliver & Dennison, 2013, p. 23) or cognitive, affective and psychomotor skills (Krathwohl, Bloom & Masia, 1964) can be important for motivating the storyteller to connect with their audience, whether that be the local community, the research community or as part of a broader public engagement exercise (Emerson, 2017). Using storytelling to share research with others may allow the student researcher to recognise the emotional influence of their learning and research, and their relationship with their research participants, subjects and place (Bondi, 2005; Widdowfield, 2000).

Creating a research story as part of the project will involve gathering artefacts - physical and digital - from the study location to integrate into each student's story, similar to the flanerie activity described by Gallagher & Ihanainen (2016). The goal is to create a meshwork of research stories that students can share with each other and with their local communities.

This process of gathering artefacts local to the student may help to emphasise the importance of their local place both to the student and the institution. This links to a project reported by Wattchow & Brown (2011) where students reported that local activities had greater meaning as they allowed them to see a familiar place in a new light. It also draws on the work of Nadir & Peppermint (2016) in returning a sense of unfamiliarity and "wilderness" to the student's familiar places.

Walking interviews

“Walking” interviews (Holton & Riley, 2014; Lynch & Mannion, 2016) provide an opportunity to capture place as the interview is carried out while walking through a location selected by the interviewee. This approach can lead to unexpected observations and reactions to the more-than-human allowing place to be captured through the audio interview and photography by interviewee and interviewer. This is Ingold’s (2011) “wayfaring” – knowing through your feet. Translating this into a distance activity poses questions about real-time events, where both the interviewer and interviewee are connected by mobile technologies, and the impact of connectivity on the person in a place where they would perhaps prefer to be solo-journeying (Bryce, 2012). This is an ethical issue; each participant should be given the option to share in the way that they choose, whether real-time or asynchronously, allowing them to preserve their "private and personal place" (Relph, 1976, p.36).

Conclusions

The concept of "thinning" the walls appears in the literature on networked learning (Cronin, 2014) and place-responsive learning (Gruenewald & Smith, 2014). These walls may be perceived as dividing students and staff, indoors and outdoors, local and distance. Storytelling focuses on "thickening" connections (Willis, 2011), to work *with* stories may allow the storyteller and audience to "re-story" themselves and their environment.

When discussing emerging themes in place-based networked learning, Goodyear et al. (2016, p.250) consider the "richer ways of thinking about the *people* involved in networked learning". This richness includes developing an awareness of the human body as an open system, of the relationships between life, technology, information and of being "in close touch with the world" (p.251). Walking with purpose and mindfulness can create space to observe and gain a deeper sense of the place through which we move (Ingold, 2011; Nadir & Peppermint, 2016).

Adopting a place-responsive approach at distance raises interesting questions about the ability to sense "place" and engage with place at a distance in both time and space. The potential of the approach for encouraging the development of ESD skills and strategies is encouraging, if distance-from-place can be reduced through the use of networked technologies. The ability to gain a stronger sense of the physical places of others in the campus network may also help to reduce the sense of social distance. Cronin (2014) describes a "Third Space", an open online space which integrates both formal and informal learning. This project seeks to work in that open space, developing sustainable, digital literacies for life of learner and location.

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Acknowledgements

This PhD project is funded by a staff scholarship from the College of Medicine and Veterinary Medicine and the Royal (Dick) School of Veterinary Studies, University of Edinburgh.

Boyd, S. (2020) Place-responsive principles of sustainable networked learning.
In *International Conference on Networked Learning, University of Southern Denmark 2020*.

Place-responsive principles of sustainable networked learning

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Abstract

This work builds on the work of Hodgson and McConnell by extending the principles of networked learning to incorporate aspects of place-responsive pedagogy and sustainable education. Place-responsive education is traditionally situated within the outdoor education field, and invites a deeper recognition of the interwoven nature of learning. It aligns with a postdigital perspective of networked learning, embracing the complex entanglement of learners, environment, technology and everything else. Sustainable education focuses on the creative, participative and reflexive processes which underpin transformative pedagogies, recognising the importance of collaboration and time. The goal is learning to live sustainably as part of the ecosystem.
This extension of the principles was undertaken in order to strengthen the recognition of place and place-knowledge as part of the postdigital network, to find a way to give voice to the non-human participants in the learning environment. It will also demonstrate how networked learning is a sustainable educational approach. I will start by outlining the place-responsive framework that will guide the review of the principles. This will be followed by an overview of sustainable education, explaining what role this plays in networked learning and the importance in developing future-proof skills. Next, the eight principles will be extended, building on the framework. Finally, a case example will illustrate how this can be applied in practice.

Keywords

Place-responsive, sustainable education, networked learning, postdigital

Introduction

This paper will extend the eight principles of networked learning outlined by Hodgson & McConnell (2019) based on work by Ponti & Hodgson (2006). Previous networked learning research has focused on place-based spaces (Carvalho, Goodyear & de Laat, 2016). This work recognised the increasing importance of places as part of and participants in the process of networked learning. It demonstrates place-awareness, recognition of the involvement of the places within which learning happens. By extension, a place-responsive pedagogical approach is one which proposes that by being actively attentive to and with the places where we are located, we can potentially take a more active role in protecting these places for the future (Nicol, 2014). It recognises and includes the non-humans beyond the immediately recognised human learning community, and beyond the inclusion of non-human technology as identified in place-based networked learning. Sustainable education fosters "future-proof" skills, which include critical reflexivity, the ability to question, challenge and problem-solve. These skills, or "uncertainty competences" (Tauritz, 2016), are what Hodgson & McConnell (2019, p.50) call the abilities required for "handling complex situations" or supercomplex situations like climate change for which there are, as yet, no answers. They are the "uncertainty competences" that Tauritz (2016) reports, and which are encapsulated in a place-responsive approach.

Hodgson & McConnell (2019, p. 43) indicated that the networked learning principles emphasised "a critical relationship with the digital, the human and the current socio-political and material… context". The focus on the digital-human-material in this relationship matrix struck me. From a feminist posthumanist perspective, this recognition of the wider non-human, or "more-than-human", community is important. It is essential to make this explicit, as otherwise there is a risk of reducing non-human participants to "learning resources" rather than part of the networked learning community (Banks et al., 2003). This goes beyond the socio-material view of actor-network theory (ANT; Dohn et al, 2018). Instead, it operates from an agential realist view that humans are intra-acting in a mixture, are part of the phenomenon, "part of that nature which we seek to understand" (Barad, 2007, p.352). From this view, knowledge does not reside within individual human participants, or non-human, or the environment, it is an on-going becoming-with through intra-actions distributed through an entanglement.

In undertaking this work, I seek to acknowledge this entangled ontology by proposing extended principles within a place-responsive pedagogical framework. I aim to show how a networked learning approach can positively influence sustainable education practices. Following Hodgson & McConnell's (2019, p.45) reference to the early definitions of networked learning: the importance of connections offered by technology, which "could assist and extend important pedagogical thinking and ideas". I will start by outlining the place-responsive framework that will guide the review of the principles. This will be followed by an overview of sustainable education, explaining what role this plays in networked learning and the importance in developing future-proof skills. Next, the eight principles will be extended, building on the framework outlined in the following section. Finally, an example will illustrate how this can be applied in practice.

Place-Responsive Framework

Place (Wattchow & Brown, 2011, p.92) is defined as "a phenomenon that is manifest between person, location and community interactions". That reference to a phenomenon links to Barad's (2007) discussion of a relational ontology, where we are all part of the phenomenon, there is no "outside" to observe it from.
Place-responsive education is traditionally situated within the outdoor education field (Cameron, 2014). It moves beyond place-based learning (experiential activity in a set location), through place-awareness (conscious recognition of the participation of the place in the learning experience), and beyond to a deeper recognition of the interwoven nature of living learning. It aligns with a postdigital perspective of networked learning, recognising what Fawns (2019, p.142) refers to as "an integrated totality", the complex entanglement of learners, environment, technology and everything else.

Wattchow & Brown (2011, p.182) propose four signposts towards a place-responsive pedagogy:
1 Being present in and with a place
2 The power of place-based stories and narratives
3 Apprenticing ourselves to outdoor places
4 The representation of place experiences

These signposts form the framework within which the principles of networked learning will be reviewed. Each brings with it a range of learning approaches which are already evident within the current principles, demonstrating how a place-responsive approach to networked learning could be adopted. This integrated approach explicitly acknowledges the existence of the network ecology and our more-than-human kin can foster a sense of care for sustaining the places we are a part of (Cameron, 2014; Nicol, 2014). In the next section, I will provide an overview of sustainable education, as place-responsive pedagogies operate in the present, with respect for the past, and invite us to take action for the future.

Sustainable Education

In his description of the various terms associated with digital education, Fawns (2019, p.132) states that "A lack of conceptual clarity around such terms makes it easier for different groups to appropriate them in the service of conflicting agendas". The same could be said about sustainability-related terms in education. UNESCO (2014) designated the period from 2005-2014 as the decade of education for sustainable development (DESD). As a result, Education for Sustainable Development (ESD) has become a commonly-recognised term. I have deliberately chosen not to use this term in the paper. The focus on "development" links to what I perceive as an overly managerial, mechanistic approach to learning. Instead, I have used the broader term of sustainability, using it provocatively to encourage reflection on the potential for a new appreciation of the strength of a postdigital networked learning approach to sustainable education.

Sterling (2001) outlined three main educational approaches: about, for and as sustainability. Education **about** sustainability is the most widely used, where the focus is on content and fact. The assumption is that sustainability is an uncontested, known fact which can be learned through a set course as part of a curriculum. Education **for** sustainability includes a more critically reflexive element, focusing on "learning for change". Again the view is that a list of the values, skills and knowledge can be provided to be followed. ESD in its simplest sense falls within this category. Education **as** sustainability acknowledges that some aspects can be known, that some skills will be of benefit. It goes further by focusing on the creative, participative and reflexive processes which underpin transformative pedagogies, recognising the importance of collaboration and time. The goal is **learning to live** sustainably, a whole systems approach that Sterling views as a "participative epistemology". It is not bounded by the curriculum or the walls of the classroom, but rather engages the whole person.

