
Beyond Single Stories

**Changing Narratives
for a Changing World**

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Seeing the world through alternative eyes: Using Indigenous stories and knowledge to teach about socio-ecological issues

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For millennia, Indigenous peoples throughout the world have enacted and sustained their own distinctive and culturally embedded ways of knowing. These onto-epistemologies, or ways of being and knowing, have allowed them to navigate the physical and spiritual connections between humans and *other-than-humans* in a manner sensitive to their specific natural environment. Such relational connections and ways of knowing are broadly identified as Indigenous Knowledge or Traditional Knowledge (Bruchac, 2014). While there is no universally agreed definition for these knowledge systems, they are generally understood to be an on-going assemblage of knowledge, practices and beliefs within specific contexts which are collectively owned and handed down through generations of community members. They are understood to embody an interconnected web of relationships between people, plants, animals, landscapes, natural and supernatural phenomena and often take the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local languages, and agricultural practices (Secretariat of the Convention on Biological Diversity, 2021; Battiste, 2002). Drawing on the traditional ways of knowing inherent to the Mincéirs (also known as Irish Travellers), a traditionally nomadic ethnic minority group indigenous to Ireland, this chapter argues that Indigenous onto-epistemologies, particularly those embedded in Indigenous stories, may offer more ethical and sustainable ways of being with the natural world and may form part of a matrix of solutions necessary to address climate-related issues in age-appropriate ways in primary classrooms.

In recent years there is a growing acknowledgement that these forms of knowledge have a particular role to play in addressing socio-ecological issues such as climate-change (Hernandez, 2022; Hernandez, Meisner, Jacobs & Rabinowitz, 2022; The Climate Reality Project, 2021; UNESCO, 2021). Yet despite the wealth of cultural and environmental knowledge that Indigenous epistemologies can offer, they are largely excluded or silenced in mainstream environmental discourses (Hernandez, 2022). The inequitable nature of power relations, in many cases established as a result of colonialism, continue to impact Indigenous communities worldwide. One of the lasting legacies of colonialism has been the silencing, erasure, and displacement of Indigenous knowledge systems and practices. Unsurprisingly, these voices and perspectives are also largely absent from global school curricula (Kavanagh & Ní Cassaithe, 2022).

This chapter explores how storytelling and sharing, a methodological approach central to Indigenous peoples around the globe (Spiegel et al., 2020; Hampton & DeMartini, 2017;

Iseke, 2013), can function in classrooms as a culturally relevant and sustaining pedagogy which unsilences Indigenous ways of knowing. Using examples from Mincéir folktales, we explore how storytelling and Indigenous stories can be used to uncover relational Indigenous onto-epistemologies which can support children to think differently about how human beings relate to the natural world. We argue that such ontologies are imperative in order to address potentially unsettling environmental issues such as climate change in holistic, ethical, informed and responsive ways. The section which follows explores the complexities inherent in exploring socio-environmental issues with children. It argues that while this work may be difficult and “deeply unsettling” (Bryan, 2020, p. 15), it is not only necessary to “unsettle” but to also “disrupt” children’s taken-for-granted understandings of human and other-than-human relationships in order to open up spaces for them to think differently about how we interact with the natural world. It unpacks the role that the normative anthropocentric and capitalist narratives underpinning Eurowestern understandings of human/other-than-human relations play in driving our current climate crisis. It compares these conceptualisations to Indigenous onto-epistemologies which, in contrast, generally center on the concepts of relationality and mutuality.

