'Learning through Country: Competing knowledge systems and place based pedagogy’

William Patrick Fogarty
2010
'Learning through Country: Competing knowledge systems and place based pedagogy'

A thesis submitted for the degree of Doctor of Philosophy of The Australian National University

William Patrick Fogarty

September 2010
DECLARATION OF AUTHORSHIP

I, William Patrick Fogarty, declare that this thesis contains only my original work except where due acknowledgement has been made in the text. This thesis contains an extract from a jointly authored paper (Fordham et al. 2010) which I made an equal contribution to and is used here with the express permission of the other authors. This thesis does not exceed 100,000 words in length, exclusive of footnotes, tables, figures and appendices.

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DEDICATION

I wish to dedicate this thesis to Kathleen Barrgitjbar who sadly passed away in the final days before this thesis was finished.
Abstract

This thesis exposes the dichotomies and binaries that have characterised theoretical and political discourses in the provision of remote Indigenous education in Australia. The research finds that ideological tensions and over simplified notions of biculturalism in Indigenous affairs have dominated policy settings, resulting in compromised pedagogy at the classroom level. The research also finds that a structural disconnect exists in remote Indigenous education between schools, community and work at a local level. This disconnect is perpetuated by a failure of remote educational provision to develop pedagogic frameworks that are able to be inclusive of Indigenous knowledge and remote Indigenous development aspiration.

The thesis demonstrates that remote Indigenous developments, and their associated employment roles, have specific pedagogic needs that cannot be met solely through generic pedagogy, nor can they be met through the provision of education based solely in ‘culturalism’. Rather, the research shows that there is a need for pedagogic frameworks that can cater for inherent tensions and complementarities in the transmission of knowledge. This is based in a notion that all knowledge is contested and, as such, it is the way that pedagogy is designed and which sets of knowledge are valued that ultimately decides what is learned. Towards this end, an analysis of the knowledge foundations of a remote Indigenous development is used to generate a model that can be used to assess educational and training requirements.

Through detailed ethnographic and qualitative data, this thesis also provides an analysis of the social, physical and economic characteristics of one of the largest remote Indigenous communities in the Northern Territory, Maningrida in Western Arnhem Land. This is then used to develop a ‘pedagogic device’ that can link ‘place based pedagogy’ with generic pedagogy. Finding that ‘Country’ forms a basis for social organisation and knowledge transfer in the region, the thesis describes the development of a localised ‘Learning through Country’ program which uses land as a ‘pedagogic device’. The thesis then moves from ‘Learning through Country’ to development and employment in ‘working on Country’ and ‘caring for Country’ programs. This section of the thesis analyses the development of Indigenous land and sea management programs in the Northern Territory. It also details their place in
remote employment, as well as a quantification of activity and a training history of a large Indigenous land and sea management program. Finally, the preceding research is combined with research on land and learning models of education in the NT to create an applied pedagogic framework that has the potential to provide space for Indigenous knowledge in learning, as well as mediating the dichotomies in pedagogic provision for remote Indigenous students. Ultimately, this framework has the ability to reconnect remote Indigenous education with local communities and work.
List of Acronyms

