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# Sharing a Place-Based Indigenous Methodology and Learnings

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# Sharing a Place-Based Indigenous Methodology and Learnings

## *Abstract*

Building on a methodology of Cooperative Inquiry, the outcomes of five interconnected place-based learning projects from Australia are synthesised and elaborated in this paper. The methodology can facilitate the everyday living and sharing of an Earth-based consciousness: one that enriches Transformative Sustainability Education (TSE) through recognising meanings and stories in landscape, and celebrates Indigenous ways of knowing, being and doing. Indigenous-led environmental education is shown to link with one of the longest continuous environmental education systems in the world and it is contended that because of its ongoing history, environmental education carries a cultural obligation. In Australia, every landscape is Indigenous and storied, and all Australians have an inherent right to learn that joy in place, along with the responsibility to care for it. Teaching and learning a relationship with place as family, is one way that environmental education can lead that campaign. This place-based methodology is a lifetime commitment involving everyday actions for change, a whole-of-education dedication.

## ***Introduction***

We acknowledge Noongar and Nyikina cultural custodians past, present and emerging, and recognise Indigenous custodians and their knowledges throughout the world. Four of the five authors are from Noongar *boodjar*, the southwest of Western Australia, which is home to Noongar Indigenous people, and one author is from Nyikina *booroo*, which is a first nation of the Martuwarra Fitzroy River Valley, in the north of Western Australia. Two of the authors are Indigenous cultural custodians, one being a Noongar speaker and one being a Nyikina speaker, while the other three are Indigenous language learners. All<sup>1</sup> are environmental educators and transdisciplinary researchers, who have worked on language projects and other place-based research for decades.

An environmental education methodology which uses Indigenous science<sup>2</sup> and Western science within Indigenous-led learning, is reported in this paper. It shares the outcomes of five connected learning journeys to illustrate the methodology and synthesise the learnings. The significance of the research for environmental education is that it foregrounds Indigenous

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<sup>1</sup> We wish to thank the reviewers for their insightful comments and feedback.

<sup>2</sup> We use the term science here to mean a way of understanding and finding our way in the world; in doing so we challenge the often-assumed idea that western science represents definitive 'truth'.

linguistic, ontological and epistemological explanations of Land<sup>3</sup> and waters and it builds upon Indigenous critiques of settler colonialism. It understands landscapes as storied and living (Calderon, 2014; McCoy, 2014; Tuck, McKenzie, & McCoy, 2014); and it adds to Indigenous critical creative pedagogies (for instance Santana & Akhurst, 2019) for transformative environmental education applications. It brings the Australian Indigenous sovereignty agenda<sup>4</sup> into the theoretical space for environmental education (Burney, 2018), thereby enriching and deepening environmental education.

The methodology addresses the well-documented English language issue of binary separation, dualisms and abstraction (Latour, 2017; Plumwood, 1993) through the use of metaphor and imagery. Higgins and Kim (2018) describe the co-constitutive space of rebraiding theory, practice and ethics, which they explain is necessary due to the epistemic blindness associated with modernity's separation of epistemology, ontology and axiology. In using rebraiding, this current research includes creativity as a form of knowing.

The second and very important issue described by Higgins and Kim states:

most social science methodologies *always already* have a relationship to Indigeneity, albeit a problematic one in which processes of knowledge production (re)produce Indigenous bodies and ways-of-knowing-in-being as abject otherness against which Western modernity is normalized and naturalized. In turn, we view de/colonizing methodologies as not simply a task of incorporating Indigenous ways-of-knowing-in-being, but also attending to the complex and ongoing inter- and intra-cultural forces and flows within and between Indigenous and Western knowledge systems. (2018, p. 124)

Ways in which environmental education can be enriched by Indigenous sciences in culturally secure ways (Coffin & Green, 2017) are illustrated in this paper. A decolonisation paradigm is introduced for a 'right way'<sup>5</sup> to respectfully engage Indigenous people, fellow Australians and place in partnerships. Building on a methodology of Cooperative Inquiry, and our experiences and learnings from five learning journeys, we derive concepts to respectfully reconceptualise and revalue framings of both landscape and local knowledges for transformative sustainability

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<sup>3</sup> Land and Country are capitalised to denote Indigenous relational concepts including place-as-family, a sense of the sacred and nourishing provider (Wooltorton, Collard, & Horwitz, 2017, 2019a, 2019b).

<sup>4</sup> At the time of publication, debate continues in Australia, in relation to sovereignty and/or constitutional recognition. We do not take a position, and for brevity we use 'sovereignty' to refer to the movement towards Indigenous nationhood.

<sup>5</sup> 'Right way', in Western Australia, refers to a protocol of respect and recognition. Being a short form of 'right Country, right people, right way', it refers to practices central to Indigenous communication since time immemorial. See Nulungu Research Institute (2016) for further information.

education (TSE). Rather than being linear and top-down, feedbacks make this an iterative process. Learning is slow, transformative and continuous.

### ***A Decolonising Research Paradigm***

Indigenous recognition in Australia and the movement towards sovereignty have emerged from years of frontier violence, colonial oppression, segregation, forced assimilation and widespread human rights abuses. Today as well as being a national movement for constitutional amendment (National Constitutional Convention, 2017), many cultural resurgence projects are in place (for instance Poelina, Taylor, & Perdrisat, 2019; Stocker, Collard, & Rooney, 2016). However, the settler colonial and extractive impulse in WA remains strong (Pedersen & Phillpot, 2019), while Indigenous Australians continue to experience racism (Paradies, 2016), intergenerational trauma (Atkinson & Atkinson, 2017) and deficit discourse (Hogarth, 2017) as a result.

The Indigenous decolonisation agenda emerged as part of a global movement in academia following Tuhiwai Smith's (1999) seminal work, particularly in Australia and the Indo-Pacific. In a nutshell, while colonisation forced structures of oppression upon Indigenous people and communities, settler colonial relations continue in the form of imposed programs and schemes, partnerships, values, curricula and neoliberal agendas from government, education institutions and mining companies (Calderon, 2014; Paperson, 2014; Strakosch, 2015). This underlying condition is largely unrecognised and often denied across a range of disciplines and systems. A decolonisation paradigm assumes recognition of Indigenous rights and voices (Styres, 2018). For instance, Nakata states:

Decolonising approaches centralise Indigenous ways of knowing, being and doing in the effort to deal with the dominant Western presence in the way we now understand Indigenous realities... Decolonising knowledge, then, also involves a distinct ongoing form of Indigenous knowledge making for use in contemporary contexts. This is achieved by reclaiming and reconstructing Indigenous traditions subjugated by colonialism. (Nakata, 2018, p. 5)

The decolonisation impetus is enshrined in the UN Declaration on the Rights of Indigenous People (United Nations, 2011). Williams (2019) extends this logic, arguing that it is also an ecological imperative for human continuity, and central to this is Indigenous languages. This is because Indigenous languages function to enliven places through the naming and verbalising of animate life-giving energies and facilitate relational ways of understanding places, stories, narratives and verse. They voice spiritual attachment to the life of Lands and waters; articulate a sense of wellbeing that is connected to the unseen ontological world; and generally, they contribute to knowledge of human sustainability (Williams, 2019, p. 176). Williams (ibid.) comments that the value of Indigenous languages has been poorly understood due to the [settler colonial] emphasis on communication rather than their worldviews and deeper significance to human experience.

Decolonisation also refers to recognising the rights of natural places to thrive without imposed constraint, an argument environmental ethicists and philosophers have long asserted (for instance, Giblett, 2019; Nash, 1989). Colonisation resulting in Indigenous power, health and education disparities, is linked with colonisation of places through: “institutional practices that reflect the same colonising dynamics within which policy makers and practitioners are both embedded and recursively reproduce” (Williams, 2018, p. 350). The notion of colonisation of the life-world links these colonial forms (Williams, 2018). Examples showing practical recognition of the rights of natural places include the assignment of legal personhood to the Whanganui River (Charpleix, 2018). The immensity of legal rulings such as this are seen as paradigmatic (Pecharroman, 2018).

