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Sustainability and Educational Research: Working with Teachers for Curriculum Relevance and Intergenerational Justice

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Abstract
In the Australian context of sustained environmental stressors on the social and economic sustainability of our large southern continent, education as government service plays a key role in securing the harmony and health of a national and international community. In this paper I present an account of a number of educational research studies over the past ten years that have focused on forms of educational practice that work with schools teachers and students towards a goal of strengthening the social and environmental fabric in nation building and re-building. I report here on two related educational research projects funded by the Australian Research Council, one focused on the development of pedagogical approaches that support environmental sustainability though place-based local activity in schools and communities across a large bio-region, the Murray-Darling River Basin, that is key to the nation's health, and the other that seeks to describe and elaborate the kinds of community and school leadership that enables remote and isolated schools to attract and retain high-quality teaching staff. From a perspective that positions the education of children at the heart of a eco-socially sustainable future, I argue that these sorts of challenges to dominant metro-centric educational policies and practices that deny the effects of location, post-colonial marginalization and environmental change need to be supported and nurtured in the interests of national and global sustainability[1].

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INTRODUCTION AND DEFINITION OF TERMS

I am honoured to speak to you this morning and bring greetings to all delegates to this 2010 APERA conference from my colleagues in the Australian Association for Research in Education, and from educational researchers all across our country. As a visitor to this country, Malaysia, I acknowledge the land on which we are gathered this morning, and pay respects to its traditional custodians who have made it possible for our generations to build and live here in comfort today.

I have chosen for the topic of my talk the issue of 'Sustainability and Educational Research: Working with Teachers for Curriculum Relevance and Intergenerational Justice', and I want to highlight the importance of the work that teachers and schools are doing in classrooms and communities to support a sustainability agenda. I draw on research that deals with sustainability in both curriculum and professional terms, but I want to begin by clarifying my use of the idea of sustainability as a key term here, before turning to the conceptual and material dimensions of this research. The work is framed within a commitment to what I understand as both eco-social and intergenerational justice, and these terms will also need to

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[1] This presentation is largely based on a forthcoming publication by Reid, J., Green, B., Cooper, M., Hastings, W., Lock G. and White, S. (2010) Regenerating Rural Social Space? Teacher Education for Rural-Regional Sustainability, *Australian Journal of Education*, Vol. 54, No. 3, pp. 262–276.

be defined before I go too far forward. Like the term 'sustainability', we often assume that they can be taken for granted as generally understood, and therefore unproblematic when we are speaking in educational communities. But the words we use are important, and the idea of *eco-social justice*, as being somehow different from social justice, is key to a particular understanding of the idea of *sustainability*.

Eco-social justice

What is eco-social justice, then? An eco-social perspective, although it continues to highlight the social as crucially important, and indeed includes its history as taken for granted, does not put people first. It recognizes, and argues, that "to be human is to live engaged in a vast and complex system of life", and that "human well-being depends on learning how to protect it" (Martusewicz & Edmundson 2005: 71). It therefore extends and complicates – and hopefully enriches – a commitment to social justice in educational research. This is generally understood, post-Freire, as focusing on re-dressing human oppression and the structural hierarchies built into the cultures that have developed among our own species over time through both feudal and modernist ideals of 'progress', expansion, colonialism, and development. A social justice agenda therefore works towards oppositional social change (Giroux 2004), while an eco-social justice agenda goes beyond this. It takes as an ethical foundation a commitment to the recognition and consideration of the Other, including the non-human Other, and hence of the natural eco-systems that sustain human and non-human life as well as both these forms of life. It grows from what Martusewicz & Edmundson (2005) see as:

> a fundamental commitment to the recognition that we live together on this planet among all kinds of living creatures, human and non-human, in a fragile but essential interdependence. (Martusewicz & Edmundson 2005: 71).

The key aspect of such a commitment is an acceptance and valuing of diversity and 'otherness' that includes the natural world and its non-human elements. And while critical theorists focus on *social* justice and the role of culture, an eco-social perspective calls us to go further, to consider the environment which provides the necessary conditions for *all* forms of human social relations, and to work carefully to "address our interdependence as humans upon threatened natural systems" (Edmundson & Martusewicz, 2004:122). As a value system for educators, it would seem that an ethics of care for *both* the world we live in *and* the people who live in it does appear to have merit. It would appear to be an ideal that can be shared across regional and national borders by people whose educational vocation pre-supposes an interest in the welfare of future generations. But it is a difficult ethics to uphold and promote, particularly when we are caught up in contradictory neo-liberal discourses of global consumerism, and the cult of individuality and competition. These discourses continue to shape education policy, curriculum and pedagogy in the interests of a global agenda of individualistic human progress.

Intergenerational justice

For educational researchers who care about the world we will leave behind for our children, the idea of *intergenerational justice* parallels the idea of eco-social justice, even though it too has a strong social emphasis. It is derived most recently from the economist Tobin's argument to university managers that "[t]he trustees of endowed institutions are the guardians of the future against the claims of the present. Their task […] is to preserve equity among generations" (Tobin 1974: 427). In my work with colleagues researching 'education for sustainability' over several years, focusing on government agencies, schools, teachers and communities, our aim has always been towards this end: to find ways in which teachers and schools can better educate the population so that it will increasingly see itself able to (and

wanting to) act always, locally, nationally and globally, with an *eco*-social awareness, and within an ethics of *eco*-social sustainability.