Challenges of teaching socio-ecological issues

We understand socio-ecological issues as issues with social/human and ecological/environmental/natural-world dimensions. More specifically, in this chapter, we interpret these issues to be ecological problems rooted in entrenched social problems (e.g. mega-consumerism) with potentially catastrophic consequences (e.g. ecological and climate breakdown) (Bookchin, 2006). Pedagogical engagements with socio-ecological issues are both intellectually and emotionally complex (Oberman & Martinez Sainz, 2021; Bryan, 2020). The mutual entanglement of eco-social relations is further complicated by cross-cutting intersections with scientific, medicinal, cultural, historical, ethical, economic and political considerations (Oberman & Martinez Sainz, 2021). The contested nature of the origins of and solutions to socio-ecological crises coupled with the complex interplay between the cognitive and affective dimensions of exploring such issues, creates significant pedagogical challenges for teachers (Bryan, 2020). These include, as with the teaching of controversial issues more broadly, teacher discomfort and lack of pedagogical readiness (e.g. appropriate pedagogies, skills, instructional resources) and also student discomfort and resistance (Bryan, 2020; Oulton et al., 2004; Zembylas & Kambani, 2012).

Both teacher and student discomfort are primarily driven by the emotionally charged nature of socio-ecological issues. Exploration of these issues requires encounters with complex and difficult emotions, including loss, powerlessness, guilt (bound up in complicity in such crises), denial, anxiety, despair and ecological grief (Bryan, 2020). As Bryan (2020) argues, “knowledge is difficult not only because of the traumatic content of the knowledge itself, but also because the learner’s interaction and engagement with this content is deeply unsettling” (p. 15).

The unsettling nature of such work may lead to disengagement from both teachers and students as an avoidance mechanism. Alternatively, disengagement or inaction (in the global north) may stem from the generally intangible and largely invisible effects of socio-ecological crises (Bryan, 2020). The spatial (current impacts of climate breakdown in the global north are minimal in comparison to the global south) and temporal (future rather than present generations in the global north will be most affected) dimensions of these issues may neutralise the need for urgent and immediate action. However, as has been evidenced by youth activism (e.g. *Fridays for Future* global climate strike movement), it is arguably members of the wider public and political elites rather than children and young people who are disengaged from issues like climate breakdown.

We contend that one of the greatest challenges in mediating and mitigating socio-ecological crises like climate breakdown are the normative anthropocentric and capitalist narratives that underpin understanding of human/other-than-human relations. These narratives often position humans in binary opposition to other-than-humans (Hernandez, 2022; Williams & Bermeo, 2020). Capitalism’s specific take on eco-social relations is one that revolves around processes concerning extraction and exploitation (Williams & Bermeo, 2020; Moore, 2017).¹ Other-than-humans are commercialised and commodified as capital sources and extractive ecological exploitation with profit at all costs is both normalised and encouraged (Hernandez, 2022; Williams & Bermeo, 2020).

These anthropocentric and capitalist normative orientations pose significant pedagogical challenges as they are internalised as ‘common sense’ and simply ‘the way things are’. We

¹ While no doubt exponentially exacerbated by modernism and capitalism, many argue that anthropocentrism has its roots in Christian teaching. As far back as 1967, Lynn White in her exploration of the historical roots of the (then already evident) ecological crisis linked human exceptionalism to the teachings of the Christian Bible, particularly the Book of Genesis which states that human beings have ‘dominion’ over the natural world.

argue that there is a need to disrupt these normative narratives as part of a process of engaging critically with and unlearning the current logic and normalised myths/(un)truths that underpin Capitalist understandings of eco-social relations. We propose that as a first step, children and young people need to be provided with opportunities to re-imagine human other-than-human relations. One way of doing so may be to engage with knowledge systems grounded in relational (as opposed to individual) onto-epistemologies. Moreover, in centering these onto-epistemologies, we seek to position Indigenous stories in “strength based ways” (Tupper & Mitchell, 2022, p. 360) in order to challenge deficit understandings of Indigenous knowledge. These complexities will be unpacked in the section which follows.