The focus on sustainability and sustainable development is directly related to the principles. Ponti and Hodgson (2006) focused on "sustainable" networked learning from their work on the EU-funded project Engaging Networks for Sustainable eLearning (ENSel). In this context, "sustainable" referred to a learning process that was effective and could be maintained long term. Further information on the project was not directly accessible online, so I reviewed articles drawn from the project. Stewart and Alexander (2006) cite a report by Hilton and Smith (2001) which specifically refers to "environmental and sustainable development training". Stewart and Alexander cite this paper for the key issues facing small- and medium-sized enterprises, not the sustainable education theme. When referring to sustainability associated with networked learning, this "maintenance" definition appears to be the primary theme. Work by Boud & Soler (2016) on sustainable assessment has provided a secondary theme, by focusing on learning and assessment "to equip students for learning beyond the end of the course", with skills for an uncertain future (Tauritz, 2016). It is in this and associated work where the concept of sustainable networked learning from the perspective of this paper becomes more tangible.
In the next section, I will review the eight principles of networked learning within a place-responsive framework, highlighting how this supports the concept of sustainable networked learning. While I will follow the structure provided in Hodgson & McConnell (2019), I recognise and will comment on some changes to the structure from Ponti & Hodgson's (2006) paper. By incorporating place-responsive and sustainable concepts into the principles, I will demonstrate how these are directly applicable to the theory and practice of networked learning, and in so doing, how networked learning is a key sustainable education approach.

Principle 1: The Focus Is on Learning Which Has a Perceived Value to the Learners

Hodgson & McConnell (2019; p.46) report how tacit and cultural knowledge is "rooted in the assumptions, norms and beliefs of the local context/situation and embodied in the relationships between the learner and other social actors". This principle links with the first signpost, "being present in and with a place". Here, Wattchow & Brown (2011) highlight the importance of the place having meaning for those present, whether that be the student and the teacher, or the student themselves. This links to Cameron's (2014) observations when talking to students about the meaning of places; the students did not appreciate the impact until they were asked to reflect on a location that had meaning for them as children. On reconnecting with that sense of childlike wonder for places in their past, his students were better able to understand why this process of coming to be and know a place could give meaning to their current learning.

The emphasis on being rooted and embodied in Hodgson & McConnell's (2019) work connects strongly with the importance of place for Indigenous peoples, where it is not learning about, but learning with and from the land - being present in and with. The value to learners in this context cannot be quantified. Wilson (2008, p.80) writes that "[i]dentity for Indigenous peoples is grounded in their relationships with the land, with their ancestors who have returned to the land and with future generations who will come into being on the land". The following sections will review the other principles while holding this sense of and search for relationship with the land.

Principle 2: Responsibility for the Learning Process Should Be Shared (Between All Beings in the Network)

At the core of this principle is how we "act in relation to each other" (Hodgson & McConnell, 2019; p.46). This principle also links with the first signpost, "being present in and with a place". I contend that it is not just responsibility, but also respect and reciprocity at the heart of relationality (Wilson, 2008). When coupled with the deeply reflexive approach of attending to self and others and places, this principle fits within a feminist posthumanist theoretical framing. It encapsulates the process of becoming-with all kin (Barad, 2007; Haraway 2016).

Wattchow & Brown (2011, p.189) say that humans “are part of the ecology of a place”. In light of the ecological connection, and moving away from ANT, I have replaced the word "actors" with "beings" in this principle title. In the moment that we perceive our fundamental and constant reciprocity with the world it ceases to be a thing made up of objects. Instead it becomes an unfolding phenomenon and we come to stand within it, alongside all the other beings and integrated co-members…" (Wattchow & Brown, 2011, p.184)

4

Principle 3: Time Has to Be Allowed to Build Relationships

This is the fourth principle in Ponti & Hodgson (2006), and as this emphasis on time links strongly with the first step, I agree with Hodgson & McConnell (2009) that this needs to be located earlier in the list of principles. This is not to prioritise it over the other principles, but to recognise that time is essential to build the relationships upon which the learning is situated. The confidence that time is available provides the space to engage more deeply.

This principle links to all aspects of a place-responsive approach to learning. Wilson (2008, p.80) challenges us that "rather than viewing ourselves as being **in** relationship with other people or things, we **are** the relationships that we hold and are part of". Developing this kind of awareness of our connections, it is helpful to consider the concept of slow pedagogy. Coined by Payne & Wattchow (2009), this term refers to learning activities which provide time to muse, ponder and wonder.

Time poorness, with all its consequences for the well-being of the body, in space, and nature is an enemy that can be de- and reconstructed in some educational spaces through and by the enactment, or praxis, of an intelligent ecocentric, intercorporeal theory of pedagogical experience. (Payne & Wattchow, 2009, p.29)
By contrast, the process of "fast" pedagogy can underpin examples such as that described by Hodgson & McConnell (2019, p.47), where a drive for consensus can "discourage recognition of differences and different perspectives".

Principle 4: Learning Is Situated and Context Dependent

Hodgson & McConnell (2019, p.47) state that "[c]ontext also becomes important within this view of learning and influences who interacts with whom and how interactions occur". Wilson (2008, p. 87) reminds us that "[k]nowledge itself is held in the relationships and connections formed with the environment that surrounds us". This principle links with the third signpost, "apprenticing ourselves to outdoor places". Here, Wattchow & Brown (2011) consider the role of the land as teacher.

What is needed is both a felt, embodied encounter with a place and an engagement with knowing the place through various cultural knowledge systems… (Wattchow & Brown, 2011, p.190)
This also links back to Principle 2 as it is about coming to know other members of the community, the place and all within it. Wattchow & Brown (2011, p.192) provide four questions to guide the response to places:

- What is here in this place? - attuning to the place, non-human residents, history, culture, etc.
- What will this place permit us to do? - which includes considering how actions can help the place
- What will this place help us to do? - reflecting on learning activities
- How is this place interconnected with my home place? - looking at connections between places as well as people

Principle 5: Learning Is Supported by Collaborative or Group Settings

Hodgson & McConnell (2019, p.47) note that "collaborative group work is frequently seen as a main pedagogical method for networked learning". This principle links with the second signpost, "the power of place-based stories and narratives". Earlier work by McConnell had identified community-building and group work "within networked e-learning environments" (p.48). Research on mobile technologies and place-based spaces (Carvalho, Goodyear & de Laat, 2016) demonstrates that this is no longer restricted to being within an e-learning environment, but expanding to encompass the student-location-environment.

Dialogue is included in this principle in Ponti & Hodgson (2006). This is understandable as dialogue is key to collaborative work. As an example of the importance of storytelling and group work, Mike Brown outlines a small project he undertook with a group of students on a trip to a local area (Wattchow & Brown, 2011, p.129). Students were paired up and prepared talks on specific topics, e.g. history, culture, to give during the trip. At different times during the trip, the group would stop for a talk from one of the groups. Additional information and insight was shared by students and families local to the area. All members of the group were teachers, rather

than solely the staff member; students took on the role of teacher for their area of interest and it provided an opportunity to learn about the location, history, culture and geography.

Principle 6: Dialogue and Social Interaction Support the Co-construction of Knowledge, Identity and Learning

Hodgson & McConnell (2019, p.48) discuss how networked learning "moves the emphasis more towards learning that emerges from relational dialogue with both online resources and significantly, with others in either learning networks or communities". Part of this is the importance of "learn to listen" (p.49) as well as being able to question and challenge existing practices, all part of a sustainable education approach (Sterling, 2001; Tauritz, 2016). This principle links with the second signpost, "the power of place-based stories and narratives". Turning to stories and narratives, Cameron (2014) reflects on the loss of many place stories and the sense expressed by his students that places were "poorer" for the loss. Collaboration and community can help with this, as Cameron explains in a way that echoes the student project from the previous principle:

It is often the case that not all has been lost, however. The process of recovering and retelling those stories of country, of restorying the land, is an important collective act. (Cameron, 2014, p.300)

Interestingly, Hodgson & McConnell (2019, p.49) highlight how this approach to learning "holds considerable value in a world increasingly dominated by uncertainty and contradictions—where there is a need to develop a sense of multiple perspectives to handle differences and tensions". This connects to the concept of "pedagogy for uncertain times" that Tauritz (2016, p.95) discusses. Ponti & Hodgson (2006) focus on work- and problem-based learning in this principle. The focus on the practical, experiential learning ties back to Principle 5. Tauritz (2016) talks about problem-based learning as a valuable approach in education for sustainability, as a way of scaffolding learning to develop uncertainty competences, or future-proof skills.

Principle 7: Critical Reflexivity Is an Important Part of the Learning Process and Knowing

Hodgson & McConnell (2019, p.49) state that a "critically reflexive approach to learning aims to go beyond the immediate context in which the learner operates". This principle links with the fourth signpost, "the representation of place experiences". Here, Wattchow & Brown (2011) talk about the importance of critically reflecting on what has been learned through connecting with places. Critically reflecting, evaluating, challenging and questioning are key future-proof skills (Sterling, 2001; Tauritz, 2016).

In thinking beyond the immediate context, Wattchow & Brown (2019) invite students to explore how a location has been represented through time, by reviewing historical documents, maps and advertising materials. Students can create their own representations of the places they have spent time with and the experiences they have had. This can include a variety of work, including prose, poetry, art, sculpture and music. These creations can then prompt further reflection on the experience at a later date.

When we talk about the relationship between experience, reflection and the representation of experience it is important to point out that we do not see these as discreet entities in a linear relationship. It is better to think of them as overlapping phases, with blurred boundaries, in the same phenomenon…We are already interpreting and reflecting on meaning when we are experiencing. We may continue to reflect later, after the active experience, but reflection on experience is an experience in its own right. Similarly, when we work from our notes or sketches…we are re-engaging and re-immersing ourselves back into the subjective experience of that place. (Wattchow & Brown, 2011, pp.194-5)

This is the eighth principle in Ponti & Hodgson (2006). I was initially inclined to restore it to the original order, as critical reflexivity should be equally important for learners and teachers. Then I saw that the same could be said for other principles, e.g. Principles 2 (shared responsibility) and 3 (time). Placing the facilitator/animator as the concluding principle instead provides a way of drawing together all the principles, and with that, all the steps of a place-responsive pedagogical approach.

Principle 8: The Role of the Facilitator/Animator Is Important in Networked Learning

Hodgson & McConnell (2019, p.49) describe facilitation as supporting students through the experience "to work with them, to manage learning resources and to sustain the dialogue with peers and/or experts etc.". Wattchow & Brown (2011, p.191) state that "[p]art of the work of the… educator then is to craft, through program design, a responsive negotiation between participants and place". This principle focuses on the process of supporting students in all aspects of the place-responsive experience.