### *Land Education and Transformative Sustainability Education*

Decolonisation narratives and approaches are not new in environmental education, and allow the merging of Indigenous and environmental education purposes, offering transformative potential for improving Indigenous wellbeing and resilience, as well as human-planetary sustainability. Transformative sustainability education (TSE), which can effect profound shifts in personal and communal consciousness and being, is relatively well-developed in the pedagogical sense in Indigenous wellbeing and self-determination contexts, along with Indigenous empowerment practices arising from communities of practice literature (Williams, 2018). Williams (2018) suggests pedagogical practices which recognise the entanglement of complex ecological and cultural issues, and which connect agency and structure for larger scale programming and public policy change, are less well developed in TSE, and these are necessary to realize Indigenous resurgence goals.

It is useful at this stage to distinguish between Land education and TSE. O’Neil writes:

[S]ustainability education is defined within the three orders of change—education about, for, and as sustainability. The third-order change, education as sustainability is defined as transformative sustainability education—an ontological change in how humans and the material world relate. (2018, p. 365)

On the other hand, Land education is oriented toward place-based education (Greenwood, 2008; Gruenewald, 2003), which previously had paid insufficient attention to cultural-ecological entanglement and settler colonialism (Calderon, 2014). Land education as described by Calderon (2014) centres an Indigenous concept of place. It foregrounds Indigenous concepts of settler colonialism, challenges the settler politics of naming places, calls for a decolonising re-inhabiting of place, destabilises the local (recognising the role of dominant ideologies) and requires us to “consider Indigenous agency and resistance tied to Indigenous cosmologies” (p. 27). This acknowledgement obliges environmental education to reveal the impact of settler colonialism and “rethink [student and teacher] relation to Land as a dynamic ecological and cultural project of recovery and rehabilitation” (Calderon, 2014, p. 33).

Therefore, to realise the decolonising possibilities for TSE, it is important to trouble its already-



uneasy alliance with Indigenous-led Land-based education (Williams, 2018, p. 351). Different to human rights discourses, and different to non-Indigenous TSE, Indigenous resurgence is grounded in three diverse political ecologies: resurgence of place consciousness and culture; responsibilities and guardianship of all living beings; and relationships with other-than human forms of life. These political themes can help to realise the potential of TSE (Williams, 2018, p. 359), which is the challenge we set out to address in this paper. Our question is how can a place-based environmental education methodology contribute to Indigenous resurgence and an active, engaged sense of place for all?

### ***Methodology: A Place-based Cooperative Inquiry***

We explain our process through reference to Heron's work, which uses an extended epistemology inclusive of a relational ontology, in which knower and known are connected. Briefly, Cooperative Inquiry<sup>6</sup> is a form of action research which seeks meaning in four ways in each research cycle. These are by direct encounter [experiential knowing]; by representing it in terms of imaginal patterns [creative or presentational knowing]; by interpreting and critiquing it through language-related concepts [conceptual or propositional knowing]; and by reflection and action in relation to it [post-conceptual or participative knowing] (Heron, 1996, p.204). In this way, Cooperative Inquiry research includes four ways of knowing: experiential (action), presentational or creative (reflective), propositional or conceptual (reflective) and post-conceptual/participative (action and preplanning for future cycles). In Heron's work, post-conceptual or participative knowing is the epitome, being a rich bricolage of each of the previous ways of knowing.

In Heron's Cooperative Inquiry process, repeated cycles of each of the ways of knowing is important, perhaps six or more times, with the first cycle resulting in only a tentative, not yet well-founded way of knowing. The forms of knowing increase in reliability or truthfulness as the number of cycles increase<sup>7</sup>. The process integrates Indigenous ways of learning-as-doing and being, cycling experience-with place; arts in the form of dancing, singing, drawing, painting and drama; concept development through daily storying and knowledge-deepening and practical application; thus building wisdom over a lifetime (for example see Doring & Nyawarra, 2014; Yunkaporta, 2019). Cooperative Inquiry as explained by Heron (1996) is helpful in storying

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<sup>6</sup> Cooperative Inquiry is capitalized to denote the form originally recommended by Heron (1996).

<sup>7</sup> There is an important protocol for ensuring truth-values in Cooperative Inquiry, description of which is not included in this paper for reasons of brevity. Further information is available (Heron & Reason, 2011; Napan et al., 2018).

places due to its integration of the four learning forms. It can also facilitate inclusion of characters such as Country that Western science does not yet commonly see as agential.

Each learning journey description in this publication is based upon one or more Cooperative Inquiry cycles, in which the research group integrate experiential, creative, conceptual or post conceptual learning forms. In this way, the Cooperative Inquiry reported here contains five learning journeys of one or more cycles, each published elsewhere and each contributing as a whole to this research report.

#### *Forms of Knowing, Being and Doing for Learning Together In Place: Beginning*

Inspiration is drawn from many of the current place-based projects locally and globally. Williams et al. (2018) describe an international network that is oriented towards collaborative in-place learning using non-binary Indigenous ontologies and epistemologies as a way of moving towards a decolonised human-ecological resilience and meaningful sustainability. Heckenberg (2016) describes an Indigenous-led community-based place-engagement project to ‘re-story’ a river by revitalising Indigenous cultural values through arts and narrative. McKnight (2016) reports taking pre-service teachers to a place-based ‘story’, teaching reciprocal relationship and spiritual connection with Country, aiming to share opportunities for cultural revitalisation. A respectful, Indigenous-led two-way<sup>8</sup> learning methodology is in widespread practical use by Indigenous Land managers and collaborating scientists in the Kimberley region and other parts of Australia, to address the need for revitalising Indigenous knowledges for implementing large-scale carbon-reduction strategies in tropical savannah regions (Kimberley Land Council, 2016, 2017; Pyke et al., 2018).

#### *Processes of Co-Becoming: Deepening*

In an innovative collaboration, the concept of place-based learning is deepened by Bawaka Country et al.,<sup>9</sup> who describe a process in which participants ‘co-become’ through a songspiral called Goṅ Gurtha (Bawaka Country et al., 2019). The writers articulate a Yolṅu<sup>10</sup> concept of responsibility that is embedded within Yolṅu law, which is “premised on responding **as** part of ongoing relationships and an entangled more-than-human world with often problematic histories, presences and futures” (p. 683). They explain:

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<sup>8</sup> Two way learning generally refers to the use of Indigenous and English languages and epistemologies collaboratively and separately for conceptual discussions and learning. In this case, the purpose is landcare and management tasks to revitalise and relearn Indigenous place-based sciences for contemporary purposes such as carbon sequestration.

<sup>9</sup> Bawaka Country is a place in Arnhemland, in the Northern Territory of Australia.

<sup>10</sup> Yolṅu is a first nation group of Arnhemland.

This paper is authored by Bawaka Country. For Yolŋu people, Country means homeland. It means home and land, but it means more than that too. It means the seas, and the waters, the rocks and the soils, the animals and winds and all the beings, including people that come into existence there. It means the connections between these things, and their dreams, their emotions, their languages and their Rom (Law). It means the ways we emerge together have always emerged together and will always emerge together. This co-becoming manifests through songspirals, known more commonly as songlines or dreamings. Songspirals are rich and multi-layered articulations, passed down through the generations and sung by Aboriginal peoples in Australia to make and remake the lifegiving connections between people and place. (Bawaka Country et al., 2019 p. 683).

The epistemology recognises 'Country' as active, agential and responsive with people. In this way, learning and responsibility for education is participative with place as animate Country, is life-long and is ongoing with a located, continuing understanding of time. People and place 'co-become'. Broadly, it is this approach that the methodology aims to teach, learn, and celebrate.

