DIANE HANSFORD

10. EDUCATION FOR SUSTAINABILITY IN PRIMARY ENGLISH EDUCATION

In English-speaking countries, such as Australia and New Zealand, English language forms the basis for communication and understanding about the world in which we live, the way we communicate to others and how we seek to make sense of what is happening around us. In all areas of the curriculum, including education for sustainability (EfS), students' skills in using and manipulating spoken and written language will determine the quality of their understanding and beliefs, and support their efforts to take reasoned action for the future.

Students need to know about, and be able to use, appropriate language for specific purposes across all eight learning areas. This chapter presents some of the recent curriculum developments in primary English education in the Australian and New Zealand contexts. It reviews situated literacies of place, provides some curriculum models as examples for developing language and literacy so that students can take action, provides examples of literature that focus on environmental issues which can be incorporated into studies about EfS, and highlights the language knowledge and skills that students require to develop conceptual understanding about the environment and sustainable practices.

CURRENT DIRECTIONS AND CHALLENGES FOR ENGLISH IN THE AUSTRALIAN AND NEW ZEALAND CONTEXTS

Without a doubt, one of the most exciting and important aspects of being a primary teacher is the teaching of English. No other subject area seems to create as much passion and debate, both as a subject in its own right and its role in the teaching of all subjects across the primary curriculum. English education in Australia underwent significant changes throughout 2009, with these changes including the development of a national curriculum. Past attempts to develop a national curriculum for Australian schools had been beset with difficulties and differences arising between the states and territories and the federal government.

In Australia during 2008, the federal government implemented a consultation process with the education community to determine directions for a national curriculum. Throughout 2009, the National Curriculum Board continued its consultation process. In its initial discussion paper, *The Shape of the National Curriculum: A Proposal for Discussion* (2008a), the board made some reference to the environmental issues facing the planet: "Increasingly complex environmental pressures that extend beyond national borders such as climate change pose unprecedented challenges, requiring countries with different priorities to work together in ways never before achieved. They also demand all Australians engage with science and approach problem solving in new and creative ways" (p. 1).

N. Taylor et al. (eds.), Educating for Sustainability in Primary Schools, 195–219.

In the *National English Curriculum: Framing Paper* (National Curriculum Board, 2008b), there was virtually no mention of links between English and environmental sustainability, nor suggestions as to how English language, literacy and literature could contribute to EfS. However, in the current version of the Australian Curriculum, sustainability is one of three cross-curriculum priorities embedded in all learning areas. Within the Australian Curriculum: English (ACARA, 2014), the "priority of sustainability provides rich and engaging contexts for developing students' abilities in listening, speaking, reading, viewing and writing" This priority area provides opportunities for students to investigate texts that will help to shape their decision-making abilities in relation to sustainability.

In New Zealand, the *New Zealand Curriculum for English-Medium Teaching and Learning in Years 1–13* (New Zealand Ministry of Education, 2007), with its strong focus on diverse social, cultural and language aspects of learning, and a clear vision of "young people who will be confident, connected, actively involved, lifelong learners" (p. 8), covers areas similar to those in the Australian Curriculum. Throughout the New Zealand document, there are explicit references to environmental sustainability, with emphasis on developing young people "who will be creative, energetic, and enterprising" and "who will seize the opportunities offered by new knowledge and technologies to secure a sustainable social, cultural, economic, and environmental future for our country" (New Zealand Ministry of Education, 2007, p. 8).

When referring to English, the New Zealand Curriculum emphasises students using and enjoying language and literature, with this emphasis based on three strands: oral, written and visual. These strands are similar in detail to the previous, and now superseded, Australian state-based curricula. The focus, however, within English education in New Zealand is on the social responsibility of its students and their developing ability "to think critically and in depth … [and] to deconstruct and critically interrogate texts in order to understand the power of language to enrich and shape their own and others' lives" (New Zealand Ministry of Education, 2007, p. 18).

The contrast between the previous Australian and New Zealand contexts may well have been due to the Australian political climate, the negative appraisal of English language teaching in the media, and the comparative size of populations. In the New Zealand context, curriculum documents appear to have a more visionary focus on EfS. However, the inclusion of sustainability as a cross-curriculum priority in the Australian Curriculum and its expression in the English curriculum presents a more encouraging shift.

Which approaches to English?

The Australian media continue to focus on the debate about which approaches to teaching English language and literacy are the most effective. Seeing through this media hype can sometimes be daunting, especially for parents, but also for beginning and experienced teachers alike. In the past, many educators felt the need to align with one particular theory or another. However, while conflicting theories advocate "skill and drill", "whole language", "genre teaching", "systematic and explicit teaching" and, more recently, a "multiliteracies" approach, teachers need to use their professional judgment and choose appropriate methods, drawing on the strengths of various theories to address the needs of students at a particular time, rather than using a one-size-fits-all approach.

In order to implement an effective literacy programme, valuing and understanding our students' backgrounds is essential. Literacy does not mean simply being able to read and write; it encompasses the ability to elicit information and to interpret texts. Students must be able to infer, interact, relate and creatively respond when reading texts. They must also, in order to operate effectively in our complex and demanding society, develop fundamental literacy skills. As teachers, we need to use appropriate assessment tools and teaching and learning activities that cater for all students; it is our role to teach children in a manner that empowers them to become successful, active members of society.