AARE  Australian Association for Research in Education
ABS  Australian Bureau of Statistics
ACF  Australian Conservation Foundation
ACER  Australian Council for Educational Research
AEP  Aboriginal Education Policy
AEU  Australian Education Union
AGPS  Australian Government Printing Service
AIATSIS  Australian Institute of Aboriginal and Torres Strait Islander Studies
ALRA  Aboriginal Land Rights Act 1976
ALRA NT  Aboriginal Land Rights Act 1976 Northern Territory
ALC  Anindilyakwa Land Council
ANTA  Australian National Training Authority
ANU  Australian National University
ANZ  Australian and New Zealand Bank
AQUIS  Australian Quarantine Inspection Service
ARC  Australian Research Council
ARIA  Accessibility Remoteness Index of Australia
ASSPA  Aboriginal Student Support and Parental Association
ATSIC  Aboriginal and Torres Strait Islander Commission
ATSIS  Aboriginal and Torres Strait Islander Services
BAC  Bawinanga Aboriginal Corporation
BIITE  Batchelor Institute of Indigenous Tertiary Education
CAEPR  Centre for Aboriginal Economic Policy Research
CDEP  Community Development Employment Program
CDU  Charles Darwin University
CEC  Community Education Centre
CEO  Chief Executive Officer
CEP  Community Employment Program
CFC  Caring for Country
COAG  Council of Australian Governments
CRC  Cooperative Research Centre
DEET  Department of Education, Employment and Training
DEEWR  Department of Education, Employment and Workplace Relations
DEST  Department of Education, Science and Training (formerly Dept. of Education, Science and Training)
DETYA  Department of Employment, Training and Youth Affairs
ECI  Early Childhood Intervention
ESL  English as a Second Language
FACS  Family and Community Services
HLC  Homeland Learning Centre
HREOC  Human Rights and Equal Opportunity Commission
IK  Indigenous Knowledge
IEK  Indigenous Ecological Knowledge
IESP  Indigenous Education Strategic Initiatives Program
ILUA  Indigenous Land Use Agreement
IPA  Indigenous Protected Areas
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<td>ITEP</td>
<td>Indigenous Training for Employment Program</td>
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<td>JET</td>
<td>Jobs, Employment and Training</td>
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<td>KJRP</td>
<td>Kakadu Junior Ranger Program</td>
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<td>KNP</td>
<td>Kakadu National Park</td>
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<td>KLC</td>
<td>Kimberley Land Council</td>
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<td>LGANT</td>
<td>Local Government Association of the Northern Territory</td>
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<td>MCATSIA</td>
<td>Ministerial Council for Aboriginal and Torres Strait Islander Affairs</td>
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<td>MCEECDYA</td>
<td>Ministerial Council for Education, Early Childhood Development and Youth Affairs</td>
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<tr>
<td>MCEETYA</td>
<td>Ministerial Council of Education, Employment Training and Youth Affairs</td>
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<td>MCEC</td>
<td>Maningrida Community Education Centre</td>
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<td>MPA</td>
<td>Maningrida Progress Association</td>
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<td>NAPLAN</td>
<td>National Assessment Program – Literacy and Numeracy</td>
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<td>NATSISS</td>
<td>National Centre for Vocational Education Research</td>
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<td>NCVER</td>
<td>National Indigenous English Literacy and Numeracy Strategy</td>
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<td>NIELNS</td>
<td>National Centre for Vocational Education Research</td>
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<td>NLC</td>
<td>Northern Land Council</td>
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<td>NNTT</td>
<td>National Native Title Tribunal</td>
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<td>NRETA</td>
<td>Dept. of Natural Resources, the Environment and the Arts (NT Govt.)</td>
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<td>NSW</td>
<td>New South Wales</td>
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<td>NT</td>
<td>Northern Territory</td>
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<td>NTACC</td>
<td>Northern Territory Area Consultative Committee</td>
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<td>NTCE</td>
<td>Northern Territory Certificate of Education</td>
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<td>NTCF</td>
<td>Northern Territory Curriculum Framework</td>
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<td>NTDEET</td>
<td>Northern Territory Dept. of Education Employment and Training</td>
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<td>NTER</td>
<td>Northern Territory Emergency Response</td>
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<td>Northern Territory Government</td>
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<td>RATE</td>
<td>Remote Area Teacher Education</td>
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<td>RTO</td>
<td>Registered Training Organization</td>
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<td>SHEP</td>
<td>Secondary Homelands Education Project</td>
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<td>SRP</td>
<td>Strategic Results Project</td>
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<td>STEP</td>
<td>Structured Training and Employment Program</td>
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<td>TAFE</td>
<td>Technical and Further Education</td>
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<td>TER</td>
<td>Tertiary Entrance Rank</td>
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<td>UN</td>
<td>United Nations</td>
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<tr>
<td>VET</td>
<td>Vocational Education and Training</td>
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<td>WA</td>
<td>Western Australia</td>
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<tr>
<td>WALFA</td>
<td>Western Arnhem Land Fire Abatement Project</td>
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<td>WSK</td>
<td>Western Scientific Knowledge</td>
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Chapter 1: Introduction and Method

In November 1998 I was teaching under a small tin shelter in an outstation in Arnhem Land. It was unspeakably hot and the group of teenage students I was working with stared back at me listlessly, as I desperately tried to come up with some way to engage them. Part of the problem, apart from a mangy puppy that continually outperformed me by sticking its head around the corner, much to the mirth of the students, was that both the students and I were unsure of why we were there. What was the point of education in this hot little space we shared? This question of ‘why?’ seemed to me, and perhaps the students, unanswerably big and omnipresent. Worse still, over the preceding months I had come to a point where I felt that the education I was offering could actually be detrimental to my students in the long run. I felt I was part of a process of steady acculturation, that the educational wares I was selling were diametrically opposed, and perhaps irrelevant, to the lifestyles and aspirations of my students and their families. It all felt wrong. I even thought that my role as an educator was actually a plank in a contemporary and insidious form of colonisation.

Photo 1 Djimalawa Homeland Learning Centre 1998
While this time perhaps represented a low point personally, it set me on a naively simplistic journey to find a ‘better’ way. I worked with parents and landowners, I consulted the doyens of ‘two way’ education, struggled to develop bilingual texts and developed curricula, in situ, with Aboriginal and non-Aboriginal educators. I tried to connect policy and praxis, and I measured, evaluated and reported as hard as I could. All around me, my colleagues determinedly, doggedly and relentlessly did the same. Still I felt, and saw, that there was a fundamental disconnect, a yawning chasm at times, between the process, system and content of education and its intended purpose in an intercultural, but very Aboriginal dominated, educational setting. The ever present question of ‘why education?’ in this remote Indigenous context continued to vex and torment me.

While I struggled with what eventually manifested into a kind of self induced professional paralysis, the students seemed to have no such problem. They were determinedly pro-active and stayed away in droves. Unfortunately, this was not just occurring in the outstation schools in the Maningrida region of Arnhem land where I worked. The situation in the main township was much worse, with only a quarter of the students turning up on any given day (Fogarty 2005). In 2010 nothing has changed, and as John Taylor’s (2010) work has shown, this situation is replicated at other remote communities such as Wadeye. At a national level, figures showing the enormity of Indigenous non-attendance become somewhat softened by better attendance patterns in urban areas, but are, nevertheless, consistently and markedly less than those of non-Indigenous students. Most pronounced in this endemic pattern of non-attendance is the low number of students in their middle and latter teens who are choosing to engage in education in remote areas. They are, in fact, highly conspicuous by their absence (see chapter 2).