Using Indigenous onto-epistemologies to teach about socio-ecological issues

The ontological refers to what we know of reality, while the epistemic refers to how that knowledge is validated. These are often viewed as separate in Eurowestern traditions. In contrast, in Indigenous traditions, the ontological and the epistemological are deeply interconnected and ultimately inseparable. Onto-epistemology, according to Barad, is “the study of practices of knowing in being” (Barad, 2007) that accentuates the inter-relationship of the two in how we understand the world around us. While there is diversity and plurality within and between Indigenous knowledge systems or onto-epistemologies, it is widely accepted that most are place-based and deeply intertwined with the land (Jacob et al., 2018; Battiste, 2002). Land is not viewed as a commodity or as something that exists to serve human beings (Hernandez, 2022). It is viewed by many as being part of who they are and consequently is protected and respected rather than exploited. Equally, plants and animals are viewed as relatives and as intelligences in their own right (Hernandez, 2022; Kimmerer, 2015). The process through which learners connect with each other, the wider community and the local environment is as important as the product (Tupper & Mitchell, 2022; Jacob et al., 2018)². Onto-epistemologies are also underpinned by a strong ethic of relationality (Jacob et al., 2018; Kimmerer, 2015; Battiste, 2002). This understands human and other-than-human existence to be inextricably and mutually entangled. In this interconnected understanding, society is comprised of interactions between human beings, animals, the land, the spirit world, and the mineral and plant world (Watts, 2013) therefore, these relationships are bound

² While Indigenous knowledge is deeply intertwined with land, Battiste (2002) states that it is “not land in general but to particular landscapes, landforms, and biomes where ceremonies are properly held, stories properly recited, medicines properly gathered, and transfers to knowledge properly authenticated” (p. 13).

by a “covenant of reciprocity” (Kimmerer, 2013, n.p.). The value of Indigenous knowledge systems, particularly as they relate to conservation³ or restoration of the natural world, is long recognised. As far back as 1992, the United Nations, in its Convention on Biological Diversity (Article 8(J)), recognised “the knowledge, innovations and practices of Indigenous and local communities...relevant for the conservation and sustainable use of biological diversity” (n.p.). Providing students with learning experiences which facilitate reflective, critical and respectful engagement with Indigenous onto-epistemologies can, therefore, offer rich opportunities for reimagining humanity’s relationship with the natural world.

Affirming Indigenous knowledge systems through culturally sustaining pedagogies

Indigenous ways of thinking, knowing and being can be introduced in the classroom through story and folktale sharing by students, oral history projects, guest speakers or through carefully selected Indigenous stories and folktales, which embody and expose children to Indigenous onto-epistemologies. However, teacher-stance is significant. We contend that such work should be underpinned by a Culturally Sustaining Pedagogy (CSP) (Alim & Paris 2014). CSP is a pedagogical stance built on a strong tradition of research in asset-based pedagogies that views cultural differences (including racial, ethnic, linguistic, gender, sexuality and ability) as valuable assets for teaching and learning (Paris, 2012). The theory of CSP builds on Ladson-Billings’ (1995) theory of Culturally Relevant Pedagogy, a pedagogical approach that prioritised the cultural competence, academic achievement and critical consciousness of black and brown students. Paris (2012) expanded Ladson-Billings’ work by including all students and emphasising the importance of not just making students’ cultural identities relevant but also preserving and sustaining them.

Reflecting this, Alim and Paris (2014) describe CSP as a stance which seeks to intentionally “sustain...linguistic, literate, and cultural pluralism as part of schooling for positive social transformation” (Alim & Paris, 2014, p. 1). In this way, it can bring the knowledge, experiences and teachings of Indigenous peoples and people of colour in from the margins and provide opportunities for the transformation of deficit understandings of Indigenous knowledge into valid and valuable funds of knowledge (Paris & Alim, 2014; Battiste, 2002). In this regard, as previously stated, the teacher’s own personal stance is critical. Space must

³ We acknowledge as argued by Hernandez (2022, p. 72) that ‘conservation’ is a western construct developed to counter the over-exploitation of the natural world by westerners in particular.

be provided for them to unpack potential ethnocentric assumptions, prejudices and biases. In order to introduce non-dominant knowledge systems in ways that are culturally sensitive and respectful, it is essential that teachers are genuinely committed to affirming the diverse identities of their students and validating their diverse knowledge systems. Recognition of schools as sites which can invalidate and erase non-dominant students' cultures and lifeways is required as is recognition of the potential of pedagogy to act as a transformative tool which can counteract epistemic violences and injustices. Martell and Stevens (2019) argue that when teachers take a CSP stance "their teaching focuses on empowering their students to define, redefine, and sustain their own cultures" (p. 3). In essence, teachers who want to enact a CSP need to be dissatisfied with the status quo and committed to changing it. They need to see themselves as advocates for their students.