The notion of situated literacies and place

According to Barton and Hamilton (2000, p. 7), the "basic unit of a social theory of literacy is that of *literacy practices*" (emphasis original). In other words, literacy events occur within a social context, and these events are activities where literacy plays a part. Barton and Hamilton suggest that the study of literacy is partly a study of texts whether spoken or written, and of how these texts are produced and used. Because literacy events use a range of semiotic systems (mathematical symbols, non-text based images), Barton and Hamilton explored the notion that there are many different literacies. These include, for example, computer literacy and visual literacy as well as the different literacies relating to different domains such as school, home, the workplace and (in the context of this text) the environment.

In the context of the course "language and ecology" taught at the University of Gloucestershire, Stibbe (2008) identifies additional literacies specific to EfS, such as "environmental literacy" and "ecological literacy", and the more recent "sustainability literacy". He suggests that while sustainability literacy can be interpreted in terms of a more general sense of literacy as "the common quest for a sustainable future", rather than as reading and writing, his interpretation of sustainability literacy is "an ability to read critically, in ways which connect what is being read with the systems which support the lives of current and future generations, as well as being able to write in engaging and creative ways which can contribute to social transformation towards a more sustainable society" (Stibbe, 2008, p. 3)

In the report prepared for the Australian Government's Department of the Environment and Heritage, *Whole School Approaches to Sustainability: An International Review of Whole School Sustainability Programs*, the Australian Research Institute in Education for Sustainability (ARIES) stated: "EfS differs from traditional approaches to EE [environmental education] in that it focuses sharply on more complex social issues, such as the links between environmental quality, human equality, human rights and peace and their underpinning politics. This requires citizens to have skills in critical enquiry and systemic thinking [in order] to explore the complexity and implications of sustainability" (Henderson & Tilbury, 2004, p. 8). Developing "skills in critical enquiry and systemic thinking" and changing attitudes and accompanying practices to environmental sustainability is a challenge for all of us as teachers. Our primary discourse (i.e., our home discourse) embeds beliefs about the world in which we live. Changing or challenging these beliefs can undermine and undervalue the "cultural capital" of many of our students (Bourdieu, Passeron, & Nice, 1990).

Because literacy is always situated within a social context, and because these social contexts are informed by the people involved in them—their values, attitudes, feelings and social relationships—students come to school with opinions about the environment that are based in

their home (primary) discourse (Gee, 1991, p. 7). These social contexts or "domains", as Barton and Hamilton (2000) call them, "are structured, patterned contexts within which literacy is used and learned" (p. 11). Further, the domains where literacies are situated, for example, schools, regulate the literacy by social pressure and, more formally, by penalties. Socially powerful institutions, such as schools, use a "secondary discourse" that ideally should build on and extend our primary discourse. However, for many social groups their primary discourse is not compatible with the school's language use, which is the "dominant discourse" (Gee, 1991, p. 8).

Studies by both Gee (1991) and Luke (1993) on the hidden curriculum and dominant discourses provide challenging and supportive arguments for reviewing in-school literacy practices and give powerful messages to teachers and administrators to make changes. We need to consider what pressures and penalties schools impose on students to conform to acceptable literacy practices. A major challenge for teachers is to ensure that each student's cultural capital (Bourdieu et al., 1990), and primary discourse (Gee, 1991) are not dismissed or undervalued. While there may well be a disjuncture between the child's family values and the values of the school, our challenge as teachers is to encourage local action in a way that does not disenfranchise our students from their parents and community but rather involves the whole family and the community in the action.

The "Special Forever Project" and its impact on EfS A key event that ran for many years in Australia was the Special Forever Project (2009), a collaborative initiative that began in 1993 between the Primary English Teaching Association (PETA) and the Murray-Darling Basin Commission (MDBC). The initial project involved teachers and students based in the Murray-Darling Basin (MDB). It provided a forum for students to express concerns about the environment and, in particular, consider the past mistakes and the resultant condition of the MDB. After its inception, the project grew from students merely writing about the MDB to a point where schools, teachers and students were using their knowledge and experiences about their environment to initiate school-based projects and to take action in their local area (Comber, Nixon, & Reid, 2007).

The project was last published in 2010, and in 2012 the Primary English Teaching Association Australia (PETAA) had to archive the site with a view to possibly extracting and re-using some the valuable materials for primary educators, in the future. One of the last publications, the anthology and DVD *Rivers We Share* (Figure 10.1) contained 300 works of art and writing selected from a total of 1,000 sent to Sydney from regional coordinators located throughout the Murray-Darling Basin. This project is an example of how communities and schools can work together to take positive action and change. For more information, go to the following link: http://www.petaa.edu.au/.

The notion of literacies in place Hand in hand with situated literacies is the notion of literacies in place. In the publication *Literacies in Place: Teaching Environmental Communications* (Comber et al., 2007), primary teachers living and working within the Murray-Darling Basin shared their involvement in the "river literacies" research study and reported on the impact of their school projects. The publication explores the teachers' "commitment to the sustainability of their own particular, local, place in relation to larger concerns of the Murray-Darling Basin as a whole, and for national and global concerns for the environment" (p. 9).

Figure 10.1. The "Rivers We Share" book and CD.

The river literacies study set out to examine the Special Forever Project described above. A particular purpose of the study was to identify the discourses or language use of the students who contributed to the publications about the MDB. The study identified "nine major discourses that shaped how place was represented by the children" (Cormack & Green 2007, p. 91). These were literacy-English, conservation, tourism and recreation, historical, family, industry-agriculture, geo-scientific, Indigenous, and industry-other (Cormack & Green, 2007, pp. 91–92). One of the key outcomes of the river literacies study was its expanded view of literacy. According to Comber et al. (2007), literacy is no longer a single written mode. As such, teachers need to "increase the potential for students" by engaging them in the "new literacies" and teaching them "to understand the design and communication power of multi-modal text" so that they become more involved in "active communications practice" (pp. 12–13).