In short, the methodology needs to facilitate locally adaptable critical, creative, transformative learning which celebrates Indigenous epistemologies, ontologies and axiologies. It needs to be supportive of Indigenous cultural resurgence particularly in places where colonial impact has been ruthless and heartless. To do this, it must utilise Indigenous critiques of settler colonialism; and it must recognise landscapes as Indigenous, and storied. In combination, this seems to enable the vision Williams (2018) refers to as a deep or relational shift in society, to impact its cultural roots; of learning to live within the reciprocity of our places and our world.

## ***Learning Journeys***

Heron's (1996) Cooperative Inquiry includes creativity and imaginal procedures for co-participation. Metaphor and imagination help to visualise the interweaving of history, science, Indigenous language and experience. *Katitjiny bidi*, learning journey, was first adopted in a sustainability project by Stocker et al (2016), to reconstruct stories for the place previously and otherwise known as Derbal Nara, which means 'estuary of the salmon'. Derbal Nara<sup>11</sup> had been renamed Cockburn Sound by settlers, and the process of restoring stories to place facilitated a formal recognition of its precolonial name. This method has been developed and refined in recent work (Wooltorton, Collard, et al., 2019a, 2019b).

A fundamental outcome of Cooperative Inquiry (Heron, 1996; Heron & Reason, 2011) is for learning to transform thinking, inhabit daily practice and strengthen relationships in deeply ethical ways. Here we describe five learning journeys that have involved the interweaving of history, science, creativity, Indigenous language, concepts and experience. We reflect on the emergent process below.

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<sup>11</sup> The project is illustrated here: <https://www.derbalnara.org.au/>

*Description 1. Stories Want To Be Told: Elaap Karlaboodjar (Wooltorton, Collard, & Horwitz, 2015)<sup>12</sup>*

This collaborative study helped visualise the living power of story. The study originally commenced in 2012 with concern at the declining health of the Leschenault Estuary. A large place-based project had been implemented, comprising a local history and survey of population attitudes towards the estuary (Wooltorton, 2013). Following this, the aim was to describe places to show landscape qualities differently, using Noongar science and language-embedded concepts. Individually, each researcher built upon many years of substantial place-based Leschenault experience through ecological science activities, photography for place-names research and daily walking. Historical research led to surprises, such as revealing a long overlooked Noongar group, *Elaap*, whose name applied to one section of the bay in pre-colonial times. This was not widely known in the nearby city of Bunbury even though this is the name of the town's entrance<sup>13</sup>.

Thinking through ways to story the Leschenault Estuary facilitated creativity, initially through poetry, leading to portrayal of the voice of the Land, which we represent in three eras using a Noongar cyclical/spiral view of time. The first era is *yeyi*: now, in which a Western science account of the deteriorating state of the estuary discloses upstream dams, substantial riparian vegetation clearing upriver, reduced rainfall as well as fertiliser and herbicide overload.

Next, the colonial era representation juxtaposed stories of a Noongar family and a settler family, each account inclusive of history as documented by settler colonials in diaries and other sources. Until then, researchers had not imagined Noongar *midar* (dancing) in front of settler houses, and stereotypes of colonial settlers had not permitted any sense that they might speak Noongar, like the Scotts in the story. At the same time, following eviction from their *karlaboodjar* (home places) by farmers and reduction in food security, colonial terrorism against Noongar custodians took the form of punishment for stealing food. Their hair was shaved and they were sent to the infamous Rottnest Island Prison (Wadjemup) where it was said by a contemporary observer and protestor that they die of broken hearts (Russo, 1995). Even within colonialism, it seems there have always been settler protestors calling for Indigenous rights.

The final epoch is precolonial, where people respond to the Land's agential liveliness. To more effectively understand Noongar concepts, the settler English language used in colonial

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<sup>12</sup> The full studies behind the first three descriptions are free downloads from PAN: Philosophy Activism Nature, at <http://panjournal.net/>.

<sup>13</sup>Historians believe the roundabout was named *Elaap* as it was the name of the settler farm that was cleared to make way for the roadway. However our reading of the history shows that those first settlers in the location – the Scott's – seemed to be respectful people who named their farm after the *Elaap* people.

dictionaries needed re-interpretation (for example, Moore, 1850). In coming to an improved comprehension, researchers needed to allow for the Cartesian, binary worldview of the English of the time (for instance people of place/people of privilege; culture/nature and master/servant). Researchers recognised the vision of settlement-era English countryside ideal as foundation for the Noongar/English translation. The records were then compared with Noongar language spoken today and living Noongar knowledge, together with holistic Western science. Documents were studied such as the travel journals of Lieutenant Bunbury (1930) which depict Noongar trails along the river shortly after settlement of the area. Alongside researchers' local experience, and visual and imaginal capacity, researchers revised and enriched concepts obtained from colonial Noongar/English dictionaries.

Cycling all of these ways of learning – through experiences of the estuary, imagination and metaphor development and enhanced Noongar conceptual redevelopment – facilitated a deeper sense of being-with, and attachment to place. *Kurduboodjar* means love of place, or heartlands. This is the deep sense of home – in our view, an aspiration for today's education.

The main contribution of this project to the present research was a sense of time as the 'long now': *kura, yeyi, burdawan*: long ago, now and future - all in the present era. In Noongar Country, this Noongar worldview keeps the spirits of place, the ancestors, stories and past events – including colonialism – here in the ongoing present. This is one way in which stories 'live' in places. Stories 'belong' in places, cared for by *bidiya*, elders: the people who hold knowledge and leadership including knowledge of the *bidi* - pathways. To be responsible for a story is significant, as it needs to be carried and (re)membered in place<sup>14</sup>. The *bidiya* are the mediators of the *kundaam* – worldview. All of these characteristics work to deepen a sense of place or Country (Land) as 'home'; and reveal Country to be Indigenous.

Another contribution of this project was that it enabled researchers to recognise that visualisation, imagery and metaphor can empower people to connect the realms of spirit and matter when this notion is new for them. The project also helped researchers understand that history is always complex as it often does not record the 'everyday' of relationships.

*Description 2. The Land Still Speaks: Ni, Katitj!* (Woollorton et al., 2017)

This second project helped research team members attend to the voice of the Land. Particular consideration was given to the *Kundaam*, the Noongar knowledge system (Collard, Harben, & van den Berg, 2004) in continuing the learning journey of storying place, this time in the upper Blackwood River catchment. The place is characterised by Western science as an old, climatically-buffered infertile landscape (Hopper, Silveira, & Fiedler, 2016), exemplified by highly co-evolved plants that rely on digging marsupials for seed burial and complex pollinator systems, leading to immense plant species richness even in small valleys or hillocks. Nowadays

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<sup>14</sup> These days, we write things so we can 'forget' them; this requires a less attentiveness.

the region is a wheat farming area with less than 10% of its original vegetation remaining and marsupial species such as quendas, bilbies, bettongs and potoroos, and some of the plants, are locally extinct or critically endangered.

In this account the Noongar meta-narrative connecting *boodjar* (Country), *moort* (relatives or family), and *katitjiny* (knowledge or learning), was investigated. Through the process of regularly visiting and experiencing Country over time and using imagery and metaphor, researchers built upon Noongar concept development, using historical documents and written Noongar accounts from the region. Recognising that *moort* (family), can be people, animals or plants, researchers studied the familial relationship between people and particular places. If, for example, *yongka* (kangaroo) is *ngoon* (brother or totem), and *jarrah* (jarrah tree) is kongk (uncle) through one's kinship structure, a person is tied to a place in a familial way that guarantees meaning and obligation. There is a strong connection of *kurduboodjar* (love of place) through which one is related, and where one's human and more-than-human relations have lived within for millennia. One's place is kin – it is family. The process allows for 'becoming family' in a contemporary context. Noongar children grow up learning with their more-than-human kin through their *ngoon*.