It is important to find ways, as Brown did, of recognising the student as the subject-matter specialist (Wattchow & Brown, 2011; Tauritz, 2016). The student may be the person with first-hand experience of a given location, the staff contact helps them to reflect on that, explain their findings, build achievable actions, find their story, and cope with uncertainty and risk. In contrast with outdoor education activities, for distance programmes there is an added risk and uncertainty in not being in the location with the student. Here there is the challenge of potentially limited scaffolding and trust that student can handle complexity with support from staff. This is the importance that Tauritz (2016, p.94) speaks of, allowing uncertainty in and making it negotiable with students through student-centred and student-led activities. It calls on the teacher to learn to "cherish, tolerate and reduce" uncertainty, to admit they do not know all the answers, and that they are learning to deal with uncertainty too. As mentioned, this builds essential future-proof skills for learner and teacher in what Hodgson & McConnell (2019, p.50) identify as "handling complex situations".

In the next section, I will provide an example to illustrate how the principles can be applied. Again, extending the work of Hodgson and McConnell (2019), I will show how connecting with place demonstrates how sustainable education practices are central to networked learning.

Place-Responsive Sustainable Networked Learning in Practice

This section will focus on courses from two fully-online Masters programmes, the MVetSci in Conservation Medicine and MSc in One Health. Students take three compulsory ten-week courses in the Certificate year. Two of these are An Introduction to Conservation Medicine/One Health (Semester 1) and Ecosystem Health (Semester 2).

In the first course, as part of the formative activities, students are asked to share a brief description of an ecosystem local to them covering, for example, location, type, species, management, threats, plus any key local knowledge pertaining to the ecosystem. The first formative activity of the second course, starting the new semester, is a reminder of the work that was carried out in the first course. Students are asked to return to their chosen location, this time thinking about how they might conserve the ecosystem. As part of the task, students are reminded that ecosystems are not static and can change over time. They are visiting at a different time of year and may observe differences in the place, both in terms of what is visible at that time and what may have changed. They are also reminded that they must consider this process of change and factor time into their conservation plan.

These non-assessed, non-compulsory tasks serve two purposes in the course design. First, by helping students understand ecosystems and their inclusion in them by engaging with a place local to them. Second, by sharing information about the diverse locations where the globally-spread group of students are based. Thinking about the Principles, the activities encourage learning in place and communicating the learning with the network. Table 1 explicitly links the Principles with the activities designed into the courses. As an overview, students are recognised as being the source of knowledge about their chosen ecosystem. Through their questions, the group helps the student-teacher to explain and share their knowledge. The second course adds the key element of time, which is often a pressure for part-time students. Students return to the information they previously gathered; they are told the ecosystem may have changed, but on reflection they may see that they have also changed. They are asked to critically reflect about what they can do to conserve the ecosystem they are part of, based on the knowledge they have gained; this is at the core of being place responsive. The location they have chosen is important, is part of their learning, is valued by the group, and is part of the network.

Table 1: Activities mapped against principles to demonstrate how place-responsive networked learning may be integrated into course design.

Principle	Course Activities
1: The Focus Is on Learning Which Has a Perceived Value to the Learners	Students select a location to develop their understanding of ecosystem conservation. Their work may have a direct conservation benefit.
2: Responsibility for the Learning Process Should Be Shared (Between All Beings in the Network)	Emphasis in both courses is placed on the student as part of the ecosystem.
3: Time Has to Be Allowed to Build Relationships	Students revisit the locations in a later course a build and reflect on their initial work. This also emphasises the learning value (Principle 1) of the location.
4: Learning Is Situated and Context Dependent	Each student presents professional observations of their local ecosystems. Group responses are tailored to the specific locations and information presented.
5: Learning Is Supported by Collaborative or Group Settings	Asynchronous group discussion underpins the activities.
6: Dialogue and Social Interaction Support the Co-construction of Knowledge, Identity and Learning	Group discussion encourages student-teachers to share knowledge gathered for the activities. This may build on knowledge students had prior to starting the courses.
7: Critical Reflexivity Is an Important Part of the Learning Process and Knowing	Students return to data they collected, reflect and revise based on deeper understanding of the topics.
8: The Role of the Facilitator/Animator Is Important in Networked Learning	Staff provide guidance on how to classify ecosystems and determine ecosystem health. They respond to information shared by students, and encourage students to respond to peers. Staff must be prepared for the uncertainty of "not knowing" about new locations they have no direct experience of.

Boyd, S. (2021) 'Taking time to get messy outside the online classroom', in T. Fawns, G. Aitken and D. Jones (eds), *Beyond technology: online postgraduate education in a postdigital world*. Cham, Switzerland: Springer, pp. 21-37. https://doi.org/10.1007/978-3-030-77673-2_2

Taking Time to get Messy Outside the Online Classroom

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Abstract

Online postgraduate education has been perceived as taking place in a potentially isolating virtual space. Recent research has challenged this view and demonstrated how online learning is entangled with the student's location or place in the world. And yet, this location can remain a silent, almost invisible, presence in the learning experience. It is recognised that the student is embodied, while not necessarily considering the importance of where they are embodied, and the influence and impact that location and location-knowledge may have on learning.

In this chapter, I will outline how place-based approaches to learning at a distance may help to reframe the learning experience, creating opportunities to recognise diverse locations and the local place-knowledge that each student may bring to their online cohort. I will provide an overview of formative activities that draw on elements of place-based learning traditionally used for outdoor, face-to-face teaching, where online postgraduate students were invited to explore their locations, to find meaning in their place, to learn from and with their local community as well as their online community. The focus of the learning and teaching centres on students' locations, rather than the locations selected by the staff. These pedagogical approaches can encourage students to build, and build on, their own place-data. Achieving this at a distance can be challenging and the results can be messy, but the graduate skills to deal with risk and uncertainty are needed in this rapidly changing world.

Key words: place-based, place, online, postgraduate

Introduction

> what is messy is not defective but simply that which we have to learn to live in and think with (Stengers and Muecke 2018)

The learning network extends beyond the classroom, whether the classroom is situated online, on-campus or elsewhere. The specific locations of students and staff, their 'places', are part of that learning network. This place-centred awareness of the network connects with all beings in these locations. With this in mind, I argue that there is a benefit to explicitly acknowledging our physical locations in learning, teaching and research. In an increasingly uncertain and messy world, we need to develop skills to deal with risk that is

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appropriate and applicable to our place in the world (Garcia et al. 2017). This chapter proposes a way of developing those key graduate skills for online learners and teachers. Drawing on elements of place-based learning traditionally employed in outdoor, face-to-face teaching, this chapter will consider how incorporating place-based approaches in online postgraduate learning may have the potential to frame a more holistic learning experience, connecting our diverse locations, learning from and sharing local place-knowledge.

In considering a holistic view, I am drawing on one of the aims of this book, in recognising that learning 'spills out' from online classrooms, formed of the entangled connections with our world (Fawns 2019; Fawns and Sinclair 2021). My goal is to challenge the divide between online and on-campus, between outside and inside, divisions that may falsely suggest it is possible to separate learning from living. The process of adapting teaching to include place is one that takes time, an element often limited in education (Stengers and Muecke 2018). Students and staff are time-poor; often online postgraduate students are balancing work and home commitments in addition to studying part-time, as explained in more detail in the chapter of this book by Stone, Downing and Dyment (2021). I encourage you to think with me about the process of engaging with our places in an embedded way, rather than as an add-on task to our already busy schedules. I will use an example to illustrate how that might work in practice.

I chose the word 'messy' in the title for a number of reasons. Messiness suggests that the approach is not perfect, but it also suggests a degree of playfulness. It acknowledges the multiple connections that are different for everyone involved in the teaching process. Beyond this, lies the concept of super-complex problems, termed 'messy' or 'wicked' (Hensley, 2016). These wicked problems may not yet have a solution. The problems can include issues such as the climate crisis that may promote a sense of being overwhelmed when thinking how to address, or indeed, how to begin to teach the topic. The key lies in admitting uncertainty, so students can see that staff members are also unsure of the answer. It shows that learning to puzzle out the answer together, to embrace uncertainty, 'not-knowing', and 'not-yetness' is acceptable (Sinclair and Macleod 2015; Collier and Ross 2017). The skills needed to 'cherish, tolerate and reduce' risk and uncertainty, termed 'uncertainty competences' (Tauritz 2016) are even more important in these changing times (Anderson and McCune 2013).

Place-based approaches such as class field trips are traditionally associated with outdoor education (Greenwood 2013). This chapter does not focus on transferring outdoor education activities online, the challenges of which Smith et al. (2016) addressed. My aim here is also not to prioritise outdoors over indoors, though I recognise that much of the research and examples include time spent outdoors. Instead, my aim is to propose approaches that may help develop an awareness of our part in our local ecosystems, and which could be applied to a range of contexts and disciplines. It is important to acknowledge that simply *having* access to the outdoors is not enough in and of itself without context and support for students to ensure the inclusion of place does not promote hidden inequalities (Collier and Ross 2017). In the context of this chapter, I am taking the definition that 'place' is a location that has meaning for the individual, a definition which encapsulates that

process of identifying and choosing a location. For this reason, in the example I provide later, students were invited to choose a location to focus on. Some students chose a local place that they visited in person. Other students chose a location they 'visited' virtually by exploring resources via the Internet. The choice resided with the student and was influenced by a range of reasons, including personal interest and the research approach they were most comfortable with.

At the time of writing, many of us are in lockdown due to the Covid-19 pandemic. Venturing outside is perceived as riskier, if not impossible, but that observation fails to acknowledge that venturing outside was risky for some before the pandemic (Kudryavtsev, Stedman & Krasny, 2012), and staying home is not risk-free (Bradbury-Jones and Isham 2020). Staff now working from home are also experiencing issues faced by many students in terms of secure and stable access to the Internet, adequate technology, and balancing work and caring commitments that limit time to think, process, and focus (Bussey, 2021). Some students and staff may be in locations that they would not otherwise have chosen, may be isolating or shielding to protect their own health or that of their families. All of these factors will limit the outdoor places that we can access, in some cases restricting us to the view from the window or to virtual field trips such as those described by Klippel et al. (2019). These virtual field trips can range from a selection of online audio and video files depicting a location, through to immersive simulations using virtual reality and haptic (sensory) feedback. It is easy to see how interest in virtual trips may increase given the limitations imposed by the pandemic.

