Locating eco-critical literacy in secondary English

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KEY POINTS

- Classroom strategies for developing a language of place, and for nature, are discussed in relation to classroom vignettes.
- Green's 3D Literacy model is adapted to promote reflective planning and critical dialogue about the relationship of culture and environment.
- *Enviro*-cultural literacy in English focuses on how authors use different strategies for representing nature and environment.
- *Eco*-critical literacy involves understanding texts within environmental contexts for informed critique and creation of texts that represent "nature".

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In a time of environmental crisis we need a language to speak for nature. In our TLRI project Tuhia ki Te Ao—Write to the Natural World, we have been working with teachers to develop "3D literacy" practices responsive to both culture and environment and located in a rich language and ecology of place. This article will discuss vignettes from two teachers in two schools who experimented with creating ecological units of work for their English classes. The analysis of these vignettes leads to recommendations for how critical literacy can become eco-critical literacy.

Introduction

New Zealand has "not achieved" in relation to environmental performance according to the OECD (2017). The report states that New Zealand's intensive growth is "approaching its environmental limits", with increasing carbon emissions, pollution of freshwater, and serious threats to biodiversity. The pristine image (and the reality) of Aotearoa New Zealand's environment is being degraded. Responses need to happen at multiple scales of social organisation, including within education. How can we teach with an awareness of how literacy shapes attitudes and actions in relation to place, nature, and environmental futures?

Recently, writers in the arts and in linguistics have protested a gradual silencing of nature and the language of nature; an erasure of the discourse of the natural world (Macfarlane, 2015a; Stibbe, 2015). If engagement with nature thins then so too does the language. A striking example is the excision of nature vocabulary from the Junior Oxford dictionary and its replacement by technological terms. Robert Macfarlane, an award winning nature writer lists the deletions, which included "dandelion", "fern", "heron", "kingfisher", "nectar", "newt", "pasture", and "willow", to be replaced by "attachment", "blog", "broadband", "bullet-point", "celebrity", "cut-and-paste", "MP3 player" and "voice-mail" (Macfarlane, 2015a).

Is this just a straightforward reflection of the social reality of children's lives as "adept ecologists of the technoscape" (Macfarlane, 2015b, p. 3)? But language shapes us, just as we shape language. Does New Zealand's pristine environmental image help or hinder us to engage with the reality of environmental degradation? If we lose a language for nature then we begin to forget the richness of the natural world. Conversely, if we understand the landscape and language of a place we "look out for it"—both in the sense of noticing its unique features and in the sense of protecting it from harm (Stibbe, 2015). A number of poets protested the dictionary excisions, arguing for a precision of ecological language with which to express (and protect) the richness of nature.

In the Teaching and Learning Research Initiative (TLRI)-funded project Tuhia ki Te Ao—Write to the Natural World (Matthewman, 2016),[1] two English teachers— Newton Rewi, James Cook High School, and Ros Britton, Hobsonville Point Secondary School—are developing a more ecological and environmental model of literacy which addresses the human cultural relationship to the natural world: a 3D literacy.

3D literacy

Bill Green's model is a holistic way of representing literacy practices which challenges a purely skills-based or "operational" approach. The operational dimension of literacy for English would include the technical terminology needed for discussing and analysing texts and knowing how to use conventions for representing meaning. Of course this is important, but on its own it is a diminished approach to literacy learning. Green's concept of "3D literacy" describes three dimensions of literacy that should be interlinked in pedagogical practice: *operational*, *cultural*, and *critical* (Green, 1988; Green & Beavis, 2012). Our project team have adapted Green's model to explicitly reference *environment* and *ecology* as well as *culture* so that the model becomes "operational, *enviro*-cultural and *eco*-critical". Green's model has helped us to think about the social, cultural, and environmental contexts and effects of literacy in particular locations. The adapted model is shown below as three interconnected "korus" (see Figure 1).