Researchers described the living nature of one's place – together with its energies, entities and stories, which demands heed and experience with careful attention. However, in their reflections upon experience they noted a surprise:

... there is an inherent paradox, which is that in order to experience these phenomena, one must concede their possibility at the outset. In other words, unless one acknowledges the land is alive, and that it has comprehensible messages, one cannot cherish its voice. We are saying that this place-based practice of deep listening, sincere observation and accumulative, experiential insightful learning; of intentionally coming to know one's place as the subject of profound love, will gradually facilitate capacity to hear, recognise and heed the voice of *Boodjar. Ni, katjij: Boodjar wangkalin* – listen, understand – *Boodjar* (Country) is singing. (Wooltorton et al., 2017, p. 64)

The contribution of this study was to help researchers understand the power of worldview held in language, taking place in the everyday (Corntassel & Hardbarger, 2019). In coming to understand place as family, researchers recognised that place is animate, has power and has a Noongar voice. They came to understand the significance of learning a local Indigenous language and knowledge system for addressing problems created by a misguided worldview, which caused serious Land degradation, personal loss and cultural disconnection. Pedagogically, researchers note it is impossible to learn the meta-narrative of *boodjar*, *moort* and *katitjiny* by reading a page of words without the experience of being 'in place', and experiencing the sensuousness of *boodjar*. Researchers came to recognise that cultural resurgence includes 'walking-with' people, place and time. *Ni, katitj!* Listen and learn!

*Description 3. Living Water: Groundwater and Wetlands in Gngangara, Noongar Boodjar* (Wooltorton, Collard, et al., 2019b)

This third project deepened research team knowledge through the integration of Noongar concepts and holistic science; verifying holistic science. Building upon previous conceptual development and using a similar learning process of weaving together experiences, narrative, science, metaphor and language, attention shifted to the Gngangara region of the central and northern Perth metropolitan area. The following quote is from researcher-composed prose entitled ‘Visualising the Gngangara Knowledge *Bidi*’, and is the refrain at the end of each prose paragraph in the article. It is included to illustrate the interweaving creative process, which has always been part of Noongar learning, being and knowing:

*Wangkiny katitjiny* [talking, learning] every sunset, dancing and acting the day in reflection. Songs for the ancestors, acknowledging *waugal. Ngany waug murditj* [my spirit is strong]. (Wooltorton, Collard, et al., 2019b, p. 14)

For the pre- and early colonial Noongar residents of the southwest, each day included experience, conceptual development as storied reflection, and creativity through song, dance and drama, to embed and deepen experiential, creative and practical knowledges of place-family. For children, ‘becoming family’ with place begins at birth. Patterns of movement related to lore, nourishment and seasons; those patterns are ‘seen’ in the southwest in a multitude of place names that now enliven the wetland system.

The contribution of this study is the learning that concepts within the *kundaam*, the Noongar knowledge system, support Western holistic sciences. This includes the sanctity of wetland sediments, the ‘long now’ and *boodjar* as interdependent natureculture with a living spirit of place. In this project, *katitjiny bidi* (learning journey) was a third space for convergence of knowledge systems. Western science is also ‘story’ that is true to its epistemology.

Researchers came to understand that Noongar concepts supported by kinship systems of commitment and relationship to *boodjar* illuminate southwest Australian ecosystems through a monism of spirit and matter (Latour, 2017, pp. 65, 71). *Boodjar*, the extended place-concept as family, which embraces knowledge, care and respect for water, wetlands and waterways is of enormous significance and gives hope for healing. In this way, one of the results of this investigation has been a researcher learning/relearning of living water, and of a more critical notion of groundwater *interdependence*.

*Description 4: Koorliny birniny, ni, quoppa katatjin: respect and ethics in working with Indigenous Australian communities* (Buchanan, Collard, & Palmer, 2019)

This fourth account describes deepened researcher learning about ethical protocols, for application to community development contexts. It also elucidates the notion of responsibility, which extends after life. In this study, *katitjiny bidi* is applied through discussions, film-making and further concept development, to articulate Noongar respect and ethics for community

workers. Through this process the concept of 'becoming family', was described using the technique of a conversation (Buchanan et al., 2019) in which three people shared and developed their conceptual learning. After presenting *wangliny kaya boordier* (talking to the right people or 'bosses'); *gnarl* (sweat in the sense of hard work); *birniny* (digging and scratching for learning); *quop karnya* (good and sensitive work processes); *quop koondarn* (respect); *dabakarn dabakarn* (going along steady); *wabaliny quop weirn* (singing out to the good spirits); *boodjar wangkiny* (talking to country) and *maar ni* (listening to the wind as spirits and entities in *boodjar*); *korunkurl moort* (becoming family and community) was described as the relationship between all of these elements.

The contribution of this study was researcher recognition of the deep connection between *boodjar* (Country), *moort* (family) and *katitj* (the law, knowledge and stories of things seen and unseen) as the basis for the Noongar notion of becoming family, which carries deep obligation and responsibility. From a Noongar perspective, *moort* such as key people in kin relationships, are obliged to pass on *katitj* to children. As these children grow older, they inherit responsibility to take care of the same older people and in their turn, pass on knowledge to young people. Birth or death does not alter this intergenerational link and as people age, their obligation to future generations becomes stronger. In this way, elders who pass away return to *boodjar*, still with the responsibility to care for *moort* to ensure the integrity of *katitj* (knowledge), and maintain the health of *boodjar* (Country). Their afterlife responsibility to Country involves placing barriers or making mischief onto trespassers who visit Country without proper introductions and ancestor protocols, since the strangers are probably up to no good. In this way, researchers came to understand more deeply that Country is living and holds the ancestors who take care of their living kin. This process of children and other learners becoming family is ongoing, continuous and inclusive.

*Description 5: First Law, Securing The Right to Life of the Martuwarra* (Poelina & Perdrisat, 2014)

This final account brings together and applies concepts described above, such as family, Country, responsibility and relationship, into an actionist approach within the notion of cultural resurgence. In the Kimberley region in north Western Australia, one of the authors of this publication participates in a long-running Indigenous-led movement, which is campaigning to recognise the Martuwarra as a vital living ancestral being with its own right to life, a river system known in English as the Fitzroy River (Poelina, 2017, 2019; Poelina et al., 2019). This is necessary because the Martuwarra and its *booroo* (Country) is threatened on multiple fronts for industrial and agricultural developments likely to impact the ecosystem health of River Country including its Indigenous caretakers (Wooltorton, Toussaint, et al., 2019).



A Nyikina educational film by Poelina & Perdrisat (2014) called *Standing for Kandri*<sup>15</sup> illustrates the threats to the Martuwarra from extractive colonisation, as well as the deep people-place relationship that is the foundation for Nyikina landcare and ecosystem health. The film describes the historical and political context of the movement that resists continuing oppression of Indigenous people and Land in the Kimberley. The notion of becoming family and the ways in which young Nyikina people are taught their culture, its rules and knowledge of Country and their relationships to it as family, is demonstrated in the introductory section of the film.

Recognition of the rights of nature is a growing international legal trend (for instance, see Charpleix, 2018; Pecharroman, 2018) but is also part of a largely Indigenous-led broader global education and transformation movement, which advocates the rights of nature<sup>16</sup>. Among recent developments, the Martuwarra Fitzroy River Council, comprising cultural custodians from each of the six nations who care for the river, has been formed and is seeking justice for the River and its custodians (Poelina et al., 2019).

As well as being a coalition of representatives of Martuwarra nations who make governance decisions in relation to the life and future of the River, this Council is significant for many reasons. Foremost of these, is that it offers the first meaningful opportunity for conversations about place with the right cultural people together, since the system of Wunan Law began, a law of the Land and not of humans. This law is based on the principles, values and ethics of reciprocity and sharing. The Wunan Law forms the social structure through which all people and knowledge are connected to Country and its beings. In times of ecosystem health, it prescribes people's identities on the basis of their kinship connections to localised districts. Kimberley actions and networks are determined through the Wunan Law, first law, including social ceremony, trade exchanges and family relations (Doring & Nyawarra, 2014). To this day including the future, the Wunan Law is understood by Nyikina and other Indigenous people to mean aeons of peace, in which Country as family and authority for participation in decision-making is clarified. For instance:

Apart from personal images of family identity that signify ancestral connections to local flora and fauna, artists also recorded their history through millennia producing numerous scenes of cultural events but negligible scenes of conflict. Many past conflicts were resolved at numerous sites of peacemaking still known and celebrated as part of Wunan history (Doring & Nyawarra, 2014, p. 7).