For me, this absenteeism poses some immediate, but difficult questions. Is poor attendance a form of strategic non engagement or resistance to education? Is it a failure of the education system, or more broadly the state, to provide meaningful education to these students? Or, is it perhaps an economic problem, an employment problem, a consumption, demand or supply problem? Perhaps, this lack of engagement has its roots in historical, political or governance problems? Maybe it’s even a cultural, behavioural problem? Are the parents, or the students, or teachers the problem? The research base suggests it is all of these and none alone at once.
Rather than trying to answer one of these rhetorical questions regarding student attendance, this thesis takes a broader approach that begins beyond the traditional confines of the classroom and the well documented ‘attendance problems’ in remote Indigenous education. My research begins in how remote Indigenous education provision and policy interact with Aboriginal peoples’ diverse aspirations for self determined socio-economic futures. After over a decade of living, working and researching with Aboriginal people in remote regions of the Northern Territory, I have experienced and observed a fundamental disjuncture between education in remote settings and schooling’s ability to connect with the needs and wants of the people. This disjuncture often gives rise to a failure of education to have real meaning and utility for students, parents or community aspirations. This brings me back to the question that vexed me so long ago. What is the point of education for remote Indigenous students?

Indigenous education in the remote areas of the Northern Territory (NT) sits at the centre of dilemma. On the one hand, education can be seen as a pathway to a future that encompasses a life of better job prospects, better health, more money, better housing and prospects of social mobility. On the other hand, education can be seen as a tool of oppression and symbolic violence (Bourdieu 1990). It can repress linguistic and cultural diversity, usurp local social structures and, at its worse, perpetuate despair, failure and dysfunction. This is a conflict that is played out in the large and difficult policy arena of Indigenous affairs, and strikes at the ability of the Australian nation, its people and its economic system to countenance an exceedingly complex form of educational pluralism. The actualisation of education that can cater for the ‘mainstream’, while simultaneously allowing even basic notions of cultural difference, has been poor. This has resulted in a dilemma that, when viewed through a lens of policy history, could be considered as intractable. Harris (1990:1) sums this dilemma up succinctly stating:

The Dilemma is that Aborigines (sic) in remote communities want their children to learn the three R’s and to grow up Aboriginal. But if these children succeed in the Western school system, this is likely to be at a serious cost to their culture…’

Indeed, as I demonstrate in chapter 2 and revisit in chapter 5, policy design and pedagogy have struggled with this dilemma at all levels of Indigenous education provision in remote regions of Australia. Simplistically, this has seen the delineation
of two broad approaches to Indigenous education. One approach privileges educational relevance and cultural preservation. The other approach sees the generic pursuit of English literacy and numeracy and the progression into neo-liberal production roles as paramount, regardless of context and culture. In reality, such distinctions are far from clear cut. In fact, the collision of these positions at the ‘chalkface’ has led to an educational landscape dominated by uncertainty and constant re-invention (see chapter 2). This thesis attempts to mediate this dichotomy with an applied pedagogic framework that allows for an intercultural mode of educational provision.

To do this, I must acknowledge up front that I have struggled with my own view of this educational dilemma for well over a decade. In many ways my own experiences in Indigenous education have, at different times, seen me oscillate and agonise between these two positions, trapped in what Altman (2001) coined the ‘great ditch’ of Indigenous affairs. My background as a teacher instilled in me a great belief in the power of education as a vehicle of social justice, as a purveyor of opportunity and as a fundamental requirement for empowerment and choice. However, I have also learned that such uncritical beliefs, applied in a remote Indigenous context, can lead to education that disempowers learners and leads to imagined futures. This thesis therefore is my attempt to engage with this dilemma in the hope that I can offer some contribution to what must be viewed as a dynamic, yet incredibly complex and taxing field: remote Indigenous education in Australia.

To do this, I have chosen to examine in detail one small part of education within this larger dilemma. This thesis explores a growing, and potentially positive connection between Indigenous land and sea management and remote Indigenous education. I chose this because my experiences in remote communities, combined with my research herein, have taught me that an educational relationship with land and sea management allows for approaches that have potential to mitigate, or at least mediate, some of the dilemmas that education policy and provision in remote Indigenous communities face. In particular, I exploit the synergies and linkages between education and land and sea management to alleviate the disconnect between schooling, community and work.

In order to achieve this, the thesis operates on three distinct, yet totally interrelated levels. At a policy level, I examine the history of Indigenous education in Australia...
and pay particular attention to the provision of education in the remote communities of the Northern Territory. By exploring the policy settings that have characterised Indigenous education it becomes clear that the ‘chalkface’ has become compromised by the political ideologies that have dominated the broader field of Indigenous affairs in Australia. This has resulted in pedagogic frameworks that have oscillated between what can be termed a culturally relativist position and between frameworks that allow for no pluralism or difference in learning at all. I show how such ‘to-ing and fro-ing’ of policy settings has culminated in compromised pedagogic approaches in the classroom. In addition, I find that that the penetration of political ideologies, and top down policy into the pedagogic space has also caused a disjuncture between local learning communities and their schools. This is evidenced, not only through the provision of schooling that lacks utility for learners in the local context, but also through the systemic disengagement of Indigenous students. This disjuncture is particularly clear in the crucial area of transitions between school and work. Despite a litany of research espousing the importance of connecting the school with the community and meaningful work or production roles that are valued locally, it is clear that current policy settings are an abject failure in this regard.