Multiliteracies, multimodal meaning making and EfS

Over the past decade, the terms "multiliteracies" and "multimodal meaning making" have emerged to describe the multiple ways that we use language. According to Cope and Kalantzis (2003), literacy can no longer be seen as a singular entity. Today, many different forms of English are used in different situations, such as the dialects of English (Englishes), and professional language. Modern communications include multimodal texts or multiple ways of presenting and receiving information. For example, present-day communications are often a mixture of audio, spatial, linguistic, gestural and visual elements (Cope & Kalantzis, 2003) that combine to create sophisticated texts which young people need to be able to interact with and interpret in increasingly complex environments such as the world wide web. Information about and pertaining to sustainability is increasingly being shared and generated by young people online through organisations such as GetUp and the Australian Youth Climate Coalition.

We interact with multimodal texts in all aspects of our daily life, and active engagement in using and manipulating these texts by young people can be seen in their use of digital

devices and networking spaces such as MySpace and Facebook, emails, text messages and video games, to name but a few. Gee (2003) points out that games engage young people because they provide a stimulating use of learning and literacy within environments that promote and require the acquisition of high-order thinking. This, he claimed, would develop innovators and lifelong learners able to deal with the challenges of the 21st century and beyond.

The world wide web provides many opportunities for teaching about EfS and developing English and literacy skills; however, such practice is not simply a matter of using computers in the classroom to explore these opportunities. As Leu, Kinzer, Coiro, and Cammack (2004) point out, reading online, although similar to reading print-based texts, also involves a number of different skills that need to be taught in the curriculum. While students are engaging with digital technologies, research indicates that many young people do not have the skills required to effectively interpret and analyse online texts. Reading comprehension on the internet, according to Leu et al. (2004), needs to encompass "problem identification, search strategies, analysis, synthesis, and the meaning construction required in email messages and other communication technologies" (p. 1602). Likewise, when we consider online authoring, young people appear to be highly proficient at using digital technologies but need explicit teaching about how to use the technology effectively for communication purposes (Adlington & Hansford, 2009).

Students thus require explicit and systematic teaching to develop the skills they require in order to be accomplished users of the internet and the web. "Critical literacies and analytic skills," according to Leu et al. (2004), are crucial to the "literacy curriculum", because when accessing the "internet where anyone may publish anything", young people need to be able to "critically evaluate that information, sorting out accurate information from inaccurate information, essential information from less-essential information, and biased information from unbiased information" (p. 1576). Consequently, when using the internet and the web to engage with sustainability issues and promote activism, as many of our young people are already doing, we need to prepare our students to be critical users, and this ability involves critical reading and effective authoring.

The power of visual texts and critical approaches to EfS One example of a website that could be explored is Canadian Seal Hunt (2009) (Figure 10.2). Whether you agree or disagree with the killing of seal pups in Canada, this website provides an opportunity to explore using images and placing items on a website in ways that make communication more effective.

Figure 10.2. Segment of the Canadian Seal Hunt homepage.

At the top of the Canadian Seal Hunt homepage is a banner featuring three images. On the left of the banner, we see a seal looking directly at the viewer. The seal's eyes implore us to interact with the seal and its situation. The eyes, being large, and the seal, being a furry animal, appeal to the viewer. In the middle of the banner is a photograph of a seal hunter holding a club above a seal pup's head. On the right of the banner is an adult seal (presumably the mother) looking towards the dead, bloodied bodies of seal pups. The use of colour here is also important. The words Seal Hunt are in bright red, the cap and the gloves of the hunter are also red, and there is bright red blood on the ice, with the darker red blood covering the dead seal bodies. This website sends a powerful message to the viewer/reader through its selection of images that are both appealing and shocking, empowering the viewer to take action.

Skills and strategies needed for online reading When planning to use the internet or web to search for information about EfS, we need to consider students' computer literacy and prior online experiences. We should therefore:

- reflect on the differences between reading online and hard copy texts (e.g., the multimodal nature of online texts);
- explore the elements that make online texts effective in getting their message across and so raise students' awareness; and
- explore the reading demands of online texts.

As teachers, we also need to consider the reading strategies and skills used for navigating around a website and sourcing information. To identify what knowledge and skills students need to access online information, you might like to do the following:

1. Go to a website. You might like to visit, for example, www.canadiansealhunt.com.
2. Look around to see the different resources, activities and information that can be accessed and with which you can interact.
3. Record all of the reading strategies and skills you used as you navigate around the site. In particular, consider the following: scroll bars, headings, advertisements, links, menus, search features, images, text, Really Simple Syndication (RSS) feeds, sound, movement, sign-in, layout, and any other features on the webpage.
4. Ask yourself these questions:
   - What information did I need to filter out and ignore in order to find what I was looking for?
   - What reading strategies did I use?

Using picture books to teach EfS One way to engage children in environmental issues is through the use of picture books. Literary works that can be included in EfS units with an English/literacy focus are many, so the choice is a difficult one. Nevertheless, I provide an annotated list of fiction and non-fiction texts (for enhancing our understandings about global environmental issues) at the end of this chapter, along with the general themes and issues they address. The selected texts listed immediately below have been published in the past few years and are suitable for use with primary through middle year students. They include:

- John Heffernan (author) and Freya Blackwood's (illustrator) *Two Summers:* suitable for Kindergarten to Year 6 students (ages 4 to 11);
- Gary Crew (author) and Gillian Warden's (illustrator) *Cat on the Island:* suitable for Years 4 to 6 students (ages 8 to 11);

– John Marsden (author) and Shaun Tan's (illustrator) *The Rabbits:* suitable for Years 5 to 8 (ages 9 to 13); and
– Alison Lester (author) and Coral Tulloch's (illustrator) *One Small Island*: suitable for Years 4 to 6 (ages 8 to 11).