In these ways, Nyikina people understand Country to be family, culture and identity. And in this way, Country, and all it embodies, is active as a participant in the everyday ongoing world. Indigenous landcarers view Country as animate, living, all-inclusive, and “fully connected in a vast web of dynamic, interdependent relationships; relationships that are strong and resilient

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<sup>15</sup> See <https://vimeo.com/87175648>

<sup>16</sup> See Global Alliance for the Rights of Nature: <http://therightsofnature.org/>

when they are kept intact and healthy by a philosophy of ethics, empathy and equity” (Poelina, 2019).

The relationship with Country is explicit and intuitive, as described in McDuffie and Poelina (2018). They say physical boundaries are not on maps, but within oneself. They cite a conversation between Paddy Roe and Frans Hoogland in 1992:

This whole country is mapped out. Now each area is like a human being, got feeling, got the liyan, that’s the liyan of the place. The liyan is like the life force, it’s like your spirit, like your essence. Now the only way to make contact to those locations, to those sites, is through our liyan (p. 229).

The Kimberley movement for the Martuwarra’s right to life is based on Indigenous ethical principles, first law and concepts of ecosystem health using Indigenous relationship<sup>17</sup>. It illustrates the strength and significance of place as family.

This learning journey illustrates each of Calderon’s (2014) attributes of Land education (celebrating the practice of Indigenous culture as a human right in the everyday). It also illustrates Williams’ (2018) attributes of DEEP (sic) sustainability approaches, in the public pedagogy space (Giroux, 2000) where it is politically targeted towards the twin goals of decolonising Indigenous places and inspiring action for humanity’s common future (Williams, 2018). The contribution of this study to the current research is in its modelling of an Indigenous-led transformative sustainability education (TSE).

## Discussion

This discussion offers a methodological review followed by considerations and boundaries of the methodology, then presents the conceptual outcomes of the research. The current publication functions as the sixth learning journey, a meta-reflection.

### *Methodological Review*

In terms of the Cooperative Inquiry methodology, each of the five learning journeys comprise one or multiple cycles, each with its own research topic. According to Reason and Heron (1997) most Cooperative Inquiries conclude after a year or so, but this one continues because the research team has committed to ongoing learning. Heron (1996) would regard the approach used by this research team as a group bootstrap approach, through “inventing or experimenting *de novo* with its own version of the process” (p. 40). He writes this is useful in situations where

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<sup>17</sup> Dr Anne Poelina was also a delegate to the International Summit on Indigenous Environmental Philosophy (2010), resulting in the Redstone Statement:

<https://webarchive.library.unt.edu/untindigenouseviros summit10/20120220212925/http://indigenouseviros summit10.unt.edu>

there is no established way of doing things. A subsequent short study investigated the use of this methodology as a teaching and learning pedagogy (Wooltorton, Palmer, White, & Collard, In-Press). The publication is useful as it illustrates the cyclical nature of the process.

The process is iterative and 'nicely' messy, sometimes with very long reflective meetings or phone calls to understand the meanings of particular language, landscape experiences or concepts. Heron (1996, p. 45) describes two complementary inquiry cultures, being Dionysian which is more emergent, tacit, diffuse and imaginal; and Apollonian which is more linear, rational, explicit and controlling. This research, particularly the Noongar learning journeys, used the former. Heron (1996, p. 47) writes that both Dionysian and Apollonian inquiry cultures have an intentional interplay between making sense and action, which needs to be balanced. This has been achieved in these learning journeys. The Cooperative Inquiry process used by this team is a Dionysian group bootstraps approach. Each learning journey has been emergent, unfunded, unstructured and 'in time', often prompted by invitations to explain or present.

From the perspective of experience with the method, Cooperative Inquiry is a learning methodology as well as a research approach. The strengths of the method is that it is cooperative, learning-based, experiential, creative, critical, practical and reflective. It allows for real, meaningful engagement and incorporation of the 'everyday' – the wind, the behaviour of the more than human, and linkage with the seasons. It facilitates mentoring through different roles, interests and expertise. It easily allows for building upon prior learning and is democratic. As Heron (1996) points out, there are four types of Cooperative Inquiry outcomes, which are person or group transformation; presentation such as dance, art or other creative works; propositional reports, and practical skills associated with transformative and/or participative knowing and collaboration in the inquiry process (p. 140). This present publication is the propositional report.

#### *Methodological Considerations and Boundaries*

Reflecting on these learning journeys, it is important to recognise limitations, boundaries or considerations relevant to this approach, which are themselves instructive for evolving concepts for environmental education. Social research is always subjective, and this is particularly the case with action research such as Cooperative Inquiry (Heron, 1996) as used in this study. The method has its own critically intersubjective, internal truth-making procedures and those used for this project include multiple cycles and critical reflection on progressive findings. In the case of the present work, multiple cycles, critical reflection on progressive findings, abundant references and a range of disciplinary perspectives also established the veracity of the various propositions and concepts.

The second consideration in terms of applying this learning journey methodology is that it can be time-consuming to develop meaningful working relationships. (Researchers in the present study have been collaborating for between six and 30 years.) Third, it is important to recognise

that propositions and concepts pertaining to Indigenous places, such as the southwest of WA or the Kimberley, apply only to those regions. All Australian places are different in terms of nations, cultures, stories and settler histories (Buchanan et al., 2019). This calls for the use of deep respect and ethical practice at all times and circumstances when utilising this methodology.

We will go along picking our way through knowledge with a respectful heart (Buchanan et al., 2019, p. 125).

Therefore generalisation of these findings is not possible without a proper, ethically conducted partnership with all parties, which is always the first step in a new learning journey (for instance, see Nulungu Research Institute, 2016). To model good practice at all times is highly significant. For example:

This should be done with your grannies [grandchildren and other family who may be with you] so that they see you go about your business in a respectful way [referring to people and place] (Buchanan et al., 2019, p. 126).

The fourth consideration is that because of the endangered status of many Indigenous languages due to historic and colonial reasons, advisors with local language-embedded knowledge and experience are not always available to participate. This is because speaking Indigenous languages in schools and institutions was banned until comparatively recently (Wilson, 1997). This reflects the significance of respectful, ethically sensitive, deeply collaborative ongoing learning partnerships.

Finally, whilst this research team used settler diaries, accounts and dictionaries, these should be used very critically and interpreted by or alongside Indigenous experts, due to the extreme Eurocentrism used. Interpretation of Indigenous concepts from settler historical sources into current English language, used within this research, is an emerging collaborative research endeavour which requires detailed knowledge and long experience with the two cultures being considered.

### *Conceptual outcomes*

The overall conceptual outcome of this exploration is one of 'becoming family', which metaphorically and culturally explains an Indigenous way of connecting with place for learners in the Kimberley and southwest of Western Australia. Such an outcome depicts a position and ethic that dissolves binary concepts such as those of nature and culture, or environment and people. Through the 'natureculture' of place, knowledge systems and people, the notion of becoming family acts to integrate fields of knowledge enabling learning, with benefits across environmental, health, wellbeing, cultural, socio-political, economic and other perspectives (Jenkins, Horwitz, & Arabena, 2018).

Researchers engaged in the environmental humanities have taken a similar position (such as Haraway, 2015; Latour, 2017; McDuffie & Poelina, 2018; Muecke, In Press). Haraway states:

Perhaps the outrage meriting a name like Anthropocene is about the destruction of places and times of refuge for people and other critters (2015, p. 160).

