

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, Wattachow & 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).

Wattachow & 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..." (Wattachow & Brown, 2011, p.184)

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 restoring 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.". Wattoo & 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 (Wattoo & 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.

Conclusion

While providing an overview of the history of networked learning, Hodgson & McConnell (2019, p.44) discussed how networked learning programmes were seen as innovative in the 1990s, and perceived as "specialist and often niche and were not considered mainstream or very likely to become a main fare pedagogy or integral to campus-based institutions". Sustainable place-responsive pedagogies are in this position now, where there are some enthusiasts teaching elective courses, and some more extensive programmes. In the main, these practices are seen as suitable only for those working in a face-to-face outdoor context and/or involved in environmental education.

By extending the principles in this paper, my goal was to challenge that perspective by demonstrating how networked learning is a place-responsive sustainable learning approach. From this, I sought to bring together the strands of networked learning and sustainable place-responsive education in support of each other. As with many topics, the evidence was already there. A UNESCO report (Makrakis, 2010) talks about "ICT for sustainable development". In reality, the terms and examples they use are more aligned with a networked learning perspective (online sustainability communities of practice, portfolios, peer feedback and dialogue). Networked learning is already a sustainable education approach, open and responsive to the places, communities and learning that have meaning for us and that we are continuously becoming-with.

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