At a theoretical level, I examine how knowledge acquisition, transmission and reproduction come together in a ‘pedagogic space’ to provide a platform for learning. I do this by first deconstructing the false binary between Indigenous and Western knowledge. This is an intercultural (see Merlan 1998, Hinkson and Smith 2005) approach that focuses on knowledge complementarity, rather than the discourse of dichotomy and difference which dominates so much of the literature around Western and Indigenous knowledge. As an example, I demonstrate how the synergies between Indigenous and Western knowledge bases are being used by Aboriginal and non-Aboriginal people to run a sustainable wildlife industry in Arnhem Land. In analysing how both Western and Indigenous knowledge combine to create this local wildlife industry, I then show how this particular form of local development has specific educational needs. These needs cannot be met by educational approaches that solely privilege a cultural relativist approach, nor simply though the provision of generic education. Rather, this example shows that education for an emergent form of local development, such as the wildlife enterprise, relies on a mix of knowledge bases and therefore needs educational approaches that can accept competing types of knowledge.
in educational provision. In turn, this example demonstrates that education in remote settings for Indigenous students must be cognisant of the need for schooling to connect with the knowledge of the local community and to support local development aspirations and need.

At an applied level, the thesis analyses the physical, social and economic characteristics of one of the largest Indigenous communities in the NT, Maningrida (chapter 4). I posit Maningrida as a community in transition and show that the intercultural realities of daily life are beset by a complexity that demands localised development process, as well as broad engagement with the wider global community. This analysis is based on a relatively large body of existing research, my own experiences teaching and living in Maningrida, as well as data collected during fieldwork. In analysing the complexity of Maningrida and how this township, and the surrounding region, is negotiating and creating an intercultural development base, it becomes clear that any pedagogic framework that fails to account for the realities of such a place will fail. In particular, I show that the realm of work is very much dependent on skills and knowledge that utilise areas of complementarity between Indigenous and Western knowledge. Given this, it becomes clear that learning in this context must also be able to cater for the interaction between Indigenous and Western knowledge.

Building on this analysis of Maningrida, I then examine the importance of the connection between ‘Country’ and learning in the region (chapter 5). By demonstrating that ‘Country’ is a socio-cultural concept that sits at the heart of the region’s daily machinations, I show that the link between ‘Country’ and learning in the region has always had a role in the provision of education in Maningrida. Yet, despite historical examples of how this link can be used to engage learners and further educational development, I argue that such links have rarely been made explicit. Conversely, I show that formal schooling has, in the main, failed to account for the importance of this link and instead pursued pedagogic development based in static and piecemeal representations of Indigenous land and culture, or completely missed the educational role that connections to Country can play in this context. Such educational positions have instead focused on domain separation and models of biculturalism that perpetuate the educational dilemma with which I started. In chapter 5, I revisit the underlying dilemma in Indigenous education to explore a more
nuanced position through a conceptualisation of Country, its importance in a remote learning context and its potential role in pedagogy.

Moving from the relationship between ‘Country’ and learning in Maningrida, I then explore the relationship between ‘Country’ and work. Beginning in the jurisprudence underlying a modern Indigenous estate, chapter 6 examines the role of land in the development of a relatively new production role in remote Australia: Indigenous land and sea management ‘rangers’. In this chapter, I show the importance of Indigenous ranger work as a growing form of employment. I also show that Indigenous land and sea management programs rely on a matrix of skills and learning that are transferred in both formal and informal domains and rely very much on synergies between Indigenous and Western scientific knowledge. These skills begin in the notion of ‘Country’ and are actualised in the daily work of Indigenous land and sea management in practice. Through detailed ethnographic and quantitative data, I demonstrate that ranger work has allowed the creation of a development space that can both mediate and allow for competing discourses in knowledge. I also show how this particular form of activity connects ‘the community’ and an increasingly neo-liberal work paradigm to produce an intercultural mode of production that has particular needs in terms of educational provision.

Chapter 7 brings the theoretical and applied aspects of the thesis together to show how the failure of policy in remote Indigenous education is being tackled at a local level. In particular, this chapter traces the development of land and learning programs and ‘junior ranger’ programs that have developed organically in many remote Indigenous communities in the NT. These programs are localised attempts to reconnect the community, schooling and work. They also represent an example of education that has the potential to partially mediate the dilemmas of remote Indigenous education. Under such models, students are potentially able to learn ‘the three R’s’ required by a neo-liberal state and maintain an increasingly diverse set of intercultural norms. However, in my analysis of four of these programs I find that they are fragile and suffer from severe capacity constraints. Importantly, I also find that these programs provide an example of an intercultural model of education. Such programs have the capacity to exploit connections between Western and Indigenous knowledge to create locally relevant pedagogy that also contributes to mainstream
educational outcomes. I finish chapter 7 by developing a typology of these programs and showing how this can be used as a base for an applied pedagogic framework.

In my conclusion, I reiterate my findings and recap on how they can be applied to create a learning program that has potential to traverse the dichotomies that dominate current policy and delivery in education. However, I offer this as no panacea to the deep seated and complex issues that characterise remote Indigenous education provision, but rather as a new way to tackle pedagogic design in areas that demonstrate a need for both generic and place based educational approaches.

**Method**

In the next section of this chapter, I discuss the methodologies employed in order to make my findings, with an emphasis on two major periods of fieldwork during the research. I also comment on some contextual factors concerning the method of research and the circumstances under which the research was conducted. In addition, I discuss the impact of the Northern Territory Emergency Response (NTER), or ‘The Intervention’ as it has become known, upon my time in the field and upon the people with whom I was working. While arguably outside the context of the thesis as a whole, I contend that as the largest policy shift in Indigenous affairs in three decades, combined with the critical impact the Intervention had upon this research, that it would be remiss of me not comment on this policy shift. Finally, I discuss some caveats.