One way in which teachers can do this is to embed their students' funds of knowledge into their pedagogical approaches and curricula. Reflecting the relational nature of Indigenous knowledge systems, this should be a dialogical and reciprocal process between teachers and students. If a CSP stance is adopted, this type of work can help students to develop their socio-political consciousness and to work towards sustaining dynamic community practices which have been eroded and erased through the process of schooling (Martell & Stevens, 2019; Paris & Alim, 2014). One way in which Indigenous knowledge systems can be validated and students' cultures sustained is through the use of storytelling and sharing (see Figure 1). These will be explored in the next section.

Indigenous storytelling as a form of CSP

According to Iseke (2013), storytelling is a practice in Indigenous cultures that "sustains communities, validates experiences and epistemologies, expresses experiences of Indigenous peoples, and nurtures relationships and the sharing of knowledge" (p. 559). Oral storytelling is a key pedagogical tool within Indigenous cultures (da Cuhna et al., 2021; Dunn & Cherup, 2021; Iseke, 2013) and as such, it is a form of culturally relevant and sustaining pedagogy. Gay (2018) states that,

Stories are means for individuals to project and present themselves, declare what is important and valuable, give structure to perceptions, make general facts more meaningful to specific personal lives, connect the self with others, proclaim the self as

a cultural being, develop a healthy sense of self, and forge new meanings and relationships, or build community. (p. 3)

Stories therefore enable students to share and sustain their culture's values, knowledge systems, beliefs and histories. The benefits of stories and orality for all students is well documented in the literature (da Cunha et al., 2021; Dunn & Cherup, 2021; Jacob et al., 2018; Iseke, 2013). In addition to its methodological advantages, the centring of storytelling and sharing has the capacity to challenge both teachers and students' deficit understanding of non-dominant pedagogies, knowledge systems and ways of being and knowing (Couros et al., 2013; Dunn & Cherup, 2021). Ascribing value to a storytelling approach can challenge dominant assimilate-or-fail ideologies which shape many minoritised students' experiences of schooling. As argued above, the knowledge contained within these stories offer alternative (to the status quo) ways of understanding and relating to the natural world. They unsilence and illuminate Indigenous environmental perspectives and allow for the exploration of such issues in holistic, informed and responsive ways. They "offer generative values, philosophies, conceptual frameworks, and stories that can enrich all students and society more broadly" (Jacob et al., 2018, p. 161).

While sharing Indigenous stories can provide rich and age-appropriate insights into how humans can forge a more balanced relationship with the natural world, simply reading Indigenous stories and folktales is insufficient and may, in fact, reinforce deficit misconceptions children may already hold about Indigenous people (ancient, outdated, simply nice stories about people in the past who were not as clever as us). In this regard, context is key. By context, we mean not only how the story is introduced pedagogically but also the choice of stories. These should be influenced by the school's context and the students' background. These stories may be used as a stimulus for thinking about how we might relate to the natural world or as part of an enquiry that requires students to think about human other-than-human relationships. For example, an enquiry might establish that current relationships are harmful; Indigenous stories can then be used as a way of thinking about alternative relations.

In the following section we draw on Mincéir folktales, and the story 'The hedgehog and its coat' in particular, to illustrate how the framework can be applied to Indigenous stories. In amplifying Mincéir onto-epistemologies and histories that relate to human other-than-human relationships, we recognise that this could be interpreted as a form of cultural appropriation

as we are members of the settled community. Rather, in sharing these stories and highlighting their pedagogical value, we, in our positions as teacher educators (positions we recognise our settled privilege played an important role in securing), are seeking to include and validate Mincéir knowledge systems within classroom contexts, and more broadly, to redress the non- and mis-representation of Mincéir experiences in Irish curricula. However, we equally recognise that as non-Mincéirs, this must be a co-constructed and dialogic educational process.