These age levels are suggestions. Decide which texts to use with reference to teaching and learning outcomes and, in particular, students' interests and level of understanding.

E-literature for EfS Approaches to studying literature in the past have predominantly involved reading, interpreting and analysing the text in book form. Many authors and publishers today use multiple modes to present texts and enhancements of the text and author details in order to engage their audiences. Amongst this material are texts relating to sustainability issues.

Unsworth (2006) alerts us to the affordances of the web contexts and websites of authors and publishers. In his chapter titled "Learning through web contexts of book-based literary narratives'" (pp. 37–45), he explores some of the classroom learning opportunities that these sites offer. For example, he shows how websites extend traditional approaches to "reading literature in book form" to the "expanded dimensions of the experience of story" offered in electronic forms. He groups these websites into four contexts aligned with their respective purposes: composition, invitation, appreciation and interpretation. These contexts offer a variety of language opportunities and a useful planning framework for considering the specific language and literacy skills that students require in order to access and interact with these websites.

Some authors, according to Unsworth (2006), invite readers to sample their work, some encourage their fans to participate in discussions to show their appreciation, and others provide opportunities to interpret and communicate about the texts. Shaun Tan (Tan, 2009) is one such author whose website is highly visual and worth visiting. I consider his website later in this chapter.

Visual literacy of print-based and digital texts and EfS Today's students are bombarded with images from many different sources. This situation affects their understandings about society, culture and environmental problems, as shown by the fur seal images above.

Kress and van Leeuwen (1996) expand our understanding about meaning-making by exploring the power of the visual image. They claim (for those of us who are not "visually literate") that the impact of this power on our survival, both at school level and in the workplace, will be significant (p. 3). The challenge for us as teachers is to ensure that we give students opportunities to develop the skills to analyse, interpret, reflect and react to images in print-based, digital and online texts.

The adaptations from Kress and van Leeuwen (1996) and Simpson (2004) presented in Tables 10.1 and 10.2 on the following pages show ways in which those of us who are teachers might consider interpreting and analysing images, both print-based and in digital form. Table 10.1 is based on categories we can use to analyse the meanings in an image. Images can be examined according to the ideational (who and/or what), the interactive (what is going on and the relationships between the various components), and the overall composition of the image (what parts are most prominent and how they are made prominent). Table 10.2 sets out the elements we need to consider when analysing images in texts.

Table 10.1. Categories for analysing images from print and digital texts.

Ideational	*Interactive*	*Composition*
Participants: Who? What? Processes: Happenings Circumstances: Where? When? How?	Modality Offer/demand Social distance: close, medium, remote? Vertical angle: high, eye level, low? Horizontal angle: parallel, oblique?	Salience Framing

Table 10.2. Elements to consider when analysing images from print and digital texts.

General element	*Specific aspects of element*
What are the illustrative elements of this picture book?	Consider the design: Size Shape Title page Cover dust jacket: do illustrations wrap-around or are they separate? Single or double-page pictures Placement of the gutter Decorative or silent pages Framed, unframed or edge to edge
What are the artistic devices used in this picture book?	Line Texture Colour Perspective Point of view
What is the relationship between the images and the words?	Images may take longer to read than the text Images show what the words say, and more Colours may show mood Pictures may carry a second story
What are the images in this text doing?	Are they: illustrating confirming adding action contradicting the text?

TEXTS FOR SUSTAINABILITY

1. *The Rabbits* (2000): John Marsden (author) and Shaun Tan (illustrator), published by Lothian Children's Books, an imprint of Hachette Australia (suitable for Years 5 to 8)

Shaun Tan's website (Figure 10.3) provides many opportunities to develop skills in visual literacy and to engage in meaning-making exercises using Kress and van Leeuwen's (1996) visual grammar.

Figure 10.3. Shaun Tan's website homepage.

Tan describes his picture books as suitable "for older readers rather than young children because they deal with relatively complex visual styles and themes." While this is true for *The Rabbits* and its theme of "colonial imperialism", the text is suitable for use with middle-year students (Figure 10.4).

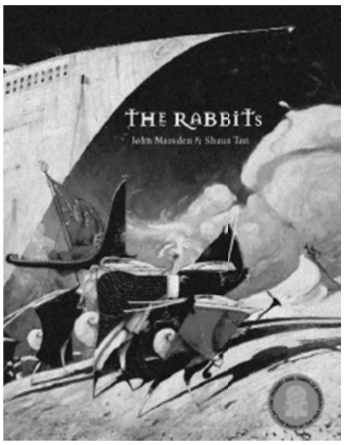

Figure 10.4. Cover of "The Rabbits".

The sophisticated illustrations match the themes of environment and sustainability, "with both text and image conveying an overall sense of bewilderment and anxiety as native numbat-like creatures witness environmental devastation under the wheels of a strange new culture".

At first we didn't know what to think. They looked a bit like us.

There weren't many of them. Some of them were friendly.

They didn't live in trees like we did. They made their own houses.
We couldn't … understand the way they talked.