Haraway suggests that rather than being stuck in the destructiveness of the current epoch, there is an emerging Chthulucene, which she refers to as ‘past, present and to come’ that we all need to work to bring into fruition:

Maybe, but only maybe, and only with intense commitment and collaborative work and play with other terrans<sup>18</sup>, flourishing for rich multispecies assemblages that include people will be possible. I am calling all this the Chthulucene—past, present, and to come. (2015, p. 160)

The notion of the ‘long now’ as documented in Description One above, adds strength to Haraway’s propositions. In fact Haraway (2015) calls for humans to ‘make kin’ urgently instead of dithering, for multispecies ecojustice and to embrace diverse human people. As Bird Rose stated, articulating Indigenous knowledge: “totems” are your kin in a world of sentient beings” (Muecke, 2020 In Press).

The place-based notions of ‘becoming family’, ‘making kin’ and ‘co-becoming’ widen the scope of ‘society’ by including more-than-humans and their agencies (Muecke, 2020 In Press). These concepts contribute to non-binary understandings of place, and ‘becoming family with place’ is a helpful beginning point for learners coming to understand a relational world. In Nyikina and Noongar contexts, relationship as family – with place and people – carries responsibilities which are inherited, inclusive, obligatory and more than life-long. Connected with this, is the notion that holders of relational worldviews seek relationships, rather than separations.

In turning towards relational ways of thinking and feeling, some people will find paradox. Before one can experience phenomena, one must have an open minded attitude to learning, and must be willing to step outside of the logic of ‘business-as-usual’ and accept that there are relational worldviews that facilitate different senses or means of experiencing the existential world. Below is a tabulation of rich concepts developed through this research, along with a brief description of each.

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<sup>18</sup> Terrans are earth inhabitants: a science fiction term.

**Table 1. Concepts to enrich environmental education.**

<b>Concept</b>	<b>Supporting processes and actions</b>
Indigenous-led education for change	Transformative sustainability education (TSE)
Becoming family with place as described in this publication addresses a gap in environmental education, providing common ground between transformative sustainability education (TSE) and Indigenous-led Land education.	
Learning journeys	Recognising Indigenous science and Western sciences as valid and purposeful, and cooperative, transformative methodology as foundational.
There is much conceptual overlap or ‘third space’ among Aboriginal science and Western sciences. All sciences are stories informed by their own epistemologies.	
Places as storied, created, spirited and imagined	Seeing local Indigenous place names as conceptual gateways.
Acquiring an Indigenous language alongside a local Indigenous educator in-place is a recommended starting point for a cooperative transformative learning journey for students. A place-based understanding of natureculture as indivisible is facilitated in this way.	
Places as living entities	Dismantling the erroneous dualism of living and non-living, often taught in the early years of school and entrenched in the natural sciences.
The potential of the imaginal and creative is highlighted, helping reconnect reason and imagination; a separation that is a product of the enlightenment which narrowed rationality (Vaughan, 2018).	
Becoming family with place	Emphasizing relatedness and responsibility.
The methodology of becoming family with place addresses the three political ecologies required for Indigenous cultural resurgence, which are resurgence of place consciousness and culture; responsibilities to all living beings; and relationships with the more than human forms of life (Williams, 2018, p. 359). From the perspective of experience, the learning journeys are transformative, <b>are</b> sustainability education and are Indigenous-led.	

Patrick Dodson suggested that:

We [Indigenous people] have much to contribute to the world, ways of knowing and being that are going to be essential to everyone's survival on our planet. As

true citizens of Australia, properly acknowledged in our constitution, we can look forward not only to improving our own lot, but helping Australia contribute to the well-being of all the world's peoples. (2010)

This research team is in support of the proposition, with the clarification that Indigenous linguistic, ontological and epistemological explanations of Lands and waters are included, that proper recognition in the constitution is built upon Indigenous critiques of settler colonialism, and that landscapes are understood as storied and Indigenous.

However whilst the temptation might be to make haste with the establishment of Indigenous partnerships for a learning journey of transformation and 'becoming family', as explained by Buchanan et al. (2019), it is important that the partnerships proceed slowly, carefully and gently. The learning journey is a life-long process. The learning journey metaphor enables a progressively deeper understanding of the interconnected concepts of family, kinship and place through cycles of experience, creativity and imagination, conceptual development and practical knowledge.

### ***Conclusion: Becoming Family***

The question addressed in this publication is, how can a place-based environmental education methodology contribute to Indigenous cultural resurgence and an active, engaged sense of place for all? One way to answer this is through an Indigenous-led iterative journey of learning using a Cooperative Inquiry methodology (Heron, 1996), which over time, can support the local revival of Aboriginal first law and wisdom, and enable a deeper, relational learning about place as cultural, storied and animate – as family. It incorporates cycles of experience, creative reflection, critical-conceptual development and practical knowledge, to illuminate a process for acquiring a cultural-ecological sense of place as family. The learning journey built upon an Indigenous critique of settler colonialism and its power. From an experiential point of view, the methodology can result in the recognition and feeling of 'becoming family', a way of deepening relationships with Country and people. It is Indigenous-led through mentoring and aligns with the impetus of transformative sustainability education.

Conceptually and practically, the methodology incorporates millennia of Australian ecological relationships by facilitating the learning of Indigenous concepts embedded in local languages. The first learning journey reported here used a historical lens to explain the ecological degradation of estuarine health. It illustrated the shocking, violent, inhumane arrogance of mastery over place and those who belonged there, in the colonial 'everyday'. At the same time, it revealed unexpected poignant complexities such as relationships of care and love at the colonial-cultural interface, and Indigenous place-based concepts – such as *kurduboodja*, love of place – that were (and remain) incompatible with a colonial worldview. Creativity, development of concepts, experience and metaphors allowed researcher-learners an increased depth of comprehension of place and its cultured voice throughout subsequent learning journeys, which

integrated historical, ecological-geographic and Indigenous-led cultural learning methods; deepening learning and understanding.

Set up to utilise and restore Indigenous cultural governance for the sake of the Martuwarra Fitzroy River, the Kimberley project incorporates and relies upon Indigenous cultural resurgence and a strong critique of colonialism. Indigenous-led learning principles, historical-cultural-ecological research and everyday actions continuous with lifetimes of commitment are supported by the wisdom of love of place. The Kimberley cultural context is strong and interconnected with Kimberley knowledge carriers over time. Whilst self-sustaining within connected Indigenous nations, it is dependent upon public learning through Indigenous-led Transformative Sustainability Education (TSE) for the sake of the cultural and physical health of the river and its communities. Researchers invite international support: extractive colonialism is demanding volumes of water and extensive unsustainable ecosystem usages not compatible with cultural or river health.

Whilst there is considerable despair in society about ‘big’ environmental challenges such as industrial extraction, climate change, and species loss, the aims of the learning journey include recognition of Indigenous knowledge and values systems as a way to inspire our communities to reimagine regenerative futures. The methodology is one of Indigenous-led social change using transformative sustainability education (TSE) partnerships, ‘learning together’. Underpinned by Indigenous critiques of settler colonialism, it is anti-racist; and adds to Indigenous critical creative pedagogies. It understands Land as Indigenous and storied. The process facilitates the development, living and sharing of wisdom that enriches environmental education through acknowledging Indigenous cultural custodians and celebrating Indigenous ways of knowing, being and doing. The learning involves a continuous commitment to transformative practice in the everyday life-world; and in informal and formal education. It has become ‘who we are’ as people and as researchers.

The methodology of ‘becoming family’ links with the longest continuous environmental education, possibly in the world. As such, this education process supports the transition towards Indigenous sovereignty in Australia. Researchers assert that because of its place-based nature and its continuous history, Australian environmental education carries a cultural obligation. Every Australian landscape is an Indigenous, storied one – and Australians have an inherent right to learn that joy in place, and a responsibility to live within the reciprocity of our places and our world. Indigenous cultural resurgence and by extension, relationship with place as family is an Australian responsibility, and we propose that environmental education lead this campaign. We posit that the methodological approach used in this publication, and the cultural obligation it imposes on environmental education, are transferable.