Sustainability

We have long understood *sustainability* to be the ability "to meet the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). According to the *Brundtland Report* (World Commission on Environment and Development, 1987a), sustainable development incorporates social justice, which "includes intergenerational equity, and the health of natural systems [as] of equal importance with economic development" (Nolet, 2009:411). Sustainability is a matter of intergenerational justice: "adjusting our current behavior so that it causes the least amount of harm to future generations" (Owens, 2001: xi), thereby including an ethical concern for non-human Others. When we talk of changing behaviour, we are talking expressly of education: the work of educating the young for recognition of the needs of the future – for Others – is precisely the work that society assigns to its schools and teachers. Such work is clearly crucial for our survival not simply as a collection of individual nations, but as a human species that conjointly inhabits our planet (Green, 2010).

Research for Sustainability in the Australian context

Each of the two research projects that I am drawing from in this presentation is based on these principles, but is quite differently directed at education for sustainability: the first, *River Literacies,* is an inquiry aimed at progressing the work of a large national government program addressed to renewing and maintaining the inland environmental health of the Australian continent. Later in this paper, however I will argue that this appears to have been a failed project, perhaps because of a policy that paid too little attention to the forms of pedagogy that would best support it. The second, *TERRAnova,* is a study of how education for people in the inland of Australia can be sustained in the face of challenging eco-social, environmental and social change. A key theoretical concern in this context is the notion of *place*, for in eco-social terms both the environment and the people in it are always material – they are located somewhere, and sometime. In both of these projects there has been close attention to place as implicated in, not just a context for, educational work. Place matters (Green (Ed.),2008), and place makes us who we are. I will discuss only the theoretical work that we have developed in the second project to support Initial Teacher Education: presenting to you a model we have developed in this latter project that foregrounds an approach to preparing student teachers to understand place as more than just geography.

I begin with a brief reference to *my* place, and to the problems and challenges that Australian education is facing as a result of changes in population, climate and the emphasis in post-industrial society on metro-political life. I do this to highlight my concern with place and space in the context of education and schooling, and I will argue that this is a particular and particularly important aspect of the problem of social and environmental sustainability – of eco-social justice. I will then explain a little about these projects and argue the importance of their findings in rethinking teacher education so that it will attend to these issues as a major contribution to the future. I conclude with a challenge to us all, as educational researchers, to ensure that our concerns with human growth and social sustainability do not forget or overlook the fact that these issues are always material, and that attention to place and the relationship of humanity to its environment is essential for human survival.

To begin, then, I speak in the knowledge that others around the world are seeking to achieve similar ends and are using similar means – and that I, as an English speaker, do not know and cannot read about all of them. I must leave it to you, as audience, today to determine the degree of commonality – and urgency – for us, in bringing about such a change. It is particularly important in my situation, in my place, in inland Australia, where I work preparing teachers at a university situated in country that we have only recently begun to regularly acknowledge in the institution as 'Wiradjuri country', and which has recently, only this year, begun to be replenished by rain after nearly two decades of drought. The land has not yet begun to be restored as a place for people to live sustainably. Rural schools and towns are still struggling to recover from what is now a generation of environmental, economic and social disaster that they have been living through. They are attempting to remake themselves in ways that will allow them to cope with the changed times and environmental conditions that have now been created. How teachers might go about supporting students to face these new times with a sense of hope, optimism and agency is a curriculum question, and this is where I turn to now, to share a little of a project that we have worked on for several years with a national agency of government in Australia, the Murray-Darling Basin Commission.

River Literacies.

In 1983 the Australian Government began to respond to the challenge of remediating the environmental degradation that had become evident in the largest river catchment on the continent, the Murray-Darling Basin [M-DBC]. This has occurred in just over 200 years of European settlement on land that had previously sustained its Aboriginal population for millennia. The Federal government formed the Murray-Darling Basin Commission, which began a series of planned interventions in the Basin ecology in order to try to save it as the major source of food, water and economic prosperity for Australia.

http://www.murrayriver.com.au/river-management/murray-darling-basin-commission/

In 1993, a project for primary school children focused on art and English, *Special Forever*, was conceptualised with the NSW Primary English Teachers Association [PETA] as a key part of the Murray-Darling Basin Commission's long-term education plan to turn around unsustainable land and water usage practices within the Basin. It can be seen as a strategy within a larger project of governmentality, and it remains, after 18 years, still a key part of the M-DBC 'Environmental Communication Strategy'. Its overall aim is to produce a citizenry which can more effectively contribute to the management of their natural resources and to deal with the 'crisis of sustainability' in their communities. *Special Forever* was designed to supplement the larger ongoing scientific education project with a more humanistic, affective engagement with the environment that would produce social subjects who possess an emotional and embodied relationship with the land and the Basin that would ensure their connection and responsibility for its sustainability.

Broadly conceived, the Commission's education plan was developed around three eight-year themes:

> Stage 1 (1990-1998) – The Commission's education work was directed towards raising the profile of the Murray-Darling Basin within the region and to all Australians, and teach them *about* the M-DB. The aim of this educational communications strategy was: "To contribute significantly to the achievement of an informed, ecologically literate, empowered and active community with a Basin (holistic) ethic, in one generation (2015)" (Eastburn, 2001: 3). This was to be achieved through the development of television and video material, informational packages and resources. In 1993 it commenced a number of school-based environmental education programs, mainly focused on the effects of rising salinity, to encourage empathy and sensitivity to environmental misuse as a problem to be solved.
>
> Stage 2 (1998-2006) – Work was to focus on building relationships and human resources for communities *in* the M-DB through capacity building programs such as *Special Forever*. (In secondary schools, however, a communications-focused project, *Reading the Land*, did not gain popular appeal among students and teachers, and the focus was shifted to a more scientific approach, involving a biennial River Health Conference for schools in the Basin.)
>
> Stage 3 (2006-2015) – This was conceived of as the opportunity to work with empowered and informed community members *for* the M-DB.