They ate our grass. They chopped down our trees and scared away our friends…

2. *Two Summers* (2003): John Heffernan (author) and Freya Blackwood (illustrator), published by Scholastic Press (suitable for Kindergarten to Year 6: children ages 4 to 11)

While this text (Figure 10.5) is aimed at young children in the early years, it could also be used with older students, especially when considering the visual and grammatical features of a text. A number of contrasting themes run through this text. They explore, through both the text and images, concepts such as city/country, drought/abundance, life/death and wet/dry. Depending on your teaching focus, you could relate these themes to global warming, climate change, water conservation and other EfS issues. You could also use the text as a focus for a literature-based, skills-based or thematic unit covering several learning areas such as English, science and technology, history, geography, and creative and practical arts.

Figure 10.5. Cover of "Two Summers".

2.1. Teaching *functional and traditional grammar* using "Two Summers"

The following examples, based on the text *Two Summers*, show how we can use a key piece of literature to teach grammar within the context of EfS. The ideas below are based on aspects of both traditional and functional grammar.

Acknowledgement: This section was developed in collaboration with Dr Susan Feez, University of New England, in 2009.

2.1.1 *Text level:* When looking at the whole text, ask the following questions.

Genre or text level	What type of text is it? What is its purpose? What are the parts of the text?
The variety of language	What is it about? Who is it written for? How is it written?

2.1.1 *The wordings:* When looking at grammar, draw students' attention to the following parts of sentences and clauses, using examples from the text.

He's staying for a whole week								sentence/clause
He	's staying			for a whole week				group/phrase
He	's staying			for	a whole week			
He	's	staying		for	a	whole	week	words
He	's	stay	ing	for	a	whole	week	word parts

a Sentences—simple, compound or complex?
Rick is coming to stay again. (Simple)
It takes him seven hours on the train from the city. (Simple)
He's staying for a whole week. (Simple)
Last year I showed him how to ride a motorbike. (Simple with embedded clause)
He bent the handlebars once, and nearly broke his arm when he crashed it in a wombat hole. (Compound/Complex)
But by the end he could jump logs and scramble up muddy hills. (Compound)
On his last day he even beat me home. (Simple)

b Clauses

Rick is coming to stay again. But by the end, he could jump logs and scramble up muddy hills.

c Phrases: prepositional phrases of place, time, etc.

on the train	from the city	for a whole week	in a wombat hole
in the big dam where Dad keeps his old boat			

d Groups

Noun groups	Rick	the city	a whole week	a wombat hole
	the big dam where Dad keeps his old boat			
Verb groups	is coming to stay	takes	's staying	could jump

e Words

Nouns	Rick	city	week	hole
Adjectives	seven	muddy	last	good
Articles	a	an	the	
Pronouns	him	he	I	me
Verbs	is	coming	takes	showed
Adverbs	again	back	too	now
Prepositions	on	from	for	in
Conjunctions/ connectives	and	but	though	before

2.1.2. Teaching *visual grammar* using "Two Summers"

The images in the picture book *Two Summers* provide many opportunities to explore meaning through image. Similar to the words in the text, the images show contrasts between the good season and the bad season.

During the good season, the colours highlight the lush, green grass and abundance of water compared to the bad season, where the brown earthy tones and treeless images signal the drought. The images of the cattle in good and bad seasons present a stark contrast of life and death. The use of the past and future tense in conjunction with the images provides scope for exploring the grammar, in particular, the happenings (processes) within the text.

3. *Cat on the Island* (2008): Gary Crew (author) and Gillian Warden (illustrator), published by HarperCollins (suitable for Years 4 to 6 children)

Based on a factual event, the extinction of the Stephens Island wren, *Cat on the Island* by Gary Crew and Gillian Warden (Figure 10.6) presents a picture book tale of the loss of a species,

with some confronting images in narrative form. The main theme of the text is that of "introduced species" and the damage they cause to both flora and fauna. The affordances and demands of the text and images allow us to explore visual literacy and grammar, the grammatical structure and features of the text, both functional and traditional, and also the literary techniques used to appeal to the readers' emotions about the loss of a species.

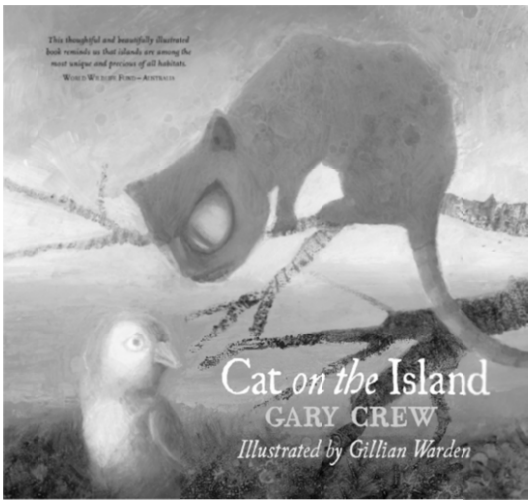

Figure 10.6. Cover of "Cat on the Island", reproduced by kind permission of HarperCollins.

Initially, the deliberate choice of blue and pink pastel colours portrays a tranquil image of small birds flying around a tree. This image is contained by a thick frame, which, we could assume, represents the island as pristine and unique. On the left-hand side of the next two-page spread we are confronted by the image of a red cat, with yellow glaring eyes, staring but not quite looking directly at us, the reader. On the right-hand side is an image of the grandfather, head bowed, eyes nearly closed, recounting to his grandson about how he had come to live on Stephens Island in Cook Strait, New Zealand. The grandson has a shocked look on his face, and his eyes are wide and staring—just like those of the cat.

Throughout the picture book, the images and text continue to contrast the tranquil and the shocking, using visual techniques to make the impact. Of particular note is the image of the small bird, sitting on the stump of a felled tree, staring at the woodcutter chopping down the last tree—its habitat. Previously, this tree had soft colours, but now, in the later image, the leaves have turned to red. In the past, the drops of rain were foregrounded, softening the image of the birds behind. In this later image, the drops have turned into cats' eyes and signal the coming of destruction. While this text presents a gruesome picture, it has great possibilities for exploring the issue of endangered species and extinction with children in the middle years of schooling.