This research has its genesis in a project funded by the Australian Research Council (ARC). The project was conducted at the Centre for Aboriginal Economic Policy Research (CAEPR) as part of a ‘linkage project’\(^1\) entitled ‘Custom-based land and resource management and the educational and social re-engagement of Indigenous youth in the Northern Territory’. This thesis is one of the outcomes of the project. Dr Jerry Schwab was the Chief Investigator on this project and also the chair of supervision for this thesis. While CAEPR at Australian National University (ANU) was the research institution, the project also had three industry partners, The Bawinanga Aboriginal Corporation (BAC), the Northern Land Council (NLC) and The Northern Territory Department of Education and Training (DET).\(^2\)

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\(^1\) A ‘linkage project’ aims to link the Academy and Industry in research of national importance.

\(^2\) The Bawinanga Aboriginal Corporation (BAC)
input provided by the three industry partners listed above, the following list of institutions (Table 1) also provided significant assistance during the course of the research:

BAC was established in 1974 as an outstation resource agency providing services to over 800 people residing on 32 outstations in north central Arnhem Land and is one of the largest Aboriginal corporations in Australia. BAC is strongly committed to the establishment of small commercial enterprises as a mechanism for economic development for the region. Local land and resource management is one of the Corporation’s primary activities, carried out by the Djelk community rangers. The rangers are also involved in educational delivery at Maningrida CEC, the local school in Maningrida.

The Northern Land Council (NLC)
The NLC is a statutory authority representing Aboriginal people in the northern half of the Northern Territory. The NLC assists Aboriginal people manage their land through its Caring for Country Unit; the programs within this unit have facilitated the development of over 30 community-based land and sea management programs employing over 300 Aboriginal people. The NLC has indicated that early engagement of young people with these programs is necessary to ensure the next generation of land and resource managers have the capacity to protect their land and engage with regional economies.

The Northern Territory Department of Education and Training (DET)
DET has a primary role in providing education for Indigenous students in the NT. The research aligned with DET’s targets on attendance, retention and the creation of pathways to employment while providing an important strategic ‘fit’ with the recommendations of a recent review into secondary education conducted in the Territory (Charles Darwin University and the Northern Territory Government 2003). Similarly, DET saw its involvement with the project as part of its commitment to research and development.
### Table 1 List of organisations

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djelk Rangers</td>
<td>Maningrida</td>
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<tr>
<td>Maningrida CEC</td>
<td></td>
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<tr>
<td>Merwangi Rangers</td>
<td>Ramingining</td>
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<tr>
<td>Ramingining CEC</td>
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<tr>
<td>Dhimurru Rangers</td>
<td>Nhulunbuy</td>
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<tr>
<td>Yirralka Rangers</td>
<td>Yirrkala</td>
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<tr>
<td>Yirrkala Homelands Schools</td>
<td></td>
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<tr>
<td>Yirrkala CEC</td>
<td></td>
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<tr>
<td>Lahnapuy Homelands Aboriginal Corporation</td>
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<tr>
<td>Anindilyakwa Rangers</td>
<td>Groote Eylandt</td>
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<tr>
<td>Anurrugu CEC</td>
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<tr>
<td>Anindilyakwa Land Council</td>
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<tr>
<td>Lianthawirriyarra Rangers</td>
<td>Borroloola</td>
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<tr>
<td>Borroloola Area School</td>
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<tr>
<td>Yugul Mangi Rangers</td>
<td>Ngukurr</td>
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<tr>
<td>Ngukurr CEC</td>
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<tr>
<td>Gapuwiyak CEC</td>
<td>Gapuwiyak</td>
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<tr>
<td>Tangentyere Land Council</td>
<td>Alice Springs</td>
</tr>
<tr>
<td>Australian Quarantine Inspection Service</td>
<td>(in) Maningrida</td>
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<tr>
<td>Norforce Defence</td>
<td>(in) Maningrida</td>
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<tr>
<td>Australian Customs</td>
<td>(in) Maningrida</td>
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<tr>
<td>NT Fisheries</td>
<td>(in) Maningrida</td>
</tr>
</tbody>
</table>

As well as consultations with the institutions listed above, the research is informed by formal and informal interviews with people, both Indigenous and non-Indigenous, from a diversity of backgrounds and locations over a four year duration. While only relatively few of these people are directly quoted or referenced in this thesis, many of these individuals have contributed to my thinking and the research outcome and, as such, these discussions have formed an integral part of my method in deriving results. However, it is primarily the people with whom I worked closely during fieldwork that have formed the core of the ethnographic data within the thesis.
An Anthropological Approach

In order to engage in the dilemma I have outlined at the start of this chapter, I have taken a necessarily eclectic approach to the thesis. My fundamental approach is influenced by Anthropology. The anthropological tools of ethnography and participant observation have formed the cornerstone of this work. However, in many ways, this thesis should not be judged as a standard anthropological piece of work (if such a thing exists). By necessity, I have drawn heavily on a variety of other disciplines in order to explore my thesis. These include sociology, educational studies, development theory and economics. This is particularly evident in chapters 2 and 3. However, more conventionally, my methodology in the field relied greatly on ethnographic data. In this, I partly follow Geertz’s (1973) understandings of ethnography as ‘thick description’ and as a method to expose ‘the webs of meaning’ underpinning the social constructs of the field site. However, I augment this with secondary research material, both quantitative and qualitative, in order to connect three somewhat disparate areas of inquiry. Specifically, these areas are remote Indigenous education, Indigenous land and sea management and the pedagogic relationship between Western and Indigenous knowledge.