This was a strategic plan in all senses. The key was to work from the start with mass communication in homes and communities, and then focus, in *Special Forever*, on children in the middle and upper primary years. The rationale for this linked to Sobel's (1993:52) claim that middle childhood is a "critical period in the development of the self and in the individual's relationship to the natural world". *Special Forever* was to achieve this outcome through the employment of an aesthetic rather than a scientific curriculum – using creative expression, art and a romantic notion of 'English', that would engage children in speaking, writing, drawing, painting or making artefacts that would allow them to communicate their personal experiences and relationships with the 'special' places of the Basin. It is in this way that it was described as 'an environmental communications project', and, as Eastburn (2001:14) noted, *Special Forever* would also provide "children, the future custodians of the MDB, with the ability to 'bear witness' against actual or potential environmentally damaging

activities." In this way it would provide "an 'intergenerational insurance policy' for future generations of Murray-Darling Basin residents" (Eastburn, 2001: 14). Thus the focus in its first decade and a half of operation was quite consciously on the local and the immediate places to which the children of the Basin would have the strongest emotional ties: their own places.

Hence *Special Forever* was conceived by the Murray-Darling Basin Commission as a way to initiate and foster environmental awareness among school children in the Basin. The Commission's concurrent ongoing education program was based in science, and saw its role as providing information resources to teachers to use with children in schools. However this approach was proving to be inadequate in increasing either opportunity in primary schools for learning about environmental sustainability, or for improving general *knowledge* among primary students about the Basin and the idea of sustainable development. Many primary teachers, for instance were not knowledgeable about environmental issues themselves, and were uncomfortable with the teaching of science. Further, there was little sustained professional development available on a large scale for teachers across the Basin. In *Special Forever*, however, teachers with an interest in environmental issues, some of whom at least may have lacked the skills and training to feel comfortable teaching science, nonetheless were able to make a contribution to the public good, while allowing students to engage in creative and worthwhile expression through the arts and English.

From the point of view of the Murray-Darling Basin Commission, *Special Forever* had the potential to help rural communities located in Basin achieve, in one generation, an openness to the need for sustainable social and agricultural practices. As a by-product of this, it was seen as a way of bringing about an improvement in "the perceived poor literacy standards" which were presented "as a major concern in rural areas and ultimately an impediment to the achievement of ecologically sustainable development" (Eastburn, 2001:8). By 2004, rapid changes in the field of English and literacy teaching, particularly in terms of the growing ubiquity of multimedia and digital communications tools, meant that the Primary English Teaching Association (PETA) was seeking to find ways to extend the notion of environmental communications to include digital electronic forms of text and art work, and invited a team of literacy researchers[2] to investigate ways in which the *Special Forever* program might be enhanced.

At this time too, the effects of drought across the Australian continent were beginning to be felt, and the team turned to the literature of environmental and place studies to support our research with teachers involved in *Special Forever*. Informed by this, we considered that the necessity to engage with pedagogical practices relating to the sustainability of our environment was becoming clearer and more urgent – to develop what I have elsewhere described as a 'pedagogy of responsibility' (Reid, 2007). Such pedagogy, based on the work of Martusewicz & Edmundson (2005), refers to the dynamic relationship between scientific inquiry and action, and is related to Gruenewald's (2003) sense of political action and advocacy. A 'pedagogy of responsibility' explicitly acknowledges what Lemke describes as the 'irony' that, for primary aged children:

> classroom education and the formal curricula […] are narrowly focused on informational
> content that is more or less unique to school experience, when the major developmental

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[2] Comber, B., Cormack, P., Green, B., Reid, J. and Nixon, H. *Literacy and the environment: A situated study of multimediated literacy, sustainability, local knowledges and educational change*, ARC Linkage Funded project 2005-2007, with NSW Primary English Teachers Association [PETA].

> processes of these years appear to be about the formation of identities that fill larger scale social models [...] Whatever we offer in the classroom becomes an opportunity to pursue this longer-term agenda of identity building (Lemke, 2000: 286).

In these terms, conceived of as part of a process of identity formation, such a pedagogy seems appropriate to achieve the engaging and high-quality environmental education which had been the aim of the Murray-Darling Basin Commission, since 1993. Yet we considered that working with the 'hearts and minds' of children, in the *Special Forever* program, might well be enhanced by encouraging embodied learning about the environment as well.

For this we drew on the work of Jeronen and Kaikkonen (2002), who suggest that there is a hierarchy of indicators of successful environmental education. These were used in our research with *Special Forever* coordinators, to structure a collection of action research projects in their schools. These were framed by attention to a structure that would move from 'sensibility' to 'awareness', to 'knowledge' and, finally, 'action' on the part of both teachers and students. While these aspects of environmental education may be listed hierarchically, they are also interrelated and additive, in that activity 'in, on, and for' the local environment necessarily involves and produces sensitivity, awareness, and knowledge in 'rich' and 'productive' pedagogical practice (Lingard, Hayes & Mills, 2003). In this way, a pedagogy of responsibility is both intellectually challenging and environmentally sustaining.

The work of this project is recorded in the 2007 PETA publication, *Literacies in Place* (Comber, Nixon & Reid [eds]), which contains the action research reports of eight teachers who worked with an eco-social justice perspective to design curriculum that engaged students in activity to promote sensitivity, awareness, knowledge of and action in their local communities. For example, one teacher involved children in Year 2 taking care of the vegetation on a local mountain ridge that had been infested with exotic weeds after a severe bushfire a year earlier. Over the next two years, this teacher and her pupils engaged in the regular and sustained activity of planning, preparing, planting, tending, recording and informing others about the plant life of the Ridge. The teacher helped the children to use their knowledge in the design and construction of their own Drought Resistant Garden in the school grounds, to educate others about local flora. In this way, the curriculum supported pupils to constitute themselves as individuals with what Bourdieu (1977) called a 'habitus' of responsibility for their local environment as part of their social identity. This is a pedagogy, like that of many other *Special Forever* teachers, that is always in process, always responsive to the environment and to what their place provides.