4. *One Small Island* (2011): Alison Lester (author) and Coral Tulloch (illustrator), published by Penguin Australia (suitable for Years 4 to 6 children)

This picture book (Figure 10.7) features Macquarie Island, which lies in the Southern Ocean, between Antarctica and New Zealand. In the book, the island is described as follows: "A speck of green in the vast, windswept sea, it is a haven for many creatures that live above and below the waves." Alison Lester and Coral Tulloch bring us the story of this remote and precious World Heritage Site. Together, they explore the island's unique geological beginnings, discovery and degradation at the hands of humans, and the battle to restore it today.

We can describe this text as a hybrid text because it is made up of different genres, from a number of sources. The main text and images provide an historical account. In addition, there are newspaper reports, bibliographies and accounts from past visitors and workers on the island. These texts provide a rich source of models for students' writing.

Several resources based on this text have been developed for Years 5 and 6. One such, developed for English in the Australian Curriculum, provides sequenced units of work and can be found at the following link: http://e4ac.edu.au/units/year-5/index.html.

The Primary English Teaching Association of Australia's (PETAA) notes for teachers based on the book can be found at this link: http://www.petaa.edu.au/teaching-resources/literature-singles/small-island.

These resources provide rich ideas for addressing the sustainability cross-curriculum priority within the English learning area.

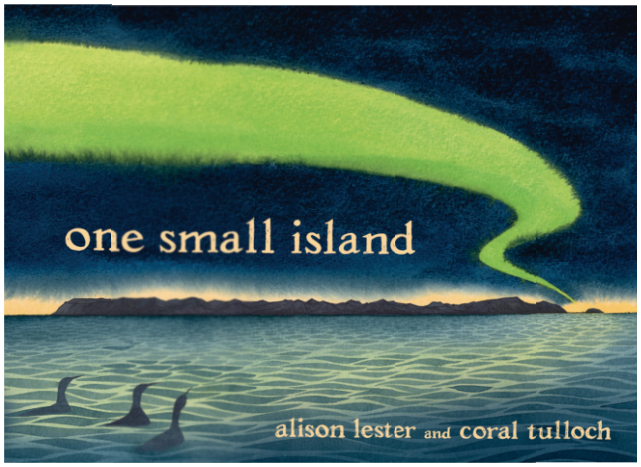

Figure 10.7. Cover of "One Small Island" (2011), reproduced by kind permission of Penguin Australia Pty Ltd., Melbourne, Australia

LEARNING MODELS FOR PLANNING ENGLISH AND LITERACY FOR EFS

The calls to shift from the notion of environmental education (EE) to the notion of education for sustainability (EfS), as discussed in Chapter 1 of this book, is an important change and one that English and literacy is able to support in practical ways. If students are required to develop a "socially critical" view of the world, to "question actions" taken by societies that have led to the degradation of the planet and to "take positive action", they need to have the ability to use language in all its forms (text and image). Planning to use and develop students' language is a crucial part of taking action.

This section of the chapter includes three suggested learning models that teachers will find useful when planning for EfS.

1. Five principles for planning (Comber et al., 2007)
2. The Geralton model (Reid, Green & English 2003)
3. The curriculum cycle (Rothery & Callaghan, 1988, cited in Knapp & Callaghan, 1989).

Chapter 2 of this book promoted the importance of shared, constructive and reflective learning. Each of the three learning models promotes these elements in different ways by focusing on slightly different aspects of English.

1 Five principles for planning (Comber et al., 2007)

These five planning principles, shown in Figure 10.8, are useful for teachers considering pedagogy and teaching and learning about the environment. The authors of the model point out that the principles require teachers to take risks but also to provide time to develop students' understandings. Their advice is similar to that offered by the authors of the Geralton model and the curriculum cycle model.

More specifically, the principles that Comber and colleagues offered as a result of their research were the following:

1. Communicating with experts and scrutinising "significant text-based research" from both print and web-based sources;
2. Providing extended periods of time to fully build and develop concepts about the environment and sustainability;
3. Planning for experiences that are not bound by the classroom;
4. Using language and literacy as the key to students accessing information and creating texts via a number of modes; and
5. Taking up opportunities as they arise so that students can fully develop authentic texts.

Given the pressures of a crowded curriculum, the last principle is often seen as a "big ask" of classroom teachers who are already under significant stress to perform and be accountable.

Figure 10.8. Five principles for planning (adapted from Comber et al., 2007).

2 The Geralton model

This model (Figure 10.9) focuses on the development of language from spoken to written form through the use of group work and selection of appropriate tasks. Its developers based it on a number of theories relating to language and learning.

One key aspect of this model is that it emphasises developing students' home language through the use of small group learning, in a non-threatening environment, and allows for teachers to plan for moving students from spoken language to more formal, written language or more technical language, thus developing students' stronger understanding about the concepts being explored. Moving students' language from informal to formal, from home language to school language, or from everyday language to more technical language can equip students with the literacies they need to engage with environmental issues such as global warming and climate change. In order to advance these language skills, teachers need to begin with informal, home or everyday language when discussing, explaining and interpreting within the "risk-free" environment.