With this in mind, in this chapter, I will consider how we can acknowledge the presence of places in online postgraduate education. I will start with an introduction to some of the key concepts with reference to place-based approaches to teaching and learning, followed by an example. Next, I present a brief overview on place in an online context, or the embodied nature of online education, including some methods to incorporate place-based learning. I will also reflect on some of the benefits and challenges of explicitly including student location in online postgraduate learning. I am aware that these place-based approaches may be of particular interest to specific disciplines, e.g. biology and geosciences. I propose that the approaches also have a broader application across many disciplines in providing space for diverse cultural perspectives and discussion.

The next section is a brief outline of some place-based approaches to teaching and learning, including key literature that may be of interest to those who want to explore this further.

Place-Based Approaches to Teaching and Learning

Place-based pedagogies, such as field trips or longer outdoor journeys, take a holistic, whole-system view, integrating intellectual, theoretical knowledge (eidos) with practical (praxis) and intuitive (ethos) knowledge (Sterling 2001). Cameron (2014) coined the phrase 'place-responsive' which incorporates a more reflexive approach, with time spent building a relationship with a place – being or becoming *in and with* a place. This approach includes reflecting *after* any place-based activity, such as a field trip, considering what could be

learned from experiences of being immersed in the place. Wattchow and Brown (2011) extended this relational idea of becoming-with-place as one of their steps, or sign-posts, to a place-responsive pedagogy. These include: being in and with a place, acknowledging the power of place-based stories, apprenticing ourselves to places, and the representation of our place experiences. Of particular interest here is being 'apprenticed' to a place, seeing the place as the master that has lessons to teach the apprentice. This concept of place apprenticeship is encapsulated in an eco-hermeneutical approach to the curriculum. In the quote below, Kulnieks et al. (2010: 18) refer to their research on this theoretical concept of ecological or 'eco-' hermeneutics.

> In academic settings, it has been our experience that most of the interaction between student and instructor has involved interactions between text and mind. While this is an important part of the educational process, it is our hope that this research may inspire educators to think about moving beyond text by engaging students in a deeper understanding of and connection to the places that they live.

An eco-hermeneutical curriculum acknowledges that students may draw on feedback and teaching from their surroundings. Places have agency as teachers; students may experience this teaching directly by spending time with and in a place, reflecting on their experiences and observations. In addition, they can learn about the stories embedded in those places from teachers who may be human or non-human beings. An eco-hermeneutical curriculum recognises places as complex learning environments, and these activities as making space for feedback opportunities in place (Fawns and Sinclair 2021; Hounsell 2021). This form of place learning is associated with an Indigenous cultural perspective (Wilson 2008), and much of the research that I will draw on with regards to the importance of places in learning is by Indigenous researchers. Place learning is important for many cultures, including those perceived as having Western, Global North perspectives. As an Irish person, I agree with Ray's (2012) assertion that the Irish have been traditionally drawn to communicating with place. It may well be that call of place and storytelling from my Irish ancestors that has resulted in me writing this chapter.

As Payne and Wattchow (2009) describe it, being in a place requires slowing down, and use of slow pedagogical practices such as reflective writing. All too often, they report, outdoor activities like field trips are constrained by bureaucracy and timetabling, or overburdened with the goal of being 'challenging' or 'innovative'. Instead, the simpler act of spending time, being present in and with a known and safe place can help students to connect and learn (Styres 2019). A slow pedagogy involves challenging and working against the institutional fast-time ethos, a task that is best achieved when students and staff work together to foster a community culture (Berg and Seeber 2016).

With that community in mind, what is highlighted here is the value of learning from each other, from the ecosystems that we are part of and the beings that surround us, rather than solely those who have the stated role of teacher. A place-based and responsive approach to teaching makes use of narrative to 'story' the world and experiences we have (Wattchow and Brown 2011; Sinclair and Macleod 2015). Through this process of learning in place, of 'dwelling', Ross and Mannion (2012) propose that the curriculum becomes a 'lived

story' that is flexible to adapt to individual contexts. This adaptable approach to learning may provide opportunities for input from the non-human and human beings in students' living-learning places, for example through inviting input from local communities (Sepie 2017) and from reflecting on what is seen and heard in the wider learning network (Lynch and Mannion 2016). In the vignettes that Lynch and Mannion present in their work, they demonstrate how teaching plans—and research interviews—can be diverted with the appearance of other local non-human residents. A session on plants heads off on a frog tangent, or a tree identification lesson adjusts to incorporate badger prints. In the examples Lynch and Mannion share, the ability of the teachers to adapt to the 'chance encounters' is central. This could be viewed as 'messy', or a failure, as the session did not proceed as planned. Instead, success lay in adapting to the situations as they presented themselves, and modelling that adaptability for the students—Ross and Mannion's 'lived story' curriculum. These abilities to observe, reflect, react and respond are key skills for uncertain times (Tauritz 2016).

The examples discussed so far relate to situations where staff and students are co-located in one place. Earlier, I referred to the use of virtual field trips, and the choice of some students to discover their chosen places through an Internet journey. Kudryavtsev et al. (2012) outline the contrasting arguments as to whether it is or is not possible to develop a connection with places without visiting them. I agree with their proposal that it *is* possible to develop a connection, though the qualities of that connection may differ from that achieved by being directly present in the place. Kudryavtsev et al. propose two ways this connection can be achieved: by first-hand experience, and through 'written, oral, and other sources, including communication with other people' (237). From my perspective, the process of coming to know a place through a virtual medium is linked to this second route. It emphasises the importance of drawing on multiple sources, and developing information searching skills to locate these resources. This process of 'storying' a place resonates with the work of Kulnieks et al. (2010), Wattchow and Brown (2011), Cameron (2014), and Styres (2019). The stories form the local layers of the 'translocal' network that extends beyond the online classroom (Sheail 2018), which views the University not as situated in a fixed location, but instead formed of the connected student and staff 'local' places.

I will return to these ideas of 'translocal' and 'storying' later in the chapter when discussing the benefits and challenges of incorporating place-based activities. Before I do so, the next section presents an example of simple activities incorporated into two online Masters programmes where the students were invited to share stories from their places.

Case Example: Developing Place-Responsiveness

> To what degree is your place-based education linking participants' local, fluid lives with those of global others? (Beames 2015: 30)

The case example involves two postgraduate online Masters programmes designed and run by the same teaching team. The programmes address different aspects of conservation management and ecosystem health. While there are some shared courses between the two programmes, the four courses discussed here are structured in a similar way, but run separately.

This case example is taken from my doctoral research theorising place-responsive higher education at a distance. In this research, staff and students from a range of disciplines participated in semi-structured interviews to discuss how and where place-based learning was or could be incorporated into their programmes. One semi-structured interview with a staff member presented a simple example of how online teaching might develop place responsiveness. In other words, activities that might enhance online students' sense of responsibility for, and relationship with, their places. The interview inspired me to design a short survey (three free-text questions) to gain students' initial perspective on whether they felt the activities in these courses increased their connection to their chosen places, and influenced their interest in conservation. My goal was to construct a case example to demonstrate online place-responsive learning in practice. Ethical approval was obtained and participants provided written consent. The rich and reflective responses from the sixteen student participants indicates there is the potential for simple tasks to develop a degree of place-responsive awareness (responsibility and relationality). Quotes from the survey and interview are presented below to illustrate the case example.

My goal in including this example is to illustrate some key factors in incorporating place-based activities into online courses. Text highlighted in bold indicates a direct link to the recommendations I have provided as a summary at the end of this chapter. This example demonstrates how it is possible to **start small**, integrating elements of place-based teaching into courses in **simple** ways. The activities described here were not designed from a place-responsive theoretical stance, though the teaching team have a professional and personal interest in the ecosystem, and the role of human beings as part of that system. The teaching team designed formative (**voluntary**) activities for two courses in each programme, outlined below. All activities were facilitated via the online asynchronous discussion board and wiki tool in the virtual learning environment, as the teaching team recognised that not all students would have access to a reliable Internet connection.

Both programmes started Semester 1 with 10-week compulsory courses to introduce students to the core topics. One aim of the activities in these introductory courses was to help new students connect with each other and with the teaching team, and to highlight where the student cohort were globally located. As appropriate to the topic, students provided a brief description of a place local to them including details such as location, species, plus any local knowledge or stories they wished to share. That local knowledge could be personal or sourced from others in their area, encouraging students to consider connecting with local communities. While the discussion board and wiki entries were primarily text-based, some students included photographs. Students chose the place they wish to share, and in some cases, focused on areas at a distance from where they were living at the time of completing the courses. This was usually a place that they had not visited, but had a particular interest in, perhaps related to their reasons for studying on the programme, e.g. an area of particular conservation interest, inspired by the **invitation to students** in one of the activities to consider their motivation for taking the course and studying that particular field.

While these activities could be viewed as an individual undertaking, they resulted in a group output, as students and staff reflected and responded to the posts shared. The

overall goal was to produce what is described in the course as ‘a collection of ecosystems that reflect your individual interests and experiences’ and to ‘provide… a feel of the experienced local diversity of the students in this course, across the globe’. These goals are transferable to other disciplines. Recognising ‘local diversity’ can help build the online course community, and the sense of connection between students and staff through shared stories. The reference to ‘ecosystems’ could refer to the fact that all are part of a biological ecosystem. It could also refer to a professional ‘ecosystem’; for example, activities situated within the workplace and research community. Whatever view is taken, these activities may provide an opportunity for students to recognise how their studies are embedded in their local community and environment, and invite them to draw on local resources in the application of their subject knowledge. In his chapter of this book, Hounsell (2021) discusses the pressures on students of coming to terms with new systems and approaches to learning. Having time to reflect on how their subject is related to the places and communities they are familiar with may support students as they become part of their online postgraduate community.

In Semester 2, the second compulsory course on both programmes included an activity where the students returned to their chosen location, this time thinking about what conservation actions they would recommend. This was a useful reminder of the work that students carried out in the first course, and helped them to ground the theoretical knowledge from the course in a practical context. In addition, by returning to activities over two courses, the programme team were able to incorporate valuable **time and space** for reflection. On the surface, the formal University timetable suggested that ‘Course 1’ ended on a specific date. Student perception may also be that each course is separate; once the assessments are submitted, it is time to move on to the next topic. The team thought beyond the timetable, and reminded students of their previous work, encouraged them to reflect back on the work they had done before – ‘Building on last year's activity where you described a local ecosystem…’. While the courses were only a semester apart, the first was in the autumn, and the second in the spring of the following year. As a result, the reminder of ‘last year’s activity’ is important in emphasising time from two perspectives.