## ***References***

Atkinson, J., & Atkinson, C. C. (2017). A healing foundation for Aboriginal community development. In C. Kickett-Tucker, D. Bessarab, J. Coffin, M. Wright, & M. Gooda



- (Eds.), *Mia Mia Aboriginal Community Development: fostering cultural security* (pp. 110-127). Port Melbourne, Victoria: Cambridge University Press.
- Bawaka Country, Suchet-Pearson, S., Wright, S., Lloyd, K., Tofa, M., Sweeney, J., . . . Maymuru, D. (2019). Goṅ Gurtha: Enacting response-abilities as situated co-becoming. *Environment and Planning D: Society and Space*, 37(4), 682-702. doi:10.1177/0263775818799749
- Buchanan, J., Collard, L., & Palmer, D. (2019). Koorliny birniny, ni, quoppa katatjin: respect and ethics in working with Indigenous Australian communities. In P. Westoby & S. Banks (Eds.), *Ethics, Equity and Community Development* (pp. 123-143). Bristol: The Policy Press.
- Bunbury, H. W. (1930). *Early days in Western Australia: Being the letters and journal of Lieut. H.W. Bunbury / edited by Lieut.-Col. W. St. Pierre Bunbury and W. P. Morrell*. London, UK: Oxford University Press.
- Burney, L. (2018). Taking 'a rightful place in our own country': Indigenous self-determination and the Australian people. 77(S1), S59-S62. doi:10.1111/1467-8500.12360
- Calderon, D. (2014). Speaking back to Manifest Destinies: a land education-based approach to critical curriculum inquiry. *Environmental Education Research*, 20(1), 24-36. doi:10.1080/13504622.2013.865114
- Charpleix, L. (2018). The Whanganui River as Te Awa Tupua: Place-based law in a legally pluralistic society. *Geographical Journal*, 184(1), 19-30. doi:10.1111/geoj.12238
- Coffin, J., & Green, C. (2017). Decolonising Australian community development tools. In C. Kickett-Tucker, D. Bessarab, J. Coffin, M. Wright, & M. Gooda (Eds.), *Mia Mia Aboriginal Community Development: fostering cultural security* (pp. 73-90). Cambridge, UK;Cambridge;Port Melbourne, Vic;: Cambridge University Press.
- Collard, L., Harben, S., & van den Berg, R. (2004). *Nitja beeliar boodjar noonookurt nyininy: A Nyungar interpretive history of the use of boodjar (country) in the vicinity of Murdoch University*. Retrieved from Murdoch, Western Australia: [https://researchrepository.murdoch.edu.au/id/eprint/21353/1/Nidja\\_Beeliar\\_Boodjar\\_Noonookurt\\_Nyininy.pdf](https://researchrepository.murdoch.edu.au/id/eprint/21353/1/Nidja_Beeliar_Boodjar_Noonookurt_Nyininy.pdf)
- Corntassel, J., & Hardbarger, T. (2019). Educate to perpetuate: Land-based pedagogies and community resurgence. In (Vol. 65, pp. 87-116): Springer.
- Dodson, P. (2010, November 15th). Constitutional recognition for indigenous Australians is not just symbolic, Article. *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au/federal-politics/political-opinion/genuine-attempt-to-write-first-peoples-into-nations-contract-20101114-17sm8.html>
- Doring, J., & Nyawarra, P. (2014). Gwion artists and Wunan Law: the origin of society in Australia. *Rock Art Research: The Journal of the Australian Rock Art Research Association (AURA)*, 31(1), 3-13. Retrieved from <http://www.ifrao.com/wp-content/uploads/2015/04/31-1-Doring.pdf>.
- Giblett, R. J. (2019). Epilogue: 25 years of wetlands studies in the humanities. In J. C. Ryan & L. Chen (Eds.), *Australian wetland cultures: swamps and the environmental crisis* (pp. 227-239). Lanham, US: Rowman and Littlefield.
- Giroux, H. A. (2000). Public pedagogy as cultural politics: Stuart Hall and the crisis of culture. *Cultural Studies*, 14(2), 341-360. doi:10.1080/095023800334913
- Greenwood, D. A. (2008). A critical pedagogy of place: from gridlock to parallax. *Environmental Education Research*, 14(3), 336-348. doi:10.1080/13504620802190743
- Gruenewald, D. A. (2003). The Best of Both Worlds: A Critical Pedagogy of Place. *Educational Researcher*, 32(4), 3-12. doi:10.3102/0013189X032004003

- Haraway, D. (2015). Anthropocene, capitalocene, plantationocene, chthulucene: making kin. *Environmental humanities*, 6, 159-165.
- Heckenberg, R. (2016). Learning in Place, Cultural Mapping and Sustainable Values on the Millawa Billa (Murray River). *The Australian journal of Indigenous education*, 45(1), 1-10. doi:10.1017/jie.2015.23
- Heron, J. (1996). *Co-operative inquiry: research into the human condition*. London: Sage Publications.
- Heron, J., & Reason, P. (2011). Extending epistemology within a co-operative inquiry. In P. Reason & H. Bradbury (Eds.), *Handbook of Action Research* (pp. 366 - 380).
- Higgins, M., & Kim, E.-J. A. (2018). De/colonizing methodologies in science education: rebraiding research theory–practice–ethics with Indigenous theories and theorists. *Cultural Studies of Science Education*. doi:10.1007/s11422-018-9862-4
- Hogarth, M. (2017). Speaking back to the deficit discourses: a theoretical and methodological approach. *The Australian Educational Researcher*, 44(1), 21-34. Retrieved from <https://doi.org/10.1007/s13384-017-0228-9>. doi:10.1007/s13384-017-0228-9
- Hopper, S. D., Silveira, F. A. O., & Fiedler, P. L. (2016). Biodiversity hotspots and Ocbil theory. *Plant and Soil*, 403(1), 167-216. doi:10.1007/s11104-015-2764-2
- Jenkins, A., Horwitz, P., & Arabena, K. (2018). My island home: place-based integration of conservation and public health in Oceania. *Environmental Conservation*, 45(2), 125-136. doi:10.1017/S0376892918000061
- Kimberley Land Council. (2016). KLC at UNFCCC Twenty First Conference of the Parties in Paris. Retrieved from <https://www.klc.org.au/klc-at-unfccc-twenty-first-conference-of-the-parties-in-paris/>
- Kimberley Land Council. (2017). KLC chairman delivers UN intervention. Retrieved from <https://www.klc.org.au/klc-chairman-delivers-un-intervention/>
- Latour, B. (2017). *Facing gaia: eight lectures on the new climatic regime*. Cambridge: Polity Press.
- McCoy, K. (2014). Manifesting Destiny: a land education analysis of settler colonialism in Jamestown, Virginia, USA. *Environmental Education Research*, 20(1), 82-97. doi:10.1080/13504622.2013.865116
- McDuffie, M., & Poelina, A. (2018). Nyikina collaborative filmmaking in the Kimberley: 'learning to listen with your eyes, and see with your ears'. In P. Morrissey & C. Healy (Eds.), *Reading the Country: 30 Years On*. Sydney: University of Technology, Sydney.
- McKnight, A. (2016). Preservice teachers' learning with Yuin Country: becoming respectful teachers in Aboriginal education. *Asia-Pacific Journal of Teacher Education*, 44(2), 110-124. doi:10.1080/1359866X.2015.1066491
- Moore, G. F. (1850). *Descriptive Australian vocabulary*. London: WM. S. Orr & Co.
- Muecke, S. (In Press). After Nature: Totemism Revisited. In T. Van Dooren & M. Churlew (Eds.), *Kin: Thinking with Deborah Bird Rose*.
- Nakata, M. (2018). Difficult Dialogues in the South: Questions about Practice. *The Australian journal of Indigenous education*, 47(1), 1-7. doi:10.1017/jie.2017.22
- Napan, K., Green, J. K., Thomas, J. A., Stent, W. J., Jülich, S. J., Lee, D., & Patterson, L. (2018). Collaborative Transformations: Cooperative Inquiry as a Catalyst for Change. *Journal of Transformative Education*, 16(3), 246-267. doi:10.1177/1541344617736636
- Nash, R. (1989). *The rights of nature: a history of environmental ethics*. Madison, WI: University of Wisconsin Press.