In order to obtain this data, I spent an extensive time in the field living and working with local Indigenous people. Each day I endeavoured to take notes on what I had observed, who had said what or done what, and how such action related to my primary research concern. I also gathered data on the social and economic context in which the research was being conducted. However, it was the use of semi-structured, informal interview and discussion that formed much of my approach. This consisted of taking the opportunity, at every opportunity, to discuss with and question local people in as relaxed and informal way as possible. This was not always easy, and as per the requirements under the ethical guidelines of this research, each discussion with an individual began with an explanation of the research and our respective obligations in order to ensure prior and informed consent. This was also accompanied by the signing of a consent form ensuring transparency. This did not always make for a comfortable, relaxed beginning as the following field note shows:

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3 This research was conducted in accordance with ANU policy.
'After explaining to S_____ what my research was about, what his participation meant and talking through the consent form, he was enthusiastic and keen to be involved. “Great,” I said and passed him the form showing him where to sign.


Despite such trials and tribulations, I always tried to ensure people were well versed in what I was trying to do and to conduct my questioning and reporting of these interviews as ethically as possible. In all, I interviewed 171 separate individuals in this manner. Many of these interviews were enlightening. Some were not. Some of these individuals, and in particular the Djelk rangers with whom I spent a great deal of time, provided me with additional data and insights on an almost daily basis. I also augmented these less formal interviews with a series of more structured, formal interviews which I conducted with 18 rangers from the Djelk program. In this case, I developed a series of questions, talked the whole group through the questions and gave them to each person to consider overnight before recording the interviews over the following days. These interviews, while yielding some good material, were less fruitful than the more relaxed approach, as informants tended to be more nervous in this situation and thus provide less information. Indeed, one informant provided very little information, despite normally being very forthcoming. When I asked her why she told me that she was worried about getting the questions wrong, even though they were open ended. This gave me great insight into the importance of keeping questioning relaxed and in the power of being a participant observer more generally.

**Fieldwork**

The fieldwork for this research was undertaken in two distinct blocks. The first period was undertaken in the township of Maningrida in Western Arnhem Land (see chapter 4 for comprehensive data on township). This period of field research began in September 2006 and ended in November 2007 and included three hundred and thirty-nine days living in an outstation named Djinkarr, situated 20 kms from the main township of Maningrida.

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4 My Aboriginal skin name
Maningrida was chosen as a primary field site for the research for three main reasons. First, I had lived and worked in Maningrida as a senior teacher from 1998 until mid 2003. My duties included the managing of fourteen outstation schools over the 10,000 square kilometer area that Maningrida Community Education Centre (CEC) serviced. As such, I had intimate knowledge of the educational and social challenges the region presented. Similarly, during the time I had spent living in the region I had formed strong personal and professional relationships with many of the Indigenous and non-Indigenous people of Maningrida. Indeed, these relationships were integral in being able to negotiate the research with the community during its planning stages, as well as allowing for access to key informants during fieldwork, an important consideration for an anthropologist.

The second reason for choosing Maningrida as a field site was that the township is one of the largest remote townships in the Northern Territory. With its size comes an extremely complex social and economic environment that, I believe, provides challenges in education that make it an ideal case study for pedagogic design. These challenges are exemplified by the extremely poor attendance and numeracy and literacy outcomes of the school, as well as the great diversity of linguistic and cultural blocs within the region which provide for a complexity of social arrangements (see chapter 4).

The third reason for choosing Maningrida as a field site was the existence of the Djelk ranger program and the Djelk Sustainable Wildlife harvest development (see chapters 3 and 6). Given that a primary concern of my research was to find a way to link school with work that aligned with Indigenous development aspirations, the Djelk programs provided a live example of a remote development that provided meaningful work as well as being valued by the community for its role in caring for Country (see chapter 6). Similarly, the Maningrida CEC was engaged in the delivery of educational programs that linked with the Djelks and therefore provided an ideal case study for the research (see chapter 7).

In an initial meeting in June 2006 with the Bawinanga Aboriginal Corporation (BAC) Chief Executive Officer (CEO), the BAC Executive, and two of the senior Indigenous Djelk rangers it was decided that I would spend my fieldwork period as a participant observer inside the Djelk program. I considered this to be ideal, for although I was very familiar with the educational landscape of Maningrida, I was far
less familiar with the work of the Djelk program and was keen to base my ethnographic data, particularly concerning the interaction between Indigenous and Western knowledge, upon their work. So, in early September 2006 I headed to Maningrida to begin fieldwork, accompanied by my partner who was also conducting research in the region. Upon arriving, however, I was forced to make a major change to my proposed method of research.

In my first week in Maningrida I received a phone call from the CEO of BAC saying that the rangers had been to see him and that they did not want to work with me or participate in the research. This was despite the fact that the Indigenous rangers were initially supportive of the research and had already said they were comfortable working with me. This came as something of a shock. It transpired that the then non-Indigenous coordinator of the Djelk program had reservations about the research. On the 12th September I approached the coordinator about a meeting. Eventually, after two weeks of trying, I met with both the coordinator and the rangers to try to understand what their concerns were and, if possible, alleviate the issues. The meeting did not begin well with the coordinator stating “I have no idea why you are here or what you want”. After I explained the research and that I really just wanted to talk to people and observe, as well as help in any way with daily work, the senior Indigenous ranger very strongly stated that he thought it was a good idea. I suggested that perhaps I could come in on Mondays and that they could choose how and when I could engage. This was agreed to by the head Indigenous ranger, but rejected by the coordinator who basically said they were too busy and I would be in the way. The coordinator then left the meeting. The senior Indigenous ranger grabbed my hand and quietly said “we will work with you”.