Ros and Newton have added to this model in the course of planning and teaching. The vignettes of their work from the first year of the project attempt to capture the messiness of classrooms, along with some of the doubts and questions that micro-planning decisions raise. At this stage, we do not present settled "findings" or polished products of perfect practice. Instead, we begin

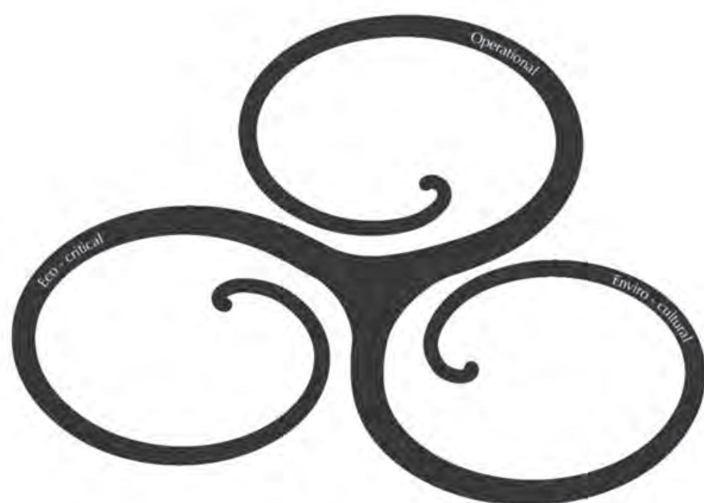

FIGURE 1. 3D LITERACY MODEL (ADAPTED FROM GREEN, 1988)

a conversation about why it is worth thinking about literacy as linked to the ecological and environmental, as well as the more usual collocation with the cultural and technological. In particular, we consider the process of developing *eco-critical* literacy in English lessons. The vignettes and commentaries on practices are written from Sasha's researcher perspective but these draw heavily on our team meetings and post-lesson discussions. They are the outcomes of collaborative work.

A Tale of South Auckland secondary schooling

The first vignette is set in James Cook High School, South Auckland.

> I drive past the now familiar wooden bungalows and fences in Manurewa. It seems quiet. At the school I check in with the imposing but soft-spoken security officer. He directs me to reception as there is building work across the normal entrance. I sign in and sit down beside the white police officer who is also waiting and adjusting his radio. Newton collects me, and, as ever, he is a friendly and positive presence. He fills me in on the class as we walk through and around the blocks of buildings. The class have been difficult and he tells me he will need to reinforce expectations with them. I sit in the classroom and wait while he directs students into a line outside. This takes some time. I feel the struggle going on—the clash of wills, the bubbling energy, confidence and backchat of the class. Newton is getting there steadily. His voice is persistent, reasonable. I look around. A blue plastic chair with a broken serrated back is perched on the table at the back. The walls are mainly bare. There is a poster about punctuation peeling away. The entire lesson is written up across three whiteboards in Newton's close, neat, handwriting. I can't read it from the back and make a mental note to get my eyes tested. I go closer. The lesson aim, "do now", the success criteria, a first activity and one set of comprehension questions, and a writing frame with underlined gaps for a "how does it make you feel" response to a poem. I note that there is no equipment set up in the room. No TV, no projector or screen, no computer in the corner, no set of laptops or iPads, no bookshelves with books, not even an OHP [overhead projector]. The class file in, quieter than last lesson when I was here and thankfully, this time, they are not eating vivid blue candy. One student asks me "what is your culture?" and as I fumble my answer I reflect that I would have expected the simpler question of "where are you from?" Newton refers students to the board; reminds them of expectations and timings. After the first settling activity ("write down four things that are natural and four that are manmade"), he hands out a poem called "Milking Before Dawn" and refers them to the questions on the board which build in difficulty from identifying the colour of the cows (presumably to get them to read the text) to exploring the inferential question of why the poet writes about the cowshed as "an island of light and warmth" (Dallas, 2012, p.414). At no point in the lesson do students share ideas as a whole class, but Newton is constantly busy: circulating, supporting and redirecting to the task on the board. Towards the end he hands out slips of paper and insists that they write one sentence in answer to the question about what the poem tells us about culture and environment in New Zealand before they leave the room.