- National Constitutional Convention. (2017). *Uluru statement from the heart*. Retrieved from <https://www.clc.org.au/files/pdf/Uluru-Statement-3.pdf>
- Nulungu Research Institute. (2016). The Nulungu way. Retrieved from <https://www.nd.edu.au/research/nulungu/the-Nulungu-way>
- O'Neil, J. K. (2018). Transformative Sustainability Learning Within a Material-Discursive Ontology. *Journal of Transformative Education*, 16(4), 365-387. . doi:10.1177/1541344618792823
- Paperson, L. (2014). A ghetto land pedagogy: an antidote for settler environmentalism. *Environmental Education Research*, 20(1), 115-130. doi:10.1080/13504622.2013.865115
- Paradies, Y. (2016). Colonisation, racism and indigenous health. *Journal of Population Research*, 33(1), 83-96. doi:10.1007/s12546-016-9159-y
- Pecharroman, L. C. (2018). Rights of nature: Rivers that can stand in court. *Resources*, 7(1), 13. doi:10.3390/resources7010013
- Pedersen, H., & Phillipot, S. (2019). North Australian history: dispossession, colonisation, and the assertion of Indigenous rights In J. Russell-Smith, G. James, H. Pedersen, & K. K. Sangha (Eds.), *Sustainable land sector development in Northern Australia: indigenous rights, aspirations, and cultural responsibilities* (pp. 35-52). Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Plumwood, V. (1993). *Feminism and the mastery of nature*. London and New York: Routledge.
- Poelina, A. (2017). Protecting the river of life. In K. Aigner (Ed.), *Australia: the Vatican Museum's Indigenous collection* (Vatican Museum ed., pp. 217-223). Canberra, A.C.T.: Aboriginal Studies Press.
- Poelina, A. (2019). A Coalition of Hope! A Regional Governance Approach to Indigenous Australian Cultural Wellbeing. In A. Campbell, M. Duffy, & B. Edmondson (Eds.), *Located research: regional places, transitions and challenges* (pp. 153-180). Singapore:: Palgrave MacMillan.
- Poelina, A., & Perdrisat, I. (Writers) & A. Poelina (Director). (2014). Standing together for kandri. In M. McDuffey (Producer), *The Fitzroy River*. Broome: <https://vimeo.com/87175648>.
- Poelina, A., Taylor, K. S., & Perdrisat, I. (2019). Martuwarra Fitzroy River Council: an Indigenous cultural approach to collaborative water governance. *Australasian Journal of Environmental Management*, 26(3), 236-254. doi:10.1080/14486563.2019.1651226
- Pyke, M. L., Toussaint, S., Close, P. G., Dobbs, R. J., Davey, I., George, K. J., . . . Clifton, J. (2018). Wetlands need people: A framework for understanding and promoting Australian indigenous wetland management. *Ecology and Society*, 23(3), 43. doi:10.5751/ES-10283-230343
- Reason, P., & Heron, J. (1997). A short guide to Cooperative Inquiry. Retrieved from <http://www.human-inquiry.com/cishortg.htm>
- Russo, G. (1995). *A friend indeed: Louisa Clifton of Australind WA*. Perth: Vanguard Press.
- Santana, C. R., & Akhurst, G. (2019). Critical creative pedagogies: a decolonial and indigenous approach using visual arts and creative writing. *The Australian journal of Indigenous education*, 1-8. doi.org/10.1017/jie.2019.20
- Stocker, L., Collard, L., & Rooney, A. (2016). Aboriginal world views and colonisation: implications for coastal sustainability. *Local Environment*, 21(7), 844-865. doi:10.1080/13549839.2015.1036414

- Strakosch, E. (2015). *Neoliberal indigenous policy: Settler colonialism and the 'post-welfare' state*. UK: Palgrave MacMillan.
- Styres, S. (2018). Literacies of land: decolonising narratives, storying and literature. In L. Tuhiwai Smith, E. Tuck, & K. W. Yang (Eds.), *Indigenous and Decolonizing Studies in Education : Mapping the Long View* (pp. 24-37). Great Britain: Routledge.
- Tuck, E., McKenzie, M., & McCoy, K. (2014). Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research. *Environmental Education Research*, 20(1), 1-23. doi:10.1080/13504622.2013.877708
- Tuhiwai Smith, L. (1999). *Decolonizing methodologies: research and indigenous peoples*. London; N.Z.: Zed Books.
- United Nations. (2011). United Nations Declaration on the Rights of Indigenous Peoples. *Human Rights Quarterly*, 33(3), 909-921. doi:10.1353/hrq.2011.0040
- Vaughan, K. F. (2018). The Imagination of Interconnection: Laudato Si' and Celtic Christian Spirituality. *The Trumpeter*, 34(1), 79-102. doi: 10.7202/1060950ar
- Williams, L. (2018). Transformative Sustainability Education and Empowerment Practice on Indigenous Lands: Part One. *Journal of Transformative Education*, 16(4), 344-364. doi:10.1177/1541344618789363
- Williams, L. (2019). Reshaping Colonial Subjectivities Through the Language of the Land. *Ecopsychology*, 11(3), 174-181. doi:10.1089/eco.2018.0077
- Williams, L., Bunda, T., Claxton, N., & MacKinnon, I. (2018). A Global De-colonial Praxis of Sustainability — Undoing Epistemic Violences between Indigenous peoples and those no longer Indigenous to Place. *The Australian journal of Indigenous education*, 47(1), 41-53. doi:10.1017/jie.2017.25
- Wilson, R. (1997). *Bringing them home: report of the National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from their Families* (9780642269546;0642269548). Retrieved from <https://www.humanrights.gov.au/publications/bringing-them-home-report-1997>
- Wooltorton, S. (2013). *A sense of home: A cultural geography of the Leschenault Estuary District*. Retrieved from <https://www.wamsi.org.au/sites/wamsi.org.au/files/Leschenault%20Cultural%20Geography%20Report%20Final%20RS.pdf>
- Wooltorton, S., Collard, L., & Horwitz, P. (2015). Stories want to be told: Elaap Karlaboodjar. *PAN: Philosophy, activism, nature*, 11, 3-18. Retrieved from <http://panjournal.net/>.
- Wooltorton, S., Collard, L., & Horwitz, P. (2017). The Land Still Speaks. Ni, Katitj! *PAN: Philosophy, activism, nature*(13), 2-15. Retrieved from <http://panjournal.net/>.
- Wooltorton, S., Collard, L., & Horwitz, P. (2019a). Layers of meanings in our landscapes: hiding in full view. In M. Ellis (Ed.), *Critical global semiotics: understanding sustainable transformational citizenship*. London: Routledge, Taylor & Francis.
- Wooltorton, S., Collard, L., & Horwitz, P. (2019b). Living water: groundwater and wetlands in Gngangara, Noongar boodjar. *PAN: Philosophy, activism, nature*(14), 5-23. Retrieved from <http://panjournal.net/>.
- Wooltorton, S., Palmer, M., White, P., & Collard, L. (2020). Learning Cycles: Enriching Ways of Knowing Place. *Australian journal of environmental education*, 1-18. FirstView. <https://doi.org/10.1017/ae.2020.15>
- Wooltorton, S., Toussaint, S., Poelina, A., Jennings, A., Muecke, S., Kenneally, K., . . . Stredwick, L. (2019). Kimberley Transitions, Collaborating to Care for Our Common Home: Beginnings .... *Nulungu Research Paper 2*, 2, 1-16. Retrieved from

[https://www.notredame.edu.au/\\_\\_data/assets/pdf\\_file/0026/78326/Nulungu-Research-paper-No2.pdf](https://www.notredame.edu.au/__data/assets/pdf_file/0026/78326/Nulungu-Research-paper-No2.pdf).

Yunkaporta, T. (2019). *Sand Talk: How Indigenous Thinking Can Save the World*. Melbourne, Australia: Text Publishing.