Another *Special Forever* teacher involved in the River Literacies project articulated these principles in her commentary on the sort of activity that students and teachers in her local area undertook in the name of literacy development:

> Some of the good things that I've found are the best are the things that happen out of nowhere; the Native Fish Strategy people rang and said 'we're doing a little bit of a push on species of native fish – we're coming out to your region, would you like to coordinate some things with schools where they could have a look at some of the native fish strategies and how we're doing it …There was only a little bit of water … the river was so low then. So we had three different schools, Walgett and Brewarrina, we've got the fish traps there … forty thousand years old natural fish traps, so they talked about those and also they came to Bourke ... and talked about … anglers and other groups … so that prompted the kids to talk about what's the best environment for fish, what happens when there's a change in the environment, what do we do about that, can we do anything about it, should we be responsible for cleaning up our area of the river, where plastic fits in. So kids know all of those things, but for them to actually *do* something about it makes them think 'we can do

this, we can clean up our area, we can make sure we keep the snags in the river so that the fish can breed, and all those sorts of things. … once you think about environmental studies, you can include any literacy activities you like … (extracted from Reid 2007).

It is this sort of activity with students that highlights two of the key questions that an eco-social justice agenda seeks to foreground: 'What do we need to conserve?' and, 'What needs to be transformed?' Martusewicz and Edmundson (2005:79) argue that "[r]ather than being predisposed to see tradition as oppressive, a pedagogy of responsibility asks what the consequences of the traditions are for the community, and what would be lost if the tradition was changed." In the Australian context where Indigenous knowledges and traditions, particularly those that have sustained the land and all its inhabitants over centuries, have been ignored and are in danger of being lost, de-placed and re-placed, these questions are crucially important.

But as I foreshadowed earlier, I must turn at this point to argue that the larger project of the Murray-Darling Basin Commission to educate its populace for ecological sustainability has recently been shown to be failing in this intent. While the hearts and minds of the seven-year-olds who were the subjects of *Special Forever* when it began in 1993 might feel empathy and love for the environment they grew up in, they are now still only twenty-four years old, and few of them are opinion leaders in their communities. Many of their parents and older relatives, farmers and community members, throughout the Basin, whose livelihoods depend on agriculture, resist the Commission's recent plans to regulate water used for irrigation in order to save the eco-system of the river lands from irreversible damage:

> **Farmers call for Murray-Darling plan to be thrown out'**
> More than 70 elected leaders of the state's peak farming body have called on the Murray-Darling Basin Authority to ditch its draft plan aimed at rescuing the rivers and to recalculate the irrigation water cuts it says are needed in every valley. "This is not a case of negotiation," said the president of the NSW Farmers' Association, after the unanimous vote at a Sydney meeting of representatives from across the state. The authority had done nothing to justify the 37 per cent average water cuts to agriculture across the state and its draft plan was "a huge black cloud" hanging over farmers and their communities, he said.
>
> "The ability of people to invest, the ability of banks to continue to back farmers and other businesses in regional areas is really under question. We will see a huge restructure of this area … Maybe it will mean a vacant NSW and [a state which becomes] a huge national park, where a whole lot of people go hungry. We feel a responsibility, unlike some, to continue to feed the 60, 70, 80 million people that we feed in Australia and around the world."...
>
> The central tablelands delegate warned that meetings the authority was due to hold in Dubbo and Forbes would be as "savage" as that in Griffith, where copies of the guide were burnt. The farmers also passed a motion calling on state and federal governments to urgently increase mental health service funding to help people cope with the impact of the proposed plan. "It is very disturbing to have people calling in after that Griffith meeting bawling their eyes out about what was going to happen to them," said the association's water spokesman. (extract from Jopson (2010).

We can see how what is being called 'water justice', in terms of environmental sustainability for the future, has become a lived political and personal issue for the people whose livelihoods depend on taking water out of the river in order to grow crops and livestock. These people quite understandably see social justice as more important, in the here and now, than eco-social justice for the here and then, and seek to put the interests of people before place.

This is a significant issue for teachers, everywhere, as they support students to think through these issues – particularly as media representations are increasingly likely to produce a stereotypical rural/urban division of opinion, where people in cities, from *other* places, can more easily accept the rational call to save the Murray for the future sustainability of the nation. It is an intensely difficult issue for teachers in the Basin itself. How do teachers in these locations know what to do in this situation? How do they know what to think about the issue if they are local, and how do they position themselves if they are not?

To help think about this issue, I turn now to a discussion of how an eco-social justice perspective might be useful to inform the practice of Initial Teacher Education in order to better prepare teachers for this and other sorts of particular, place-related problems for education, and educators, around the world.

PLACE AND SPACE IN EDUCATION AND SCHOOLING

As noted above, sociologists around the world are increasingly arguing that place matters (Gieryn, 2000; Green (Ed.), 2008) and the sociology of place has increasingly impacted on educational theory and practice in recent years (Soja, Grunewald, Green, Corbett, Massey, Theobald, Sobel). Gieryn argued that there are three features of place that need to be accounted for in order to understand it as a concept: its geographic location, its material form, and the ways it has been invested with meaning and value. It is easy to see how closely a concern for the environment enters and interrelates with each of these aspects, and indeed how the idea of 'environment' cannot be separated from a consideration of place – of *where* education is happening for students, teachers, systems and nations. In many nations, education is seen as a particular problem in rural areas – where distance from a metropolitan centre produces places with low economic advantage, few social attractions and little educational success.