Firstly, the team reminded students that ecosystems are not static and can change over time. Within the activity, there was reflection on the differences observed because of visiting at a different time of year, both in terms of what was visible in a new season and what may have changed. Students were encouraged to consider this process of change and factor time into their conservation plan. Secondly, students could get a sense of how they had progressed in their grasp of the theory. They could determine their increased understanding of how the various conservation methods could be applied in the context of the location they had selected to visit and work with. This demonstrates the theoretical perspective of students ‘apprenticing’ themselves to their place (Wattchow and Brown 2011), in that they are applying what they have learned by spending time in the place and reflecting on their observations.

As reported by the staff participant:

> [Students are] building up from a, something they've done in a previous part of the programme and adding further, great, further depth to it really as they develop, because also as it gets them outside and gets them to see what goes on in their local environment in a different way.

These simple formative activities are an example of how to incorporate a place-based approach into online postgraduate courses. There is flexibility and support from the teaching team in the process of choosing a site to visit. The advice to students was to focus on areas that they felt comfortable visiting or were more broadly interested in, rather than requiring them to travel. Students selected a range of locations to visit in person, including dog parks, regular walking trails, or work places. Some used the prompt of the activity to visit a new location in their area. A small number preferred to work with online materials to learn about a location at a distance from them.

> Before that activity, though the place is near I had never visited it… it gave me an opportunity to explore a local ecosystem and appreciated that this small and 'insignificant' rock has a role to play in maintaining global ecosystem balance.

> I didn't actually visit the location. The location chosen for the activity is already a place I felt a connection to… Some of the group activities will render actual physical visitation to certain locations difficult as many of us are based half way around the world from one another. Such is the nature of online learning.

These activities appeared to foster a deeper sense of place-responsiveness for the students, as they described new understanding of their responsibilities as a result of spending time with and in the place. Students reported feeling more connected to the location, with a clearer understanding of their part in the ecosystem.

> an understanding of the location, what contributes to it's [sic] existence, and ongoing conservation efforts has deepened my relationship with the place and my appreciation of the landscape and species that inhabit it

> It brought more awareness to various ecological problems in the area, beyond what was already known. It also deepened my feelings towards preserving wild spaces.

When asked if similar activities should be included in other courses, students highlighted the importance of sharing locations in building connections to their local communities and ecosystems, as well as within the online student group. This could also be perceived as an aspect of place-responsive awareness.

> Such innovative activities could help scholars connect deeper with the environment and the communities in which they study.

The staff participant described the aim when designing the activities:

> [the joint course activity] has two… purposes, it partly provides a local context for people who are international [to] learn more about the differences across… cultures in particular, but also across geographical sort of boundaries, but it also provides a sort of practical aspects because they are focusing on something very local, something very real, rather than being theoretical

This brings us full circle to the quote by Beames (2015: 30) regarding learning that links 'participants' local, fluid lives with those of global others' that opened this section. Delahunty et al. (2014) discuss the differences between task-oriented or relationship-oriented interactions in online distance learning, and between compulsory and voluntary

participation. This example demonstrates how simple, well-constructed activities can bridge the gap between task- and relationship-oriented approaches, such that engagement is strong even for voluntary activities. The process of engaging with student *and* place, and of recognising the student as the source of knowledge about their particular location is encapsulated in Wattchow and Brown's (2011) place-responsive pedagogy. **The student takes on the role of teacher** through sharing their knowledge about their chosen place in the world. In these activities, students are introducing places that they know, or have come to know, better than their peers. They are encouraged in the activity outline to speak from the position of the qualified professional they are becoming—'I would like you to imagine you were involved in the conservation of this ecosystem'. All other participants in the course, **staff and students**, learn more about the places through the perspectives and stories of their peers (Styres 2019).

These courses have been running for over five years, and these activities have led to other related activities. This includes new resources and guidance to support students in developing their reflective practice, such as reflective journaling activities as preparation for activities and assessments. Students were encouraged to spend time in a quiet and peaceful place, where they felt a sense of being 'grounded', before beginning to reflect on the work completed that week. **Staff also shared their experiences and the place where they felt most at home**, where they felt grounded. This, in turn, created a space where students felt more comfortable sharing their own experiences, and has helped to build a strong community of practice.

In the next section, I will discuss the presence of place in an online context. I will also consider what the benefits and challenges are of working from a place-based perspective when teaching online.

Discussion - Presence of Place in Online Postgraduate Education

In the previous section, I outlined an approach to integrating place into an online postgraduate course. In the following sections, I discuss key elements related to the broader appreciation of place online, and the benefits and challenges of a place-based approach in online teaching. Some of these elements were demonstrated in the example, while others are provided as routes for reflection when considering what role the presence of place could play for other programmes, courses and topics.

Recognising Embodiment in Online Learning

Online learning can be perceived as taking place in an abstract, potentially isolating, virtual space (Delahunty et al. 2014; Sinclair and Macleod 2015). Research has challenged the view of disembodiment in online learning (Sheail and Ross 2014). Learning is not limited to the online learning environment, and draws on the support and resources of the student's physical location. Sheail (2018) discusses the idea of 'translocal', the layers of many different 'locals' in our online experiences, and how it is possible to feel connected to different locations or places, whether we have visited them in person or otherwise. And yet even with this developing awareness of the importance of learner 'locals', specific places may still

remain as a silent, almost invisible, presence in the learning experience. An online student may be invited to share their location as part of an introductory activity, or share their local experiences in a discussion with globally-distributed peers (Sheail and Ross 2014), but that may be the limit of the acknowledgement of their physical location. Teaching and assessment may focus on a particular worldview, with data from a specific location that the student has no interest in. These practices centre learning on a location selected by the institution, and may give the impression that the locations selected are more educationally valuable than the students' places (Marley et al. 2021). It also separates the student from their location, their place of learning. It is recognised that the student *is* embodied, while not necessarily considering the importance of *where* they are embodied, and the influence and impact that place and place-knowledge may have on their learning (Marker 2019).

Achieving any form of place-based learning a distance can be challenging (Smith et al. 2016). It can be messy in that the activities have to be flexible and adaptable to meet each student's needs. Staff need to be flexible to adapt to those changing circumstances, and clear about why place is included to ensure that the activity has purpose for all students. In the next section, I will consider the challenges and benefits of incorporating aspects of place-based learning. I will also outline some elements of place-based approaches.

Benefits and Challenges of Connecting with Place

The first benefit of connecting with place is that it is good for human mental and physical health (Bussey 2021). Even a view of plants is sufficient to increase feelings of wellbeing (Myers 2020). The process of developing 'nature-connectedness' involves more than simply being in a place or location we perceive as meaningful for us. It requires time and a structured activity that encourages reflection on the emotion, meaning, and compassion related to *being* in and with that place (Lumber et al. 2017). This is what it means to be place-responsive (Cameron 2014), to build a relationship with the place.

The first challenge is teacher and student co-presence. For outdoor activities where students and staff are co-located, it is usual for staff members to complete risk assessments in advance (Mannion et al. 2013). This is more difficult when the student is studying online and potentially at a distance. In their review of teachers' preparation for outdoor excursions, Mannion et al. discuss the importance of the *educator* 'being apprenticed to place', drawing on the work of Wattchow and Brown (2011), as a result of spending time in a location to prepare in advance of the activity with students. From the perspective of this chapter, our aim should be to think about the *students* as being apprenticed to place, sharing their understandings and insights with the rest of the online group, staff members included.

Another impact of the Covid-19 pandemic has been the inclusion of risk assessments in my institution to ensure students are able to work outdoors safely, and this may become the norm. A simple approach may be to co-create a set of good outdoor practice expectations with students prior to undertaking any activity. This could start with students discussing any risks they perceive in their location. There could also be some general safety recommendations, e.g. to notify someone if going solo to a location. These criteria depend

on the places that students elect to study in-and-with, and the goals and types of activity being structured.

The second challenge is time. Staff and students are time-pressured (Delahunty et al. 2014). There are what Sheail (2018) terms the 'transtemporal' issues of time inequality, the assumptions made by University time juxtaposed with student time and staff time. In other words, the University has an academic timetable and may have a guide as to how much time a particular activity can or should take. Student and staff time may have different priorities and pressures that cannot be anticipated. Keeping this in mind, students might need more time than teachers expect. Finding space in the timetable can be difficult, and the example provided in this chapter shows one way in which a slow pedagogical approach can be incorporated through activities that return students to information they previously collected. The timetable remains the same, but the students have more time to connect with their place, time to return and build on earlier experiences. It also presents an opportunity to reflect on the passing of seasons and the development of skills in working with place.

These pedagogical approaches can encourage students to build, and build on, their own place-data, which is another form of place-story. These approaches can potentially develop a sense of care in students for the places within which they learn, which can lead to actions to benefit the places. This represents a switch from a 'place-based' to 'place-responsive' pedagogy (Beames 2015), where the student sees the potential of their work to benefit their locality and seeks to take action on behalf of their place (Hensley, 2016). This is not an easy process—it is 'messy' in that it may challenge the concept of standardised consistent educational experience for all students (Collier and Ross 2017), a topic covered in other chapters in this book (e.g. Fawns and Sinclair 2021; Marley et al. 2021; Jones 2021). It also requires students and staff to take risks in adapting to varied learning opportunities as and when they present themselves (Jones 2021). These unexpected 'teachable moments' echo those seen when students are present in a practical setting (Bowling 1993) and online (Sinclair and Macleod 2015).

The third challenge relates to the concept of decolonising the curriculum. I do not suggest that the inclusion of place-based activities will result in a decolonised curriculum. However, it may provide an opportunity to have open discussion about colonisation (Liyanage 2020). In this chapter, I have written about the importance of listening to place stories and this may foreground the knowledge of those whose lands were and are colonised. This process of learning and discovery through shared stories can be challenging as some students and staff in the group may hear that they are the colonisers, the settlers. By contrast, there will be students and staff who had to migrate for personal and political reasons, and are coming to know a new 'local' which may not be their chosen place. All of this can raise difficult emotions, which may be addressed by creating space for discussion, listening and reflection in a spirit of trust (Tuck and McKenzie 2015). To assist in this process, Hensley's (2016) 'SHEEEPS' framework may be helpful, though this was not used in developing the activities in the example provided. This encourages consideration of the Social, Historical, Ecological, Economic, Ethical, Political and Scientific (SHEEEPS) perspectives of a topic, and the location within which learning and learner are embedded.