So what does this story tell us about culture and environment in one school in Aotearoa New Zealand? Perhaps the first thing to say is that the digital age has not yet arrived in this decile 1 school in South Auckland. Secondly, students place a high value on culture but do not readily connect their cultural interests to the environment. In the initial interviews with students the environment tended to be a low priority. For example, one student, Maya,[2] strongly identifies as Māori. She is definite about not having much personal interest in the natural world, "I feel like educational wise I don't know that much about nature but I could probably learn, but I feel like my heart will, well, I wouldn't really be passionate about it." But when prompted she knows the whakataukī about preserving flax and has a sense perhaps of "Mauri" when she says "I feel like everything has a spirit in some kind of way". She does not connect her art work on whakapapa with developing knowledge of environment and place saying that it is "all about culture" although clearly there are environmental connections.

Culture is seen as key to identity, as reflected in the interview with Maya or the student's direct question to me about my culture in the lesson. However, shared work as a class is hard to manage, so a process of building knowledge about environment and culture together is difficult. Over several lessons Newton teaches this very challenging group of 25 students through providing written tasks that are to be completed individually, usually in the form of writing frames. As a management and learning technique he adopts the strategy of insisting upon "exit cards" to ensure that all complete at least some work during the lesson. School trips are not on the agenda, and although we discuss possible creative writing related to the environment in the grounds of

the school this does not happen as Newton is concerned about possible behaviour management issues. I'd like to be clear that from my perspective as an experienced teacher educator, Newton is a thoughtful and intelligent teacher with a deep sense of commitment to his students. I observed his teaching the previous year with this age group (13–14 year olds) and saw him using a range of interactive strategies. In modelling "environmental identity" to the class he selected images of Auckland city and the poor, begging and sleeping rough, which show a different view to the tourist picture of the affluent city. He also has a deep affinity to place—to Southland as part of his pepeha, and he selected images and his own poetry to convey this to students. His pedagogy had shifted into a defensive mode in relation to this class and the particular conditions of the school at the time, which was going through a difficult transition stage after the departure of both the principal and a well-respected deputy.

The conditions for both the teacher and the students were not ideal for encouraging "an expanded view of literacy" (Au, 2004, p.7). Literacy pedagogy relied on the written mode rather than a range of modes of making meaning, such as talk or visual displays, and the students and teacher were confined to a cramped and ill-equipped classroom. What would be possible in opening this practice up to enact an eco-critical lesson sequence? Newton and I discuss lobbying for better resources and a visible projector screen as a first move—the technology offering a window on the world beyond.[3] For instance, we discuss that the poem "Milking Before Dawn" could be compared to the recent advert for Fonterra milk in which Richie McCaw interviews a farming couple at 4.31am (The National Business Review, 2016). Questions to first engage students might include: "who had milk for breakfast?" and "who do you know who has to be up before dawn for work?" Newton's primary aim was to help students understand different perspectives on the land—in this case the poet seems to represent the farmer's perspective and intimacy with the land and his animals in "an island of light and warmth" (Dallas, 2012, p.414).

This positive perspective also needs some eco-critical interrogation in relation to the current environmental context of the pollution of waterways by dairy farming. Secondly, the poem needs to be located—where is this happening? Ruth Dallas, the poet, spent her life in rural Southland, Otago. What are the possible landscapes as "the hills in the east return"? Maps and images would help to make this more vivid.

Interestingly many of the students in their "exit cards" had read the poem as being about Māori— specifically because of the close relationship to the land that is represented. In truth, there is no evidence in the poem for either a Pākehā or Māori speaker. But during the post-