Certainly in the preparation for this talk I have been surprised by the degree to which Australia shares what we call 'the rural problem' with South-East Asian neighbours, even though the nature of this problem may be realised differently in our different locations. In Malaysia, for example, the Education Development Plan 2001-2010 expressly mentioned the need to "focus on rural secondary schools […] and problems of teacher deployment according to option and location; and the need to ensure all secondary school teachers are graduates by 2010" (Ministry of Education, Malaysia, 2003:5). It also noted the challenge it faces in promoting:

> … access to and equity in primary education [including] increasing the participation
> rate particularly among the children of indigenous groups such as the Orang Asli in
> Peninsular Malaysia and the ethnic groups in rural and remote areas of Sabah and
> Borneo (Ministry of Education, Malaysia, 2003:3)

For us in Australia, notions of sustainability in educational provision are closely tied to notions of land and water, the environment, and of maintaining the conditions for sustainable communities in places where climate and country continue to prove inhospitable to human life and where healthy human communities are increasingly difficult to sustain. In Malaysia "[t]he geographical locations of remote schools, especially in Sabah and Sarawak, pose a great challenge in providing the necessary infrastructure" for education (Shaharuddin, 2009: 9). As Green (2008) has argued, although there is considerable attention to place in the research literature informing educational thinking, and although policy governing education (and the allocation of resources) claims the need to be evidence-based and data-rich,

educational policy remains largely place-blind. In particular, it fails to see that allocating money for rural schools to do the same educational things that city schools do is not a solution to the problem of social, let alone eco-social, justice. Like Malaysia, Australia is currently rolling out a large policy initiative in schools around 21st century learning focused on ICT connectivity. In Malaysia:

> For remote rural schools without telephone lines, wireless or satellite internet connectivity is provided using VSAT technology. This technology uses a two-way satellite ground station with a dish antenna to allow broadband internet access. This initiative enables teachers serving in interior locations to utilize the SchoolNet for administrative, teaching, learning and assessment purposes. In this way, rural schools are provided with the means to narrow the digital divide, thus transforming their practice (Shaharuddin, 2009:7)

In Australia, such digital connectivity has to date been mostly used for administrative and reporting purposes, so that the achievement of children in rural schools can be compared more easily with that of their city age peers. But as the River Literacies study indicates, *curriculum* that attends to place, to *where* students are learning, is also necessary.

Gruenewald (2003:620) claimed, "Contemporary school reform takes little notice of place," and Pat Thomson's work on 'likeness' ('like schools') vs. 'thisness' (*this* school, *this* place…) highlights the futility of comparing student learning outcomes across different places with no foundational, ethical, eco-social concern for the differences between them. For Thomson (2002), the idea of 'thisness' refers to the specificity of place: it highlights how local action is delimited by contexts. She stresses the value of and need for education policy to be "systematically 'looking' at thisness, rather than acting as if such factors can be screened out" (Thomson, 2002:184). Currently they are not – and teachers in rural schools are regularly blamed (or named as being 'low quality') when children from rural places perform less well than children in metropolitan areas on national and international standardised tests.

Nearly thirty years ago, Linda Ankrah-Dove (1982) claimed that schools in remote rural areas in less-developed countries are likely to be "poor in quality." She gave several reasons for this, particularly noting that:

> It is likely that contributory factors are the ways in which posting and transfer procedures operate, inadequate preparation and support for teachers, and their own characteristics, values and interests (Ankrah-Dove1982: 3).

While I clearly want to move beyond the idea that 'quality' is a template that can ignore social and spatial difference, difficulty in staffing schools still applies to Australia today. In 2010, too, it is easy to spend a couple of hours on Google searching the newspapers of the world to see that this is still a claim that is also regularly made in almost every country in our region – from Korea in the north, to India in the east, and to north and south America across the Pacific. Place is as much as marker of social disadvantage as wealth. As the online introduction to the UNESCO paper on *Education for Rural Development*: *Towards New Policy Responses* (Atchoarena & Gasperini, 2003) noted:

> More than half of the world's population and more than 70 per cent of the world's poor are to be found in rural areas where hunger, illiteracy and low school achievement are common. Educating a large number of people in rural areas is crucial for achieving sustainable development. Poverty reduction strategies are now placing emphasis on rural development that encompasses all those who live in rural areas. Such strategies need to address the

provision of education for the many target groups: children, youth and adults, giving priority to gender imbalances. This complex and urgent challenge should be addressed systematically, through an intricate set of policy measures, at all levels of education systems.

This report went on to stress that:

> Despite unprecedented growth in world incomes and unparalleled improvements in global standards of living over the past few years, mankind has failed to rid the world of abject poverty and hunger. The numbers speak for themselves:
> • 840 million undernourished people;
> • 1.5 billion people who live without access to safe drinking water;
> • 2 billion people who live without electricity;
> • 860 million illiterate adults, more than half of whom are women;
> • 130 million children out of school;
> • 14 million children who have lost their mothers or both parents to AIDS.
> Within each of these groups–and many of them overlap–the majority live in **rural** areas. Indeed more than 70 per cent of the world's poor are **rural** poor (Atchoarena & Gasperini, 2003: 23, my emphasis).

And an influential newspaper in the Australian context summarised the situation in that country two years later in the following terms:

> Put simply, wealthy students have better school results than poor students and educational disadvantage is also compounded by distance. The further away from a capital city you travel, the lower the educational achievement according to federal data. (SMH, Thurs. Sept. 8, 2005:12)

One important aspect of this definition of rural disadvantage appears to be a perception of the comparatively low quality of teachers and the high rate of teacher turnover in rural schools in these areas (Roberts, 2005). In another context, Hu Lan (2007) has more recently reported on the situation in China and claimed that "the improvement of rural teachers would mean improvement of quality in basic education".