As shown in my earlier example, student co-creation is central to the process. This may develop student autonomy in considering how their study and the topic is related to their local area. Students choose a location where they feel safe to spend time, which may be their backyard, their workplace, or a view from their window. This process of choice recognises student preference and cultural diversity (Stone, Downing and Dyment 2021). It is not wise to assume, based on a student's location, that they may be more interested in place-based learning for cultural reasons. As stated by Tuck and McKenzie (2015), that is as much of a cultural mis-step as any other culture-based assumption, whether in relation to place-based learning or any other activity.

The next section will outline methods of connecting to place, building on Wattchow and Brown's (2011) place-responsive pedagogical sign-posts: being in and with a place, acknowledging the power of place-based stories, apprenticing ourselves to places, and the representation of our place experiences. These methods are valuable for all subjects, including those that are not directly focused on place or environment, because they may help to facilitate an appreciation of diversity, embodiment and connection.

Methods to Connect with Place

The simplest method is to encourage students to share an image, a statement, a brief description, a story, and/or a sound from their chosen place. As mentioned earlier, this is often one of the first activities for a new cohort of students in the form of a 'getting to know you' icebreaker (Sheail and Ross 2014). Choice is important here, as the students may not want to share their current location for a range of reasons, which may include privacy concerns or uncertainty about whether their location would be interesting for their peers. Students may also have a particular interest in and wish to find out more about another place. The option to choose a location acknowledges the student's preference, setting an expectation that the online learning space is one where active participation and student perspective is welcome.

Irrespective of the discipline, providing opportunities for students to share their experiences is important. Often, postgraduate students are returning to extend their current knowledge in a specific area; providing activities that encourage them to share their personal and professional experiences can highlight differences at a local, regional, national and global level. By explicitly acknowledging these differences, the teacher can make a clear statement from the start of the course that diversity is welcome, so that students build their confidence in sharing their knowledge.

A concern with any work reflecting on the intersection of place and online learning is that students and staff may feel pressure to increase their use of technology, e.g. to bring devices to 'capture' experiences. This may highlight inequalities between those who have or do not have particular devices. It also separates those who have direct experience in their location from those who have come to know their location at a distance. These pressures may discourage participation. Simpler ways to connect, such as pen and paper, followed by asynchronous discussions might be a good way to start. Again, this can be discussed with students.

Thinking of the benefits of connecting with all beings in the local ecosystem, inviting participants to unplug headsets in small group or one-to-one online meetings can share the local soundscape (Gallagher et al. 2016). As anyone who has been on a live session where pets and family members make unexpected cameos, this can inspire a range of discussions and unexpected segues. This is similar to the influence of the non-human participants in Lynch and Mannion's (2016) vignettes, where the presence of badgers and frogs altered the experience of the human beings present. This process of interruption can lead to a learning tangent, where students and/or staff identify a new topic for discussion.

Beyond this, students can work on activities directly in their places. The case example provided in this chapter gave an overview of how this process may work. These activities follow on from the earlier introductory activities, and this again supports the sense that the student's local, place-based experiences and knowledge are valued as part of the learning experience of the class or cohort. Core here is the act of 'paying attention' (Sepie 2017), of learning the skills of slowing down, and finding space to incorporate place-based resources and experiences into course activities (Kulnieks et al. 2010).

It is also important for teaching staff to consider how to share where they are located, or their chosen places. As discussed in the chapter by Stone, Downing and Dyment (2021), responding to students personally is a key factor that can be enhanced by inviting students to share their place, and by staff members sharing their places in turn. In so doing, the students get a sense of the lived environment of staff members, and the process of respect and reciprocity demonstrated by co-sharing may help build a deeper sense of student-staff connection (Wilson 2008). By reflecting on their connection to their own places, teachers can support students as they connect to theirs.

In the next section, I will provide a brief list of recommendations to consider if you wish to invite places into your online teaching.

Recommendations

I drew the following recommendations from the example above and the research that informed it, to help you consider how you might include places in online teaching. I invite you to reflect on these recommendations in the context of your course, programme, discipline and student cohort, and what benefit your layered local places might bring to the learning experience.

When starting out on a place-based teaching journey:

- Consider, what are *your* places teaching you? Is there a place to which you are connected? If not, is there a location that you are interested in learning more about? What inspiration do you draw from spending time in your place? How do you engage with your disciplinary knowledge in that place?
- Start small and keep it simple. It is not necessary to redesign a course to start to play with place; start with one activity, e.g. a discussion topic inspired by how you worked through a problem while out walking.
- Invite students to propose topics that interest them based on their place in the world. To develop skills to deal with a complex world, encourage students to question, reflect, and explore

the course materials as appropriate to their particular contexts. In addition to supporting a transition from theory to practice, students may identify place-based differences that you had not considered, e.g. cultural perspectives or legislative constraints.

- Make activities voluntary rather than compulsory: an engaging activity will encourage participation – particularly if you participate too, sharing your local place-observations in a spirit of reciprocity.
- Take it slow. Investigate if there are ways to make a little time and space in the teaching timetable. Is there a way to extend time on activities outside the timetable, as shown in the example in this chapter where activities ran across courses?
- Accept that it might get messy, with activities not progressing as you planned. Embrace the uncertainty and invite students to experiment with you in developing a living curriculum.

Conclusions

In this chapter, I outlined potential benefits and challenges to explicitly acknowledging our places in learning, teaching and research. Through that process, my aim was to demonstrate how our learning network extends beyond the formal learning environment, into the specific locations of students and staff, our 'places'. An example and some recommendations may help you to start thinking about what this could look like in the context of your teaching.

By including opportunities to learn from our places, we may start to develop a holistic, place-centred awareness of the ecosystems that we are entangled in, including our connections and relationships with all beings. This increased awareness is an essential skill to help us slow down, connect and respond as a community to the challenges of uncertain times and a messy world.

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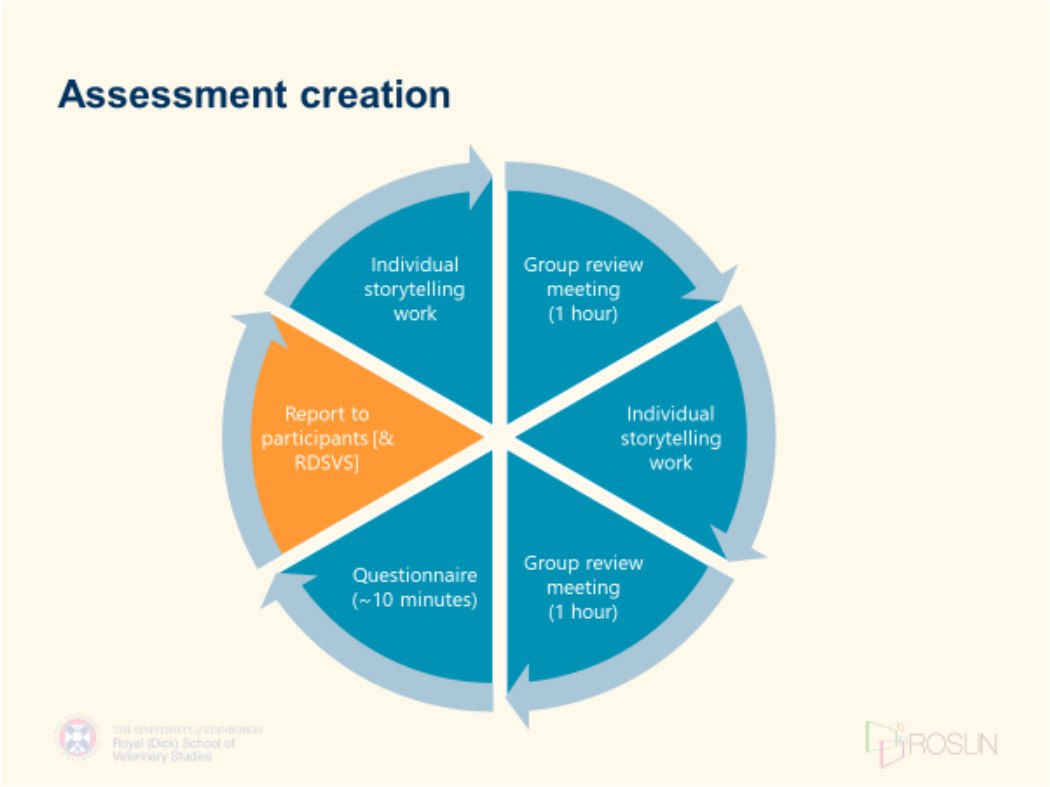
Appendix B Interview and assessment inquiry group invitations

Invitation was as part of the storytelling presentation. Slides included below.



Sharing place

Interview information sheet

Student-community engagement activities at distance

Background

In recent years, the University of Edinburgh has made efforts to increase support for distance students in terms of access to electronic resources and services, but the institutional focus has remained on the physical central campus to the exclusion of the places important to students studying at distance. Marketing and strategic plans at the University of Edinburgh have been adapted to include acknowledgements of the global student population, but more could be done to understand where our students are situated during their studies.

This project will investigate approaches for engaging with students and staff working off-campus at distance, supporting them to share their knowledge. These approaches will include interviews and focus groups, as well as a range of creative digital (e.g. video, audio, photography) and analogue (e.g. drawing, painting, sculpture) media to allow participants to capture and share their research and place-based experiences.

The process of developing media-rich research narratives, or stories, may help participants to reflect on the work they are completing and to share this with a wider audience. These research stories may also capture a sense of the physical places where students are based, raising awareness of the diversity of the campus beyond the institution's estate.

About this study

The aim of this project is to increase understanding of how the institution could support distance students to engage with a wider community as part of their studies. As part of this, the project will explore the connections between students and the place where they study, and between the institution and student-place.

Student participation: Students will have two opportunities to participate and can select one or both.