Using Mincéir folktales in culturally sustaining ways

Mincéirs or Irish Travellers are the only ethnic minority group Indigenous to Ireland. Comprising less than one percent of the population, this group shares a common history, language (Cant/Gammon/Shelta), cultural heritage and tradition of nomadism (CSO, 2017). Like other ethnic minority and Indigenous peoples around the globe, Travellers experience racism at structural, institutional and interpersonal levels (AITHS, 2010; McGorrian et al., 2013). Research from the Department of Justice and Equality (2017) indicates that Travellers and Roma are two of the most marginalised and disadvantaged communities in Ireland. Furthermore, the 2019 European Union Agency for Fundamental Rights Agency (FRA) survey on Roma and Travellers in Belgium, France, Ireland, the Netherlands, Sweden and the United Kingdom found that Irish Travellers have the highest rates of acute poverty of all groups. In its most recent research publication (2021), FRA found that 65% of Irish Travellers had experienced discrimination in the previous twelve months (FRA, 2022). The impacts of such experiences are profound. Mental health issues are endemic, with the suicide rate for Mincéirs being almost seven times that of the settled population (AITHS, 2010).

While Travellers have a long history of activism, research in the Irish context shows that Travellers' voices, knowledge, experiences, perspectives, stories and agency remain largely absent from mainstream Irish society (Kavanagh, 2022; Kavanagh & Dupont, 2021; Bryan, 2007). This absence is reflected across international literature examining curricular (mis)representation of minoritised groups (Iseke-Barnes & Danard, 2007). There is little evidence of Mincéir histories in Irish official records despite the historically and culturally richness of Mincéir culture (Kavanagh & Ní Cassaithe, 2022). As will be explored in the sections which follow, Indigenous (folk)stories, like those from the Traveller community, can provide rich insights into how humans can develop a more ethical relationship with the natural world.

Folklore is embedded in the culture of the Mincéirs, and Oein DeBhairduin's anthology "Why the Moon Travels" (2020), a collection of beautifully curated stories that have been passed on by generations of Mincéirs, gives voice to their silenced ways of knowing. In line with a CSP stance, inclusion of Mincéir knowledge systems in mainstream curricula through engagement with these stories not only validates these knowledge systems, it also unsilences and makes visible deep knowledge and insights into human and other-than-human interconnectedness as well as uncovering alternative ways for students to understand and appreciate the spaces around them. As stated previously, many Indigenous stories demonstrate a profound and sacred respect for nature (Iseke, 2013; Kimmerer, 2013). Reflecting this, the stories which follow were selected as they provide rich insights into how more eco-centric relationships with the natural world can be developed.

The stories contained in DeBhairduin's anthology provide rich insights into both the human and natural world. Stories like 'The hedgehog and its coat' (A griffin an a gráinneog), 'The birth of the rivers' (Risp a skai Iurals), 'Airmid's voice' (Airmid's gresko) and 'Bees and giants' (Beach an tom gloke), offer valuable springboards for encouraging children and young people to think about humanity's relationship with nature and to imagine how it could be otherwise.

The story 'The hedgehog and its coat', in particular, offers rich opportunities for consideration of the imbalanced and at times exploitative relationship between the hedgehog (the natural world) and the people in the story. More broadly, it provides a stimulus for children to critically reflect on the type of relationship humans might have with the natural world - that of "active participant in her wellbeing" or "passive recipient of her gifts" (Kimmerer, 2013, n.p.). To that, one could add unthinking exploiter? thoughtless extractor? selfish plunderer? The story details the at first respectful and reciprocal relationship between the hedgehog and the Mincéirs, the hedgehog having noticed their starvation in the forest. It brings the people food, for which they are extremely grateful. However, as the story progresses, more and more demands are placed on the hedgehog from greater numbers of people far and wide. The relationships between the people and the hedgehog become more and more exploitative. As the story draws to a close, the hedgehog's once "sturdy legs" have "been worn down to short stumps" (p. 69). Taking the hedgehog as a metaphor for the natural world and exploring this with children enables them to reflect on the relationship between humans and other-than-humans and what needs to be done to preserve the hedgehog's

“sturdy legs” or in our current context, to mitigate the planet’s seemingly doomed fate. In the next section, we present a framework for using Indigenous stories, like those presented in this section, in culturally sustaining ways.