Ankrah-Dove suggested two conceptual models that inform and "illuminate the policy assumptions behind different strategies used to try to remedy the situation." She claimed:

> The *rural deficit* model tends to encourage the use of compulsory posting and incentives while the *rural challenge* model searches for better ways of preparing teachers for service in remote rural schools (Ankrah-Dove, 1982: 3, my emphasis).

Part of the problem that this points to is the blindness about the effects of the meaning and value placed on the rural by a society that highlights only *social* justice in education. This has led to a situation where few Australian universities consider what might be involved in preparing new teachers to work outside of a metro-centre, and thereby are themselves implicated in the construction of the idea of *rural deficit,* as unprepared teachers find it difficult to understand, relate to, or commit to the places they are sent, and the students in those places often fail to thrive educationally. According to Boylan, Nor and Rahman (2009) this situation also occurs in the Malaysian context.

When we talk about 'rural' schools, we add an adjective that is not just an objective descriptor: this word marks and thematises a generalized concept of place, and so divides schooling into the normally-placed ('urban') and its other, the abnormal 'rural'. It is this that results in schools and communities in rural places being framed for beginning teachers in a

discourse of deficit and defeat, rather than diversity and challenge. And as we have found in our research on teacher education, this acts as a barrier to the attraction of teachers to rural areas.

As I have noted above, in Australia we do not generally educate teachers to teach in schools that are 'different' in terms of geographical or social location (Green & Reid 2004). Recent legislative requirements for pre-service teacher education courses require teacher education courses to address issues such as preparation to teach 'Indigenous' and 'Special' and 'ESL' students, but do not require pre-service teachers to be prepared for the differences in teaching that pertain to schools and students in low SES, urban or rural locations. At the policy level, it is clear that place and context do not matter in the official consciousness. Similarly, despite extensive lobbying by governmental environment and sustainability agencies, there is no requirement for pre-service teachers to be prepared to teach about environmental sustainability in their classrooms. We believe that all pre-service and indeed all practicing teachers should be prepared for the sorts of differences in curriculum and practice that attention to the specificities and differences of place requires, and for the capacity to attend to environmental sustainability as an issue for intergenerational justice (Owens 2001, Donehower et al. 2007; Reid et al, 2009).

Education is a key force for re-generation in these communities, and having made the argument in this section that rural places have been constituted as problematic for education, and that they will remain problematic until teacher education can prepare teachers to be able to live and work in Other places. I now turn to discuss the second project, *TERRAnova*, which is focused on teacher education for rural-regional sustainability, to share with you the model we have developed there that we believe may assist pre-service teacher education to deal with issues of place in theoretical terms, as a curriculum context for student engagement with rural teaching.

THE TERRANOVA PROJECT: RETHINKING THE RURAL

As noted above, Gieryn (2000) highlighted three aspects that make a place significant: its geography, its material form and its invested meaning and value: and these are all significant in understanding rural places. But beyond the level of any specific location, rurality itself can also be defined as "a geographic term, denoting particular regions and areas or spaces and places"; described through "quantitative measures, involving statistics on population and region". The meaning and value invested in the term 'rural' can also be accessed through qualitative accounts of rurality understood as "a cultural term, that involves the interaction of people in groups and communities" (Donehower, Hogg & Schell, 2007:2).

This is a useful formulation, bringing together a quantitative, statistical perspective with that of cultural geography. It has allowed us to work conceptually in the *TERRAnova*[3] project to develop the concept of *rural social space,* where we foreground eco-social, socio-spatial considerations in addressing the challenges associated with teaching and teacher education for rural *places*. This builds on a fuller understanding of place that leads us to ask about the sorts of attributes and capacities teachers need to have if they are to be successful professionals in rural places.

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[3] Reid, J., Green, B., Cooper, M., Hastings, W., Lock G. and White, S. (2010) Teacher Education for Rural-Regional Sustainability, ARC Discovery Project, 2008-2010.

We describe these attributes in terms of Bourdieu's (1977) theory of practice which first introduced the idea of an individual *habitus* in any social field being built up in practice over time. Habitus is based on the particular forms of *capital* that individuals obtain through study, experience and practice and that they need to be able to invest to operate successfully in that field. We are focusing on the field of teaching in a rural place. We argue that teacher education needs to produce teachers with certain forms of *social* capital, as well as the symbolic educational knowledge and cultural capital that is their warrant to be there, beyond that inscribed in professional teaching standards that reproduce the metro-centric focus of education policy, curriculum and pedagogy noted above.

The experience of rural life and teaching that is available to an eco-socially aware teacher – one with an ingrained (i.e.learned) sense of rural places and people, the history and complexity, the problems and the potential, the activities and industry that exist in a particular place, and the particular issues of sustainability with which they are dealing – will be richer and more satisfying than that available to a teacher who does not have this awareness. These aspects of rural social space are all forms of knowledge on which teachers can capitalise.

In *TERRAnova* we are seeking to understand successful teacher education strategies that assist in making rural teaching a more attractive, long-term career option for Australian teachers. There are three aspects to this. First, we want to understand what pre-service teachers who take up rural incentive programs see as the costs and benefits they received from these experiences. Second, we want to understand what makes these pre-service teachers go on to apply for and remain in rural schools – and what makes them leave. Finally, we want to understand what makes some schools in some places different – in that they do attract and retain teachers and provide high-quality education to the children in their rural communities.