I detail this beginning not to demonise the coordinator, who during my second stage of fieldwork and in another context was extremely supportive of my research and facilitated key insights to my work, but rather to show how fraught the relationships between Indigenous and non-Indigenous interests can be in a remote research context. Furthermore, this inauspicious beginning forced me to change my original approach. Deciding against forcing the issue with the rangers, I negotiated to spend the next two months of my fieldwork working with four outstations in the region, Wurdeja, Gamardi, Ji-balbal and Markolidjban (see map in chapter 4). During this period I interviewed forty-eight adults ranging in age from eighteen to seventy-
eight with particular regard to their views on education, their own experiences of schooling and what they felt was needed in terms of educational provision in the region. At all times I was assisted by Indigenous collaborators to translate, one of whom had advanced linguistic ability in English and three of the languages spoken in the area. The subsequent insights these semi-structured interviews provided have been critical in formulating the work in this thesis, particularly regarding the role people perceived ‘Country’, as well as Indigenous knowledge, should play in education.

In January 2007, after a change of personnel, I was invited once again to conduct research with the Djelk Rangers. Over the next eight months, I spent each week day from 8am until 5pm working with the rangers. During this period, I accompanied the rangers on 48 separate sea patrols and 33 land patrols, participated in all activities the rangers undertake as part of their work, and for all intents and purposes, worked as a quasi-ranger when possible. While much of my time was spent with the male ranger group, I also managed to spend a period of four weeks with the female ranger program and worked with them on the full breadth of their activities (see chapter 6). During March and April, I was the only non-Indigenous person working with the male ranger group and at the rangers’ request, and given that my literacy levels qualified me, I provided a range of administrative and financial support to the group including report writing, grant writing and facilities management. In addition to this I was involved in all meetings, although restricted myself to observation only, and was for all intents and purposes treated as a member of the team. Through this period I gained much knowledge about the ranger program and, more importantly, the rangers themselves. Similarly, I was able to gain an understanding of the educational requirements of both the program and the individuals, as well as learn much about the extensive Indigenous knowledge the rangers needed to perform their functions.

**The Intervention.**

My time with the rangers during fieldwork was highly productive, but just as I felt the research was coming together, Indigenous affairs experienced a major policy shift, which had a dramatic impact on the research and the people with whom I was working. On the 21st June 2007, the Australian government announced the Northern

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5 Unfortunately recordings I made of fourteen of these interviews were subsequently lost during a flood of rudimentary accommodation Djinkarr in January 2007. However I managed to save notes taken during this period.
Territory Emergency Response (NTER) (Brough 2007a). The ‘Intervention’, as the NTER has come to be known, was called in response to the Little Children are Sacred report into the protection of Aboriginal children from sexual abuse (Anderson & Wild 2007). A series of emergency policy measures were outlined in a joint media release by the Prime Minister John Howard and the Hon. Mal Brough (2007), the then Indigenous affairs minister. Over the next four weeks the Intervention became an all consuming issue for many people in Maningrida. On the 5th July 2007 I wrote a piece for ‘Crikey’ which I provide an excerpt of here in order to show how the intervention impacted upon Maningrida:

Most of the community found out about the plan through newspaper reports and television. Media grabs of children in Aboriginal communities and file footage of Australian Defence Force personnel combined with a general lack of linguistic comprehension on the part of the community combined to create an initial wave of fear.

This was reinforced by the general tenor of many reports. In a multilingual community where English is some people’s fourth or fifth language, such reporting had the effect of scaring people and many believed the army was coming to take away their kids.

As this fear gained traction, a couple of local men organised a hastily convened public meeting which was characterised by incredible misinformation, including comments such as “the UN peace keeping forces are coming with guns” and “Mr. Canberra man (Mal Brough) wants to take our kids because he thinks they have AIDS”.

By the end of last week the fear in the community was palpable, there was panic buying at the local shops and it is my conservative estimation that one-third of the community packed up and headed into the bush to stay at one of the 35 outstations in the area. People are now returning slowly, but confusion and uncertainty prevails.’ (Fogarty 2007)

For the rangers, the Intervention, and an associated announcement of the abolition of the Community Development Employment Program (CDEP) (see Brough 2007b for further information) under which they were employed, became all consuming. A series of public meetings, as well as meetings within local organisations over the four weeks following the announcement of the Intervention led to many of the rangers being engaged in roles far removed from their daily work. During this period, public meetings were initially very well attended, but as time wore on participation dropped dramatically, as Figure 1 shows. However, senior members of the community, many
of whom were involved in the ranger program, formed the majority of most meetings, asserting their authority to speak on behalf of their respective interests.