A framework for using Indigenous stories in culturally sustaining ways

We propose the framework presented in Figure 1 as a way in which teachers can make sound pedagogical and content choices when exploring ethnic minority and Indigenous stories in ways that are culturally sustaining. As argued earlier, engaging in this type of work requires a culturally sustaining stance or perspective that is inclusive of multiple and shifting student identities and backgrounds. Equally important is the creation of opportunities for teachers to interrogate their own positionality, biases and prejudice when seeking to use Indigenous stories and sees Indigenous knowledge systems.

Figure 1: Framework for using ethnic minority and Indigenous stories in culturally sustaining ways

Using Indigenous Stories in Culturally Sustaining Ways	Teacher Perspective Culturally Sustaining Stance		Concept, Theme or Topic	Choose a concept, theme or topic and select authentic resources to illustrate (creation stories, medicine, farming, plants, migration, geology)
	Teacher Praxis Culturally Responsive Pedagogy		Personal Understanding	Brainstorm teachers’ own personal understanding of the topic. Brainstorm possible student understandings of the topic. (including personal assumptions and biases about Indigenous groups, their knowledge systems and stories)
	Euro- Western view	Indigenous view	Multiple Perspectives	Organise and process the information. Identify similarities and differences between perspectives. Acknowledge internal diversity. Engage in dialogue with indigenous community if possible. Ensure authentic explanations from the perspectives are presented.
	Student Perspective		Reflection	Discuss the ways in which each perspective might shape understandings and action. Consider the possibility of shared visions. Compare students’ previous perspectives with their present perspective.

From a pedagogical point of view, this framework outlines four key stages to consider when using Indigenous stories in culturally sustaining ways. These stages include: choosing the topic, interrogating personal understandings, viewing the topic from multiple perspectives or epistemologies and finally, reflection on the learning. In the first instance, when selecting a

topic, the teacher adopts a culturally sustaining stance and carefully selects authentic resources that illustrate Indigenous understanding of the issue. Secondly, teachers need to ensure they adopt a culturally responsive praxis. This begins by interrogating and unpacking their own knowledge and understanding of the topic and reflecting on the knowledge, potential biases and prejudice that students may have. Multiple perspectives on the topic, which can be influenced by Euro-Western knowledge and Indigenous knowledge should be presented; these should be equally weighted whilst also acknowledging the internal diversity that can exist within group perspectives. Finally, time needs to be given to enable students to compare and reflect critically on how each perspective shapes understanding and action. At this stage, students can also reflect on the learnings from both perspectives and how they complement or contradict each other.

Conclusion

We are in the midst of a socio-ecological crisis with climate breakdown and species extinction posing not only a threat to people's wellbeing and way of life but also posing a profound and unprecedented threat to our very survival as a species. In this chapter, we explored the possible role that Indigenous knowledge systems can play as part of a matrix of solutions necessary to address this crisis and argued that Indigenous knowledge and perspectives as communicated through Indigenous stories, offer rich opportunities for children to think differently about and re-imagine how they view, value and interact with the natural world. Drawing on the principles of CSP, we also emphasised the importance of decolonising teachers' personal perspectives so that CSP can be enacted in authentic ways. The chapter concluded by demonstrating how stories from the Irish Traveller community can be used to explore human other-than-human relationships and to illuminate the rich environmental knowledge and wisdom contained within Traveller knowledge systems. Many of these stories remind us of the importance of relationships characterised by restorative care and reciprocity. We need to "live as if your children's future matters, to take care of the land as if our lives and the lives of our relatives depend on it. Because they do" (Kimmerer, 2015, p. 215). We still have time to mitigate climate breakdown. We need to listen to the wisdom gathered by Indigenous peoples over millennia.

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