Ankrah-Dove (1982) suggested that there are four inter-related features of contemporary teacher-education programmes which have potential and should be developed if good teachers are to be attracted to and retained in remote rural schools. These are field-based preparation, teamwork in training, community support of training, and the recruitment and preparation of local teachers. This highlights place-consciousness as a key benefit to the sustainability of education in a rural place, and it is certainly still the way that countries with large rural populations are seeking to address the situation (see Hu, 2007).

Through the first two stages of *TERRAnova*, we have been focusing on ways in which teacher education can best help to familiarise pre-service teachers with rural social space. One of the key strategies that State departments and some university courses (White & Reid, 2008) are currently using to educate and expose pre-service teachers to rural schools is through educational field trips and visits – taking them out and showing them what it is like, in the hope that they will see beyond the stereotype, through experiencing life in a rural school first-hand. These programs have for some time been seen as successful in exposing city people to a taste of country life, although there is no clear evidence that they translate into successful (longer-staying) appointments to rural schools, and they are currently under review in some places. While there is always a danger that such forms of educational 'tourism' may only consolidate and affirm existing prejudices, such efforts to provide real experiential interaction

with rural places[4] seem to us worthwhile and necessary, though insufficient. We argue that 'going to see' a place is not the same as 'coming to know', and that there is also a need for teacher education to prepare new teachers to understand something about the nature of place as a construct that will allow them to experience the particular rural social spaces in which they find themselves more reflectively. As Bourdieu (1999:123) reminds us, "[b]reaking with misleading appearances and with the errors inscribed in substantialist thought about place" can only be achieved "through a rigorous analysis of the relations between the structures of social space and those of physical space". We see this as a key role for teacher education, one that recognises and works with an assumption of diversity and difference within and across rural social space (Green [Ed], 2008).

For pre-service teachers, 'coming to know' particular places, and about ways of researching and finding out about the place where one is appointed as a teacher, is essential both in terms of ensuring the relevance and connectedness of the curriculum that will be designed and for the pedagogy that teachers plan to use with their students. It is also a key part of ensuring that they can gain access to knowledge and understanding that will enable *them* to 'find their place' in the social and cultural geography of the place, and have a better chance of experiencing a sustained professional commitment to the place.

Our responsibility as teacher educators and teacher education researchers is to continue to work effectively as a force for rural-regional sustainability by studying ways in which we can provide pre-service teachers with access to the professional and pedagogic capital that can successfully underwrite their investment in rural social space.
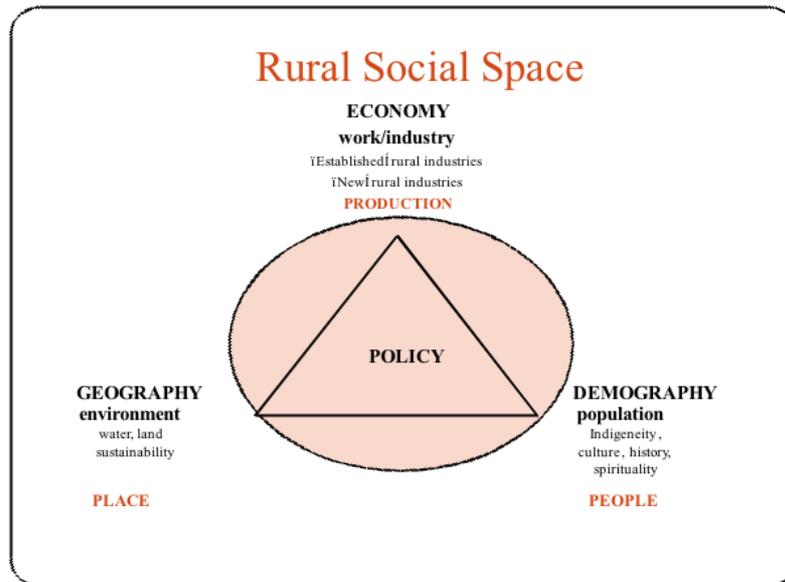
RURAL SOCIAL SPACE

As noted above, the idea of the specificity of place as an eco-social concept has given rise to a conceptualisation of *rural social space* that is described in terms of the interrelation of three key aspects of any particular place: its geography, its demography, and its economy. We see these as connected in practice in any one place, and in all places. 'Rural' social space is highlighted, as in 'eco'-social justice, to complicate the emphasis on the social in these theoretical terms. The complication rests on acknowledging that it is the material *practice* of place that provides and produces eco-social space, and the way in which these factors interact and interrelate suggests ways in which rural social space can be rethought and re-presented to pre-service teachers in ways that do not produce meanings and effects of symbolic deficit. In the representation below, I suggest that human interests might be seen to be privileged over environmental interests – with the economy represented as equally important in the generation of rural social spaces as demography and geography.

The model encompasses what has been described the 'triple bottom line' view of sustainability – bringing together social, economic *and* environmental dimensions of (rural-regional) sustainability (Cocklin & Dibden [Eds], 2005). It highlights the World Commission on Environment and Development's (1987a) claim that sustainable development incorporates social justice, and "the health of natural systems [as] of equal importance with economic development" (Nolet, 2009:411).

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[4] In NSW, a program has been operating under the title of 'Beyond the Line' for some time now, with the aim of providing some measure of experience of rural-remote settings for prospective teachers (McConaghy & Bloomfield, 2004).

Rural Social Space

ECONOMY
work/industry
ïEstablishedï rural industries
ïNewï rural industries
PRODUCTION

POLICY

GEOGRAPHY
environment
water, land
sustainability

PLACE

DEMOGRAPHY
population
Indigeneity,
culture, history,
spirituality

PEOPLE

(Reid et al, 2010)

The model shows how these relationships constitute rural social space in ways that can be understood (and demystified) by teacher educators, employers and communities, for new and pre-service teachers moving into it for the first time. Here, *rural social space* is the set of relationships, actions and meanings that are produced in and through the daily practice of people in any particular place and time. The overlaps and connection between these three elements – the land, the people on it, and the things they do in order to live there cannot be separated – at least living there cannot be separated from the environment and the work that is done to live, and what is produced in any place cannot be separated from the people who produce it and the aspects of the place that allow it to be produced. However it is clear that economy and demography are more dependent on place for their nature and formation than place is on either of them. Philosophically, it is possible to conceive of a place that exists with neither people nor production.