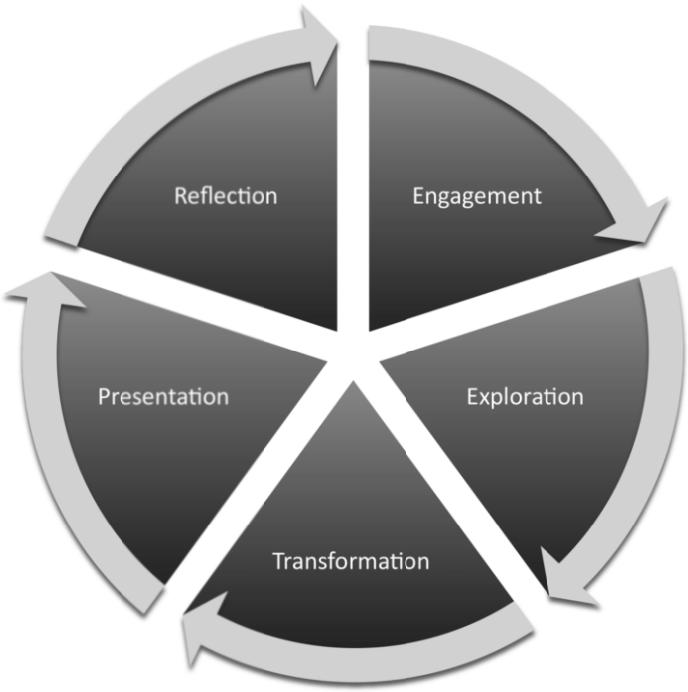

Figure 10.9. The Geralton model (adapted from Reid, et al. 2003).

3 The curriculum cycle

A model now widely used and adopted by a number of organisations and groups (including the NSW Department of Education and Training) is the curriculum cycle (Figure 10.10), originally developed by Callaghan and Rothery (1988; cited in Knapp and Callaghan, 1989). The model provides a framework for developing the sophisticated writing skills students need both for accessing texts about environmental sustainability and for producing these texts; in other words, the writing skills needed to take action. The model provides us with a structure that can develop students' knowledge and understanding about powerful ways of constructing texts that can potentially influence the future sustainability of the planet.

The original curriculum model presented three stages in the cycle involved in teaching different written genres or text types:

1. Building the field (developing the language concepts associated with the particular area of study);
2. Jointly constructing texts (teacher and students developing texts from spoken to more sophisticated written language, i.e., technical texts); and
3. Independent construction of texts (students independently constructing texts using a spoken to written continuum).

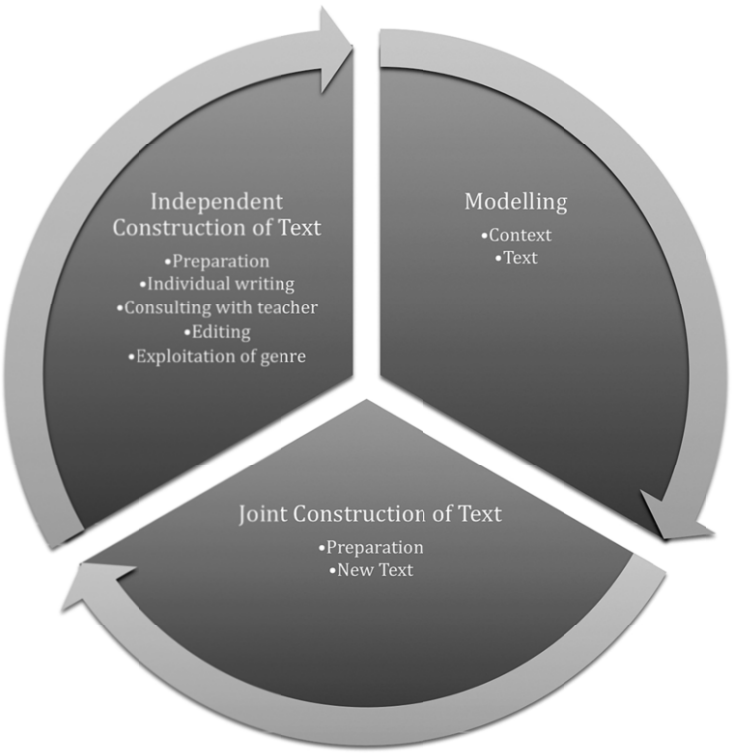

Figure 10.10. The curriculum cycle (adapted from Callaghan & Rothery, 1988, cited in Knapp & Callaghan, 1989).

The model is an important one because it recognises that it takes time to develop conceptual understanding about any context, including, of course, the complexities of concepts about the environment and the serious environmental issues facing our planet, such as climate change. The main focus of this learning cycle is on genre or text types and their purpose and structure in both oral and written modes. A detailed plan for using this model can be found in *The Report Genre* and *The Discussion Genre*, which were part of a project undertaken by the Metropolitan East Region of the New South Wales Department of Education and Training (Knapp & Callaghan, 1989).

CONCLUSION

If young people growing up in the 21st century are to take informed action into the future, teachers need to ensure their students have the necessary skills for discussing and debating, for putting forward their points of view, for reading and viewing, analysing and interpreting texts

in all their forms, and for authoring print-based, digital and multimodal texts. In addition, students need to be "net savvy" in order to make sense of their world and to take action so that the environment and its societies *will* have a future. As indicated earlier, I end this chapter with an annotated overview of books relevant to the chapter's topic and themes.