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lesson discussion, Newton, as a former history teacher, considered that context gives another lens for helping students to develop a reading. For instance, does the reading change when you know that Ruth Dallas had her childhood poems published on the "Little Pakehas" Page in the Southland Daily News? Or that Dallas also worked as a milk tester during World War 2? Have the students assumed that the speaker is male? Harold Bloom (1997) suggests that all readings are misreadings. This is not a problem—it is an opportunity for thinking through how meanings are made. Terry Locke and Alison Cleary (2011) show how strategic layered introduction of contexts and intertexts can be integral to critical literacy practice as students build towards an informed reading. This is very different from the postmodern critical literacy approach of treating all answers as valid [within the parameter that "we would not allow students to maintain readings that might be harmful to others" (Sandretto, 2011, p.225)]. But does the final authority always lie with the teacher who polices racist or sexist readings? Or maybe anti-environmentalist readings? Literary theory tells us that authority for meaning may lie with the reader, the text or the context (Moss, 2000). Balancing and assessing these claims to authority is a process of developing a valid reading and understanding how we read texts from different perspectives. How does adding some context change our reading? How does thinking about what the text says, and how the text says it, shift the perspective again? These are critical tools for making an informed reading rather than an interpretation based only on feeling and gut reaction. (Although gut reaction might be a good place to start.) In this case the initial assumption of a Māori speaker prompted a discussion that Pākehā can also hold ecological perspectives which can mean a close relationship to the land. The contexts that might inform the students' readings are environmental as well as cultural: the debate over dairy pollution and methane, the poet's relationship to Southland and knowledge of her cultural heritage and work.

Newton and I decided that an English field trip would support students to understand the links between historical, literary, and environmental contexts. Significant organisation between us went into a field trip in 2017 to Mount Eden/Maungawhau. For this

trip students read the legend of Ponga and Puhihuia set on Maungawhau in preparation for writing their own place-based ecological myth. But that is another story; one which arose from this first phase of struggle with the notion of an environmentally informed version of English. This story of the possibilities of field trips was also originally located on the other side of the city.[4]

Hobsonville Point secondary school: "A world apart"[5]

Hobsonville Point teachers shared the Maungawhau trip idea at one of our team meetings. I was briefed about the trip to Mount Eden/ Maungawhau, as follows:

> Tomorrow will be guided by Ngāti Whātua Ōrākei so they will be leading the students in discussion around the volcanic cones, the Māori view of their significance and the changing land use in this area. We then want to them to write some poetry for the remaining two weeks that focuses on either the volcanic cones, the coastal walkway that we visited last week or another area of interest. (Social Sciences Teacher, personal communication (email briefing), 2016)

The Mount Eden/Maungawhau trip was just one part of a range of stimulating experiences for writing which were offered beyond the classroom in this high decile school. The following vignette indicates the technology-based modern environment for learning:

> The school is located in an area of ongoing building and development. There is a new shopping centre and "luxury" and "affordable" housing estates. The school appears very large and architecturally modern with a striking red roof and bold angles. Inside it is open plan with a café-style dining area, colourful seating areas, learning corners and break out rooms. There are displays of work on the walls and fluorescent lights are at angles. It feels a bit like a new shopping mall.
>
> I am ten minutes late, having misjudged the heavy traffic. I move rapidly up the wide staircase and through the colourful, light and airy spaces. There is a sense that learning could be going on anywhere along the corridor and in the break out spaces, or among the seemingly random arrangements of students sitting casually on lounge style furniture. In a large open space, Ros is finishing addressing a crowd of about 50 students—it seems to be administrative information.
>
> Ros begins to orient the students to the topic which is written up on the board " to explore and make sense of our environmental identity" with reference to Māori concepts of whenua, pepeha and tūrangawaewae referring back to the work on identity that was posted up for them online earlier in the term. Ros explains and glosses these terms "as how do we anchor ourselves to the land and find a place to stand?"
>
> Ros keeps the task very open without specific modelling. Students are given an hour to surf the internet to research their chosen place in preparation for writing an eco-poem. They have an online worksheet to fill out for the purpose. The poetry will be based on the model introduced in two separate workshop inputs by "Spoken Word" poets. She rereads the model poem which begins "Piha is good times" and involves connecting to all the five senses as she highlights. Students are encouraged to draw on their experiences from visiting Mount Eden or the Hobsonville walkway. Students are fairly leisurely in their approach to the task, some listening to music as they search, interspersed with texting and talking. Eli is writing about Maungawhau—he says that he is not interested in "going outside" so the trip helps him to find a place to write about. I turn to Leia who has decided to write about "a forest". I query this. Any forest in particular? But she is very definite—just a forest.

I am interested in Leia's use of the forest as symbol and her resistance to writing about a specific place. In an interview she clearly articulates her sense of "a forest" as symbolising her ecological relationship and feeling as she explains: "it's not like one forest that I love, it's just all of them, it is forests in general."