1. Focus groups (< 1 hr per group meeting) and questionnaire (10 mins) to review a story-telling activity which may be used for a future assessment. No recording will be made at the focus group; Sharon will make field notes during the meeting and students are invited to do the same. The questionnaire will be anonymous and carried out using Bristol Online Surveys.
2. Semi-structured interview (< 1 hour) to talk about their place of study. This interview will be recorded using the appropriate technology depending on location, e.g. Dictaphone, Skype-recording. The audio recording will be held securely until a full transcript is made and checked before being deleted.

Staff participation: The project will connect with staff who work with students studying at distance. Staff will be invited to participate in a semi-structured interview (~ 1 hour). The aim is to gather experiences of work already underway in this area which can be incorporated into the project output. The interview will be carried out using similar technology to that

used with the student groups. The audio recording will be held securely until a full transcript is made and checked before being deleted.

To participate, contact Sharon Boyd (email provided).

Please turn over

How will data be used?

The data will be used to better understand the potential connections between the institution and the community local to the student. This may help develop guidance on activities to support community engagement activities at distance. This information may be published in a peer-reviewed journal and/or as a book.

No participant will be identified by name in any reports or publications using information obtained from this exercise. Participants will be invited to choose a pseudonym for use in the study. Any publications which result from this analysis will not identify participants.

If any participant wishes to be directly involved in the formal outputs of the research, they will have the opportunity to review any manuscript and be included as a contributing author. This can be achieved without identifying their contribution to the data, unless they wish to do so.

The research is compliant with all University of Edinburgh data protection policy as stated here: https://www.ed.ac.uk/records-management/data-protection.

What if I have more questions?

This project is being led by Sharon Boyd at the University of Edinburgh. She can be contacted by e-mail or telephone.

This project has been approved by the Human Ethics Review Committees (HERC) at the University of Edinburgh Moray House School of Education and the R(D)SVS.

Appendix C Interview and assessment inquiry group consent forms

Consent for Participation (staff)

Research Project: Student-community engagement activities at distance

BACKGROUND

This project, which considers engagement skills for online distance learning students, is being conducted by, Sharon Boyd, a researcher within the School of Education and member of staff at the Royal (Dick) School of Veterinary Studies [R(D)SVS]. As a participant, you should read this form carefully and sign two copies, one for your own records, and one for Sharon.

Semi-structured interviews will be conducted by Sharon, who has the duty of care for the data you generate. The research is compliant with all University of Edinburgh data protection policy as stated here: https://www.ed.ac.uk/records-management/data-protection.

Your participation is voluntary, and you can choose not to participate with no consequences. Please note that this will be a "walking" interview, so will involve spending approximately one hour out of doors at a location of your choice.

CONSENT

I volunteer to participate in a research project as described above. I understand I may withdraw from the project at any time by contacting Sharon (email provided). There will be no penalty for withdrawing and no one else will be informed that I have withdrawn.

As part of this study:

1. I expect to spend approximately 1 hour out of doors in a location of my choice. This location will be one where I feel safe and I will be accompanied by Sharon.
2. In this study, I may take photographs or record video/audio in my chosen location. I may choose to share this with the researcher on the understanding it may be included in research outputs.
3. I expect to participate in one semi-structured interview of a maximum of one hour to discuss the location where I am based for my work and my views on how the University can support my students to connect with their communities.
4. I understand that the exercise is not intended to be uncomfortable or impact my work. I have the right to decline to participate and withdraw from the study at any time.
5. The interview data and associated resources will be kept securely and subject to standard data use policies with regards to anonymity and data protection.
6. I understand that the researcher will not identify me by name in any reports using information obtained from this exercise, and that my confidentiality as a participant in this study will remain secure. Any publications which result from this analysis shall not identify me as a participant.
7. I understand that additional consent may be required for resources I have shared with the researcher, e.g. video or photographs, to be included in publications. I have the right to withhold consent for publication of resources I have created when participating in the project.
8. I understand that this research study has been reviewed and approved by the Human Ethics Review Committee at the Moray House School of Education and the R(D)SVS.

9. I have read and understand the information provided. I have been offered the opportunity to ask questions and any questions have been answered to my satisfaction.
10. I have been given a copy of this consent form for my own records.

I voluntarily agree to participate in this study, under the conditions overleaf.

My Name (Printed) Date

_____

My Signature Signature of Researcher

_____

For further information please contact:

Sharon Boyd

[contact details provided]

Consent for Participation (student)

Research Project: Student-community engagement activities at distance

BACKGROUND

This project, which considers engagement skills for online distance learning students, is being conducted by Sharon Boyd, a researcher within the School of Education and a member of staff at the Royal (Dick) School of Veterinary Studies [R(D)SVS]. As a participant, you should read this form carefully and sign two copies, one for your own records, and one for Sharon.

Semi-structured interviews will be conducted by Sharon as part of her PhD research. Sharon has the duty of care for the data you generate. The research is compliant with all University of Edinburgh data protection policy as stated here: https://www.ed.ac.uk/records-management/data-protection. Your participation is voluntary, and you can choose not to participate with no consequences for your programme of study. Please note that this will be a "walking" interview, so will involve spending approximately one hour out of doors at a location of your choice.

CONSENT

I volunteer to participate in a research project as described above. I understand I may withdraw from the project at any time by contacting Sharon (email provided). There will be no penalty for withdrawing and no one else will be informed that I have withdrawn.

As part of this study:

11. I expect to spend approximately 1 hour out of doors in a location of my choice. This location will be one where I feel safe. I will notify a local contact of my location and take appropriate steps to ensure my safety.
12. I may take photographs or record video/audio in my chosen location. I may choose to share this with the researcher on the understanding it may be included in research outputs.
13. I expect to participate in one semi-structured interview of a maximum of one hour to discuss the location where I am based for my studies and my views on how my studies relate to my experiences in my local setting or community
14. I understand that the exercise is not intended to be uncomfortable or impact my studies. I have the right to decline to participate and withdraw from the study at any time.
15. I acknowledge that the interview data and associated resources will be kept securely and subject to standard data use policies with regards to anonymity and data protection.
16. I understand that the researcher will not identify me by name in any reports using information obtained from this exercise, and that my confidentiality as a participant in this study will remain secure. Any publications which result from this analysis shall not identify me as a participant.
17. I understand that additional consent may be required for resources I have shared with the researcher, e.g. video or photographs, to be included in publications. I have the right to withhold consent for publication of resources I have created when participating in the project.
18. I acknowledge that the data gathered in this exercise will not contribute to any assessment of me.

19. I understand that this research study has been reviewed and approved by the Human Ethics Review Committees at the Moray House School of Education and the R(D)SVS.
20. I have read and understand the information provided. I have been offered the opportunity to ask questions and any questions have been answered to my satisfaction.
21. I have been given a copy of this consent form for my own records.

Please turn over

I voluntarily agree to participate in this study, under the conditions overleaf.

My Name (Printed) Date

_____

My Signature Signature of Researcher

_____

For further information please contact:

Sharon Boyd

[contact details provided]

Consent for Participation (Inquiry Group)

Research Project: Student-community engagement activities at distance

BACKGROUND

This project, which considers engagement skills for online distance learning students, is being conducted by Sharon Boyd, a researcher within the School of Education and a member of staff at the Royal (Dick) School of Veterinary Studies [R(D)SVS]. As a participant, you should read this form carefully and sign two copies, one for your own records, and one for Sharon.

Focus group meetings will be conducted by Sharon as part of her PhD research. Sharon has the duty of care for the data you generate. The research is compliant with all University of Edinburgh data protection policy as stated here: https://www.ed.ac.uk/records-management/data-protection. Your participation is voluntary, and you can choose not to participate with no consequences for your programme of study. Please note that this will be a "walking" interview, so will involve spending approximately one hour out of doors at a location of your choice.

CONSENT

I volunteer to participate in a research project as described above. I understand I may withdraw from the project at any time by contacting Sharon (email provided). There will be no penalty for withdrawing and no one else will be informed that I have withdrawn.

As part of this study:

22. I expect to write a short research story over a period of three months. I will be supported in doing this by Sharon and I do not have to share this story with other people in the research group unless I choose to do so.
23. I expect to participate in up to two focus group meetings of a maximum of one hour each to discuss the story activity and its potential as an assessment for future students. This focus group will not be audio recorded; Sharon will make notes and I will have the opportunity to review these and make my own notes for inclusion in the study.
24. I expect to complete a short questionnaire (~10 mins) at the end of the activity. This questionnaire is anonymous, and will allow me to provide further feedback that I may not wish to share in the focus group
25. I understand that the exercise is not intended to be uncomfortable or impact my studies. I have the right to decline to participate in further group meetings and withdraw from the study at any time.
26. The focus group and questionnaire data will be kept securely and subject to standard data use policies with regards to anonymity and data protection.
27. I understand that a final report may be made to the R(D)SVS Board of Studies if this activity is viewed as suitable for use as an assessment activity in the future. I will have the opportunity to review this report before it is submitted.
28. I understand that the researcher will not identify me by name in any reports using information obtained from this exercise, and that my confidentiality as a participant in this study will remain secure. Any publications which result from this analysis shall not identify me as a participant.

29. I acknowledge that the data gathered in this exercise will not contribute to any assessment of me.
30. I understand that this research study has been reviewed and approved by the Human Ethics Review Committee at the Moray House School of Education and the R(D)SVS.
31. I have read and understand the information provided. I have been offered the opportunity to ask questions and any questions have been answered to my satisfaction.
32. I have been given a copy of this consent form for my own records.

I voluntarily agree to participate in this study, under the conditions outlined above.

My Name (Printed) Date

_____

My Signature Signature of Researcher

_____

For further information please contact:

Sharon Boyd

[contact details provided]

Email after first assessment group in September 2018 (consent to share contact details within group)

Greetings to you all,

Thank you again for your participation in the assessment design committee. I had fun and hope you did too.

Attached please find the draft meeting minutes for your comments and edits. You will see some sections where I have included text in [square brackets]. This is either for additional explanation or a bit of text I wasn't sure about/wanted to add.

Feel free to edit in whatever way works for you by using track changes, different colours or square brackets like me. This is a flexible document – if you did not have a mic, you may want to take this opportunity to add more to the discussion. My note-taking skills are limited, so you might want to tackle how I've phrased sections assigned to you. You may have made your own notes and want to add them in. Irrespective of the reason, get stuck in and send me your draft once complete.