SOME GOOD BOOKS FOR EFS IN THE ENGLISH LANGUAGE AND LITERACY LEARNING AREA

Fiction

Author	*Date*	*Title*	*Publisher*	*Topic/themes*
Baker, J.	1988	*Where the Forest Meets the Sea*	Walker Books, UK www.jeanniebaker.com/picture_books.htm	Future development and its effect on the natural environment of a tropical rainforest.
Baker, J.	1991	*Window*	Random House, UK www.jeanniebaker.com/picture_books.htm	Time and change, human growth, changing uses of land, impact of human activities.
Baker, J.	1995	*The Story of Rosy Dock*	Random House, Sydney www.jeanniebaker.com/picture_books.htm	Desert areas and introduced plant species from European settlement.
Baker, J.	2000	*The Hidden Forest*	Walker Books, UK www.jeanniebaker.com/picture_books.htm	*The Hidden Forest* is set underwater in the giant kelp forests off the south-east coast of Tasmania. Key themes: exploitation, exploration.
Baker, J.	2004	*Belonging*	Walker Books, London www.jeanniebaker.com/picture_books.htm	*Belonging* explores the re-greening of the city: the role of community, empowerment of people, and significance of children, family and neighbourhood in changing their urban environment.

Fiction

Author	*Date*	*Title*	*Publisher*	*Topic/themes*
Base, G.	2003	*The Waterhole*	Puffin www.graemebase.com/	Water usage and conservation. This ecological book encourages children (and adults) to think about our most importance resource, our vulnerability without it, and the cycle of dry and wet.
Cheng, C., Woolman S.	1997	*One Child*	ERA Publications	Shows how one person can make a difference.
Crew, G., Warden, G.	2008	*Cat on the Island*	Angus & Robertson	Introduced species. *Cat on the Island* is a disturbing and important picture book for older children. It tells the story of Stephens Island, between the North and South Islands of New Zealand, where the introduction of domestic cats led to the extinction of the world's only flightless wren.
Flynn, P.	2006	*The Tuckshop Kid*	University of Queensland Press www.patflynnwriter. com/	Obesity, bullying and difference; self-perception and over-eating; friendship and its role in developing self-esteem; family relationships and self-esteem.
Heffernan J.	1998	*Rachael's Forest*	Margaret Hamilton, Sydney www.spudplus.com/	Forest degradation; individuals can make a difference.
Heffernan J.	1998	*Rachael's Forest*	Margaret Hamilton, Sydney www.spudplus.com/	Forest degradation; individuals can make a difference.

Fiction

Author	*Date*	*Title*	*Publisher*	*Topic/themes*
Heffernan, J., Blackwood, F.		*Two Summers*	Scholastic Press www.spudplus.com/	Climate change, sustainable practices and water conservation.
Marsden, J., Tan, S.	1998	*The Rabbits*	Thomas Lothian, Melbourne www.shauntan.net/books/the-rabbits.html	Colonisation, told from the viewpoint of the colonised, environmental devastation.
Tan, S.	2001	*The Red Tree*	Lothian Books Australia www.lothian.com.au	Personal sustainability
Wheatley, N., Rawlins, D.	1996	*My Place*	Longman, Melbourne	Indigenous and Australian history; depiction of passing of time; use of a Morton Bay fig tree that is constant and a point of reference in the ever-changing landscape.
Wright-Simon, M., Wright-Simon, J., Green, R.	2006	*Rusty Loses His Loop*	Red Murray Urban Users Local Action Planning Committee www.murrayusers.sa.gov.au	Endangered species; water conservation and water quality.

Non-fiction

Author	*Date*	*Title*	*Publisher*	*Topic/themes*
Lucas, D. & Searl, K.	2005	*Walking with the Seasons in Kakadu*	Allen & Unwin, Australia	Wet/dry seasons; observation of the birds, plants and animals that inhabit the unique environment of Kakadu; six Aboriginal seasons and their characteristics; flood plains—gathering plant specimens.
Mills, A. (Ed.)	2005	*Animals Like Us*	DK Books www.arkive.org	Endangered species.
Arthus-Bertrand, Y.		*The Earth from the Air for Children*	Thames & Hudson www.newint.com.au/shop/earth-from-air-for-child-381.htm	Images from the air showing the complexity of Earth, its systems, as well as the diversity of our world's people and places. Showcases the magic and beauty of our planet.
Hope, T., with NASA	2008	*Earthcam Watching the World from Orbit*	David & Charles, UK www.mightyape.co.nz/product/Earthcam-Watching-the-World-from-Orbit/2588939/	Earthcam presents a collection of images. Global warming: changing the environment. Produced in cooperation with NASA.
David, L., Cambria, G.	2007	*Down to Earth Guide to Global Warming*	Scholastic, Australia www.scholastic.com/downtoearth/index.htm	Global warming; changing weather patterns; protecting the environment.
Mackay, R.	2005	*The Atlas of En-dangered Species*	Earthscan, London	*Endangered Species* locates/identifies different species of wildlife and shows how human survival depends on biodiversity. Major threats to biodiversity; conservation

Non-fiction

Author	*Date*	*Title*	*Publisher*	*Topic/ themes*
Flannery, T., Schauten, P.	2001	*A Gap in Nature: Discovering the World's Extinct Animals*	Text, Melbourne	Endangered species.
Chiras, D.	2005	*Ecokids: Raising Children Who Care for the Earth*	New Society Publishers	Hopeful and inspiring guide for parents: taking action, positive solutions, developing environmental values, generating hope and combating apathy; global warming.
Tonkin, R.	2006	*Leaf Litter: Exploring the Mysteries of a Hidden World*	Angus & Robertson	Highlights inter-connectedness of life and death by exploring the world under leaf litter. The illustrations show how leaf litter provides nutrients to feed trees and how vital this is for survival of our planet.

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Diane Hansford
University of New England
Armidale, NSW
Australia
email: dhansfo2@une.edu.au