To illustrate with a Malaysian example, I take an illustration from the official website of the Sabah Tourism Board that reports enthusiastically on aspects of one small place, Kiulu, where rapid change is no doubt bringing about significant alteration in the social space of the community.

Remote town Kiulu located near Crocker Range fast developing
AMPARULI: Kiulu, which was once a small remote town located close to the virgin jungles near the Crocker Range, is now witnessing rapid development. The rows of old wooden shop houses have been long replaced by new and modern buildings. […] In fact, Kiulu located at the Tuaran district is undergoing positive transformation in all aspects including public amenities that has greatly benefited its 20,000 residents.

Other than this, the Sungai Kiulu that flows nearby is increasingly gaining attention as an interesting tourist destination in Sabah not only because of its crystal clear waters but also because of its rapids that make it suitable for extreme sports activities. Each year the Kiulu 4M Challenge event is held here with the participants from within and throughout the state converging to either watch or participate in activities like running, bamboo rafting, swimming with bamboo and walking with bamboo stilts.

[…] since early this year 24 villages in the Lembah sub district have been enjoying 24-hour electricity. […] the residents in Lembah sub district previously were depending on kerosene lamps and generators.

… the government has [also]set up a rural clinic for the well-being of the people …

at the foothills of Kinabalu Mountain - the highest mountain in Southeast Asia. "We also emphasise on the children's education in Kiulu. [and] the Education Ministry will be building another secondary school in Kiulu, […]." Almost all primary schools in Kiulu have computer facilities to enable school children to familiarise with information technology. .

"Compared with two decades ago, many changes can be seen in Kiulu. Many villages are now enjoying basic amenities like electricity, clean water, village roads and community halls,"[…] Nonetheless, […] the villages without roads must be given urgent attention [,,,] If possible remote areas … must be given priority,"[…]. Other than this, [a spokesperson] hoped that the Kiulu agricultural office be reopened because the majority of the Kiulu residents are farmers involved in rubber and paddy cultivation (adapted from Bernama, 2009).

Rural social space, while generalised or universal as a concept – is an event, a performance, a practice in its realisation. Every rural town is different – and these differences need to be fore-grounded in teacher education rather than homogenized as simply 'rural'. Society and space interact so that it is not just location and landmarks that define a community, but the people that one meets and interacts with, and what one does together in their environs. Imagining and investigating the social space of a rural town like Kiulu provides ample opportunity for professional dialogue about the sorts of expectations a teacher posted there might have, the nature of the students' lives out of school, and the environmental issues that may be relevant to that particular place, as well as the affordances that the local environment may provide for making and extending curriculum within the national policy framework.

In the Australian context such a model requires us to take account of Indigenous issues and challenges as a particularly significant feature of rural population. Understandings about and engagement with Indigenous culture, histories and demography are essential for teachers to come to understand about any particular place, as well as for (teacher) education more generally. In policy terms, in Australia, however, these sorts of conversations are seldom had, with rural education policies (and funding) still typically dissociated from Indigenous education policies, and rural education bodies often silent or at least reticent on Indigenous issues. Rural social space is represented here as situated within and structured by a network of policy that relates to and governs the practice of each of these socio-spatial and -temporal phenomena: thus highlighting the significance of the rural-regional to the sustainability of the nation as a whole.

CONCLUSION
Taking education for granted is the prerogative of those with the social and economic capital that few in rural places can accumulate (Reid et al, 2010). Our eco-social approach to sustainability assumes a multidimensional perspective that does not privilege the knowledge and symbolic capital of the Metropolis. Instead, it allows us to re-voice and privilege, and learn from in turn, systematic attention to the people and places that practice alternate and different forms of (rural) social space and thereby participate, as indeed all of us must, in the now clearly critical global project of rural-regional sustainability.

In conclusion, then: The concept of rural social space, as outlined here, is one aspect of a conceptual framework we are developing – complemented by work on the concept of rural-regional sustainability (Green, 2010) – as a resource for rural (teacher) education. We see this as potentially useful for rethinking professional education in this regard. In our view, professional education programs have all too often been under-theorised and therefore have proved inadequate in terms of meeting the challenge of professional practice in and for rural schooling. This requires making due consideration of the framework not just in 'Methods'

course and the like, although it arguably has value there too, but also in the so-called 'Foundations' areas such as educational sociology. At the very least, it provides a larger frame of reference than is usually the case in rural (teacher) education, and therefore provides a sound basis for work towards enhancing the quality of rural teaching and teacher education alike.

How might schools and teachers play a role in the project of rural-regional sustainability? How is teacher education implicated in the renewal and regeneration of rural communities and, more generally, rural Australia? Sustaining and enhancing the diversity of rural communities is essential for social, economic and environmental sustainability, and therefore the long-term security of the nation as a whole (Halsey, 2009). There is a complex interconnection among the issues and concerns that impact on rural-regional sustainability, and this requires an equally complex program of research designed to support, understand and direct the work of school systems, teachers, teacher educators and local communities, who are collectively involved in a key aspect of the sustainability of inland Australia: the attraction and retention of high-quality teachers. As more than just a pedagogic challenge, a systematic and informed understanding of what we call *rural social space* may be specifically needed in rural (teacher) education.

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