It would be good to be able to circulate this around our committee again by the 20th/21st of September. If that is too tight a turnaround, please tell me! Once that's done, we can have some thinking time before we meet again. Please propose dates and times when you may be free – we'll aim for Tuesday at 19.30 again, so the choice is which Tuesday :)

You will note that I'm using BCC to send this email to you. If you consent to share your email with the rest of the committee, I will share it. However, if one person doesn't consent, I'll keep using BCC for all emails.

Kind regards,

Sharon

Appendix D Survey invitation

Dear students

We would like to invite you to contribute to an exciting study that one of our colleagues is currently undertaking into the role that places play for students studying at a distance from the University. The survey is very short at only one page and focuses on the Introduction and Ecosystem courses that you have taken.

The survey has been produced by Sharon Boyd, who is currently completing a PhD, and would like your help. Her research is looking at the role that places play for students studying at a distance from the University. The activities you completed provide an interesting way of learning about other locations via an online course. Any insight into your experiences is appreciated. This survey is anonymous; no identifying data is collected.

The survey can be accessed via this link: https://edinburgh.onlinesurveys.ac.uk/place-in-learning

We really appreciate any help you can offer.

Thank you.

Glen and the Programme team

Appendix E Global view of codes across the ten interviews (04/08/21)

Name	Description
Background Poem	This title will change, but this aims to capture the background sounds that are not "named" but participate in the research (usually as a noise distraction)
Community Work	Any reference to working in/with the community. Might overlap with Practical on-ground, though only if the Practical task is part of teaching/learning experience
Distance practicalities - negative	What negatively impacts or is a negative impact of working/studying at distance?
Distance practicalities - positive	Reference to studying at a distance from institution, what works in engaging at distance or is a benefit of studying at distance?
Edinburgh	Reference to Edinburgh the Place
Emotions	Participant emotions (including shared laughter)
I Poem	Tuning in to the participant's voice
Institutional driver - negative	Any evidence of University/School policy that is acting against or decentring the distant learner place
Institutional driver - positive	Any evidence of University/School policy that is centring the distant learner place (beyond my work in this project)
Institutional Voice	Picking out switches of voices - combining both interviewer and interviewee here. May separate over time, but expect this will be drawn out in the report. "Institution", i.e. is this our "Edinburgh-speaking-through-people" voice?
Love	Emotion – direct reference to love
MI Poem	Tuning into the interviewer's voice - my voice
Participant Narrative	Descriptive pieces - participant's landscape
Place Emotion	Emotion and place - linking to forest bathing concept, reference to the benefit of being in an outdoor space. Linked to Place Voice, this focuses explicitly on benefit of green space on self, rather than care of green space

Name	Description
Place Participants	Reference to any place, species, being in the text - may overlap with Place Poem. Includes all references in the text, so captures the audio recording references, not just the reference from the participants (words said). Contrast results. Consider involvement of all participants - ethical issue, without their consent
Place Poem	Tuning into the presence of the place(s) - include sentence spoken around reference to Place Participant (the Place I). Contrast with Place Participants, which includes the reference to audio/sound recording. Ethical issues - participant comes into "being" by being included by human participants.
Place Voice	Our choice of words when talking about our places - "love" fondness, care? Picking out switches of voices - combining both interviewer and interviewee here. May separate over time, but expect this will be drawn out in the report.
Practical on-ground	Recording any tasks (activities, assessments) that are currently carried out or proposed as being possible to carry out at distance
Researcher Emotion	Highlight where I feel emotionally impacted by particular statements made by participant. Reflect on this in depth in a separate document.
Researcher Narrative	Descriptive pieces of my landscape
Technology	Use of technology - may overlap with Technology Voice
Technology Voice	Our choice of words and way of speaking when talking about technology. Picking out switches of voices - combining both interviewer and interviewee here. May separate over time, but expect this will be drawn out in the report.
Time	Focus on time for activities, may include being time-poor or time-rich. Potential indication that place provides time, or time-rich experiences.
Wind	Reference specifically to the Wind - on reviewing all the transcripts, this is a key participant. Following Abrams, Wind includes breath, e.g. sighs, puffs etc. but does not include spoken word

Appendix F Interview schedule

Introduction

Thank you for agreeing to take part in this interview and for completing the consent form. I will give you brief introduction about the purpose of this meeting and some information about how the interview data will be used. As stated in the project information, I expect this interview will take a maximum one hour. I will monitor the time as we progress, to ensure that the interview keeps within that time.

There are no right or wrong answers, I am interested in your opinion and personal experiences. If you need clarification at any time, please feel free to ask questions. If, at any point, you would like to stop the interview, take some time out, or would prefer not to answer a question, please let me know.

The aim of the research is to better understand the potential connections between the University of Edinburgh and the communities local to our students. To help with this, I will be asking you about your thoughts on how the University engages with students globally.

This interview may also help me to get a sense of the place where you have chosen to be interviewed and your connections to that location. This may be through your responses to questions or anything you bring to my attention during the interview, such as things that you see or hear in your location you feel might help me better appreciate your chosen place. You may take photos, make recordings or notes before, during or after the interview and you are welcome to share these with me by email to be included with your transcript.

Your responses will be treated in the strictest confidence. I will not ask you specifically about your [area of study/role in the University] in the interview, though you may choose to share any details you wish. I will ensure that any eventual publications do not identify you.

Both during and after the interview, you can withdraw at any time either from the whole process or take back anything you have said that you do not wish to be used. For more information on this or to withdraw at a later date you can contact me at [email address provided] – the address is also on the consent form.

Can I confirm that you are happy for me to record this interview? This will ensure that I do not miss any key points in our conversation.

Questions and prompts

Can I confirm that you are a student/staff member at the University?

I have three main areas I want to focus on in this interview today: your location, your experience of distance learning and your perspective of your connection to the University.

To get us started, I would really like to know more about the location you have chosen for today's interview.

Can you tell me why you have chosen that location? What can you tell me about it? Why is this a meaningful location for you [with regards to your work/research/study]? [relaxed start; focus on place in interview; encourage comments about what is observed to set the scene]

[Additional question added for asynchronous offline interview: You chose an offline interview as you do not get a good wifi signal in your chosen place. In a sense, I think this is like joining the location to the University "network". What do you think?]

Next, I'd like to know more about your experience of [being a distance student/supporting distance students]. [general question; might be too broad to answer, may act as intro statement]

- Have you ever thought about the relationship between your local community and your research? If so why? If not could you begin to do that now? [2]
- What do you think has been/could be the most important element for you in linking your local community and your research? [1a; 1b]
- What do you think has been most important in helping you connect with other/ your distance students [1a; 1b]

One idea I'm exploring in this research is that an activity which requires students to go outside and spend time in a place near to them will be more meaningful for them. What do you think about this? [1a; 2]

- What kinds of methods or approaches do you think could be effective in creating practical learning activities [at distance/in your local area]? [1a; 2] [watch for suggestions around assessment activities, dissertation projects, "summer" schools – prompt or query if familiar with any of these]
- Do you think this might increase engagement in learning about the subject/discipline? [1a; 2]

Moving on to the final section, I'd like to discuss how the University of Edinburgh connects with distance students, from your perspective.

How do you think technology facilitates/connects the University and distance students? [May comment on previous methods using printed textbooks by post as an alternative] [1b]

To what extent do you experience the University as "Edinburgh-focused"? [3]

What do you think about the idea of the University supporting students to develop community-engagement projects around the world? [1a; 2]

Is there anything else about the connection between the University in Edinburgh and distance students that you would like to share?

Is there anything else about your location that you would like to share? [end with place]

Closing: Thank you very much. I will ensure that your responses are anonymised. Is there a name that you would like me to use as your pseudonym? Can withdraw at any time either from the whole process or take back anything you have said that you do not wish to be used. Please let me know if you would like a copy of the transcript and/or a copy of my research once complete?

Appendix G Survey questions including consent (JISC surveys)

Place participation in learning

Page 1: Introduction and consent

About this study

The aim of this project is to increase understanding of how the institution could support distance students to engage with a wider community as part of their studies. As part of this, the project will explore the connections between students and the place where they study, and between the institution and student-place.

How will data be used?

The data will be used to better understand the potential connections between the institution and the community local to the student. This may help develop guidance on activities to support community engagement activities at distance. This information may be published in a peer-reviewed journal and/or as a book.

This survey is anonymous; no identifying data is collected. Any publications which result from this analysis will not identify participants. The only information shared may refer to programme and course titles.

The research is compliant with the University of Edinburgh data protection policy as stated here: https://www.ed.ac.uk/records-management/policy/data-protection.

What if I have more questions?

This project is being led by Sharon Boyd at the University of Edinburgh. She can be contacted by [redacted]

This project has been approved by the Human Ethics Review Committees (HERC) at the

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University of Edinburgh Moray House School of Education and Sport and the Royal (Dick) School of Veterinary Studies.

Consent to participate

By completing this survey, you are consenting to participate in the study. No personal data will be collected. This means it may not be possible to identify your submission to withdraw it at a later date.

To start the survey, please click the **Next** button below.

Page 2: Questions

Thank you for consenting to participate in my research. All questions below are optional.

These questions focus on your experience of some of the activities on the Introduction to.. and Ecosystem Health courses for your programme. In these activities you were invited to visit a location near to you, and/or to incorporate your knowledge of your local places, into the work you were submitting as part of the course.

My research is looking at the role that places play for students studying at a distance from the University. The activities you completed provide an interesting way of learning about other locations via an online course. Any insight into your experiences is appreciated.

1. What three words describe the location you visited for the activities? *Optional*

2. Have you visited the location since completing the activities? *Optional*

- ○ Yes
- ○ No

2.a. What prompted you to visit the location again?

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3. Has completing these activities influenced your connection to your location? *Optional*

- ○ Yes
- ○ No
- ○ Don't know

3.a. Please explain why you have chosen that answer.

4. How has completing these activities influenced your conservation skills? *Optional*

5. If you have any further comments or suggestions about the activities, please share below. *Optional*

If you would like to talk more about these activities and your location, please email Sharon Boyd [redacted] to participate in a short online interview (< 1 hour).

Page 3: Thank you

Thank you for completing this survey and providing feedback on your experiences in undertaking these activities.

You will have the opportunity to download and retain a copy of your responses should you wish to keep them. If you have any questions about the reseach, please contact Sharon Boyd [redacted] If you would like to find out more about the research output, please visit: [redacted]

Your participation is greatly appreciated.