However, Ros and I talk about whether a challenge to be more specific about the ecology of place might have helped her to lift the poem out of generic cliché such as "it sounds like birds softly chirping and wind brushing through leaves, like the whisper of nature calling you deeper into the forest"—What type of trees? Why are these trees significant? In a later lesson Ros uses Hone Tuwhare's poem "Norfolk Pines on Pakiri Beach" to model close attention to a particular tree (Tuwhare, 1997, p.32). Ros brings in books about New Zealand trees and plants aiming to build enviro-cultural literacy in the sense of connecting the specific ecology of place with the representation of an "environmental" poet. Hone Tuwhare, often thought of as a committed cultural writer, has written a number of directly environmental poems and many more that are infused with a sensual response to the natural world (Shewry, 2011).

Enviro-cultural literacy refers to knowledge of texts and cultural forms which represent the natural and cultural world. Critiquing and transforming this process of representation is the eco-critical dimension of literacy (for instance, we might recognise that Leia's decision to write an eco-poem about "a forest" rather than a particular place, was serving her strategic eco-critical intent). She explains:

> I don't care about just our country. I care about every country because nature keeps us alive and it keeps the whole world less polluted. I guess you say nature doesn't really have a voice to kind of just stop it. I am in a position where I can raise awareness. (Interview with Leia, 2016)

Ecological knowledge is part of eco-critical literacy, but for English it is brought out in relation to texts. For instance, the teacher aims to expand students' enviro-cultural literacy (knowledge of texts and forms) through introducing them to strong literary models that represent the environment in powerful ways. This connects with research findings in New Zealand which suggest that students need more opportunities to engage with a range of extended texts (Wilson, McNaughton, & Zhu, 2017).

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In relation to a specifically ecological focus this might support Lawrence Buell's argument for an environmental "canon", but adapted to the school context (Buell, 1995). English teachers may be unfamiliar with taking an eco-critical line of study in their planning. Therefore teachers need to be offered engaging models of eco-critical texts, readings, and lesson sequences, and a major aspect of the project's work is to develop these.

Developing located eco-critical literacy

These contrasting vignettes serve to emphasise that learning literacy is political and ecological not just in terms of the practices, but in terms of the environment in which learning takes place. In relation to the benefits of field trips I suggest that school managers should support teachers to aim beyond the confines of the classroom. But even within the confines of the classroom English teachers are well placed to develop an eco-critical literacy appropriate to an endangered ecosystem.

First, this would mean developing a literacy pedagogy that pays precise attention to authors and texts as located in places and environments as well as in culture. Hone Tuwhare's work is suffused with references to the New Zealand ecology and his sensual enjoyment of the natural world through all the senses, whether he is enjoying a feed of mussels or admiring the (non-native) beauty of the Norfolk pines on Pakiri Beach. Reading his work eco-critically repays attention to environmental contexts as well as to ecological literacy.

Secondly, teachers could seek out opportunities to make connections between real places and students' literacy practices. This would mean seeing the multisensory opportunities for learning literacy not just in relation to technology, but in relation to "real" interaction with the natural world.

Thirdly, in thinking about how different cultures represent their relationship to the natural world the emphasis should be on critical and nuanced understanding of how texts shape environmental attitudes, values and identities (see Wood, 2007). This can help to develop both local enviro-cultural identities and global place identities.

Recent critical literacy approaches have argued that literacy's transformational potential extends to the environmental dimension (Comber, 2015; Green & Beavis, 2012; Matthewman, 2010). Our aspiration in the project is to counter the erasure of nature from students' lives and to write nature back into curriculum.

Acknowledgements

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Notes

1. Matthewman, 2016. Funded by the New Zealand government's Teaching and Learning Research Initiative.
2. All student names have been changed.
3. It should be noted that at the time of revising this article (2017) there has been significant refurbishment of the classrooms and school environment including a new computer suite.
4. A discussion of the James Cook trip to the Epsom Marae and Maungawhau are planned to be the subject of another article.
5. This phrase is taken from the land development company publicity.

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