Figure 1 Public meetings on Intervention in Maningrida 22nd June to 25th July 2007

The involvement of rangers in Intervention related activity meant that the research I was trying conduct became increasingly untenable. In addition, my partner and I found that our role as researchers in the community, combined with my long history with people in Maningrida, meant we were seen as somehow neutral or empathetic by many Indigenous people and we were besieged by people wanting advice on what the Intervention meant. For both of us the Intervention forced a new and uncomfortable role upon us as quasi ‘community advisors’ on government policy as a direct result of the Federal government’s decision not to consult with any of the people in the township, their local organisations or indeed the NT government prior to launching the Intervention. This was compounded by an absence of contact with the community by the Federal government for a period of four weeks after announcing the Intervention. As a consequence, we found ourselves in an unwitting and certainly reluctant position of having to explain what the changes meant for the people of the township, as outlined in media releases (See Brough 2007). This proved to be an extremely difficult task as not only did we have to contend with inherent linguistic difficulties of talking to the many different language groups present in the
community, but also with a policy that seemed to be changing by the day, or that was being ‘adaptively managed’.

In August 2007 I was faced with a problem. If I left the community I felt that my research with the rangers would not be completed. If I stayed I saw that I would have to somehow find a way to incorporate the Intervention into my research. This dilemma was set against an increasingly vociferous public debate, and the beginnings of anthropological debate within the academy, in which taking any position regarding the Intervention as a PhD student seemed fraught. As it transpired, my decision was expedited by an approach by BAC for my partner and I to undertake a consultancy analysing the likely social impact of the Intervention upon the organisation and its members. This work was conducted under a tight time frame in order to have a report written to present to the Northern Territory Emergency Response Taskforce which was to visit within four weeks and culminated in a report Constructive engagement: Impacts, Limitations and Opportunities during a National Emergency (Fogarty and Paterson 2007).

In terms of this thesis, the opportunity to work closely with BAC’s Indigenous executive and non-Indigenous CEO provided access to data and insights that have greatly enhanced the research. I was advised by my supervisor to negotiate joint intellectual property for the consultancy which was accepted by BAC, who also generously granted permission to use data obtained during the course of the consultancy for my research herein. Similarly, the relationships I formed with the Bawinanga Executive provided a different ethnographic lens through which to view my research and allowed for a much greater understanding of the educational and development concerns faced by BAC and its members. Following the consultancy, and as some stabilisation returned to Maningrida, I was able to complete my research with the Djelk Rangers and left Maningrida at the end of November 2007.

In August 2008, I undertook a second, and much shorter period of fieldwork. This four week period of fieldwork had three parts. First, I returned to Maningrida to report back to people I had been working with and to ensure accuracy of my observations. This involved checking quotes and obtaining, where possible, missing information and express permission for the use of photos.
My second task was to conduct research specifically targeted at exploring the relationship between Indigenous and Western scientific knowledge in an Indigenous owned and run commercial wildlife enterprise. In order to explore the strength, relevance and availability of Indigenous knowledge surrounding two species that were being used by the enterprise, I conducted a series of formal and semi-formal interviews, as per an agreed framework for the project. The interviews were conducted in situ over a period of 10 days between the 6th and 16th of August 2008 with 39 people. Respondents were not chosen randomly, but rather through connections to Country deemed to be within scope of the enterprise development, seniority within the socio-cultural fabric of the region and immediate township, as well as through self selection. One of the interviews was specifically conducted with staff of the BAC wildlife enterprise development as a training exercise, where the method of semi-formal interview was demonstrated with the staff acting as both respondents and students. This was done to enable staff of the wildlife enterprise to conduct their own interviews with people in the region. Information from such interviews is often needed for permits for wildlife utilisation and as part of the wildlife enterprise’s ongoing documentation of local knowledge.

All interviews were conducted in conjunction with Indigenous collaborators and interpreters, with both male and female collaborators participating at different times. Interviews were also conducted within the ethical parameters of the larger project, as per the ANU ethics clearance process. As an impetus and visual aid to each of the interviews, a live specimen of the tarantula, one of the species being investigated, was procured from the BAC wildlife enterprise. The findings of this research are to be found in chapter 3.

The final task during this second fieldwork period involved visiting a number of remote places in the NT in order to document existent and potential linkages between education and Indigenous land and sea management programs. Accompanied by Dr Jerry Schwab from CAEPR and a senior Indigenous ranger from Maningrida, Mr Mathew Ryan, I visited Ramingining, Gapuwiyak, Nhulunbuy, Alyangula, Angurugu, Yirrkala, Ngukurr and Boroolooa. This field trip was designed to garnish the views of key people in these areas and to assess and document existent programs linking

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6 Mr Ryan’s role as an Indigenous facilitator and his extensive expertise in Indigenous land and sea management was integral to making this field trip a success.
education and land and sea management. The communities and programs visited as part of the August field trip were chosen to assess the levels of intuitional and operational support available, as well as to reflect the diversity of remote Indigenous circumstance. During this trip we managed to hold discussions with 160 people and to garner an extremely diverse and wide ranging set of perspectives and information which have been crucial in forming the work herein.

**Caveats**

The field of Indigenous education has spawned a body of research, both domestically and internationally, that is immense and reaches far beyond the immediate concerns of the thesis. Similarly, fields such as development, pedagogy, knowledge transfer, Indigenous natural resource management and constructs of Indigenous land are all valid areas of specialist study in their own right. Given this breadth of topical concern, I have targeted the literature research within the thesis to my specific areas of inquiry. While this could perhaps lead to accusations of ‘selective bias’, the intended purpose of this thesis is to develop an applied model that can be of use to educators and policy makers in the very difficult context of remote Indigenous education provision. As such, the complexity of real world educational situations requires that disparate disciplines of academia conflate at the ‘chalkface’ and are subject to concerns of pragmatism. Given this, I have kept my exploration of academic discourses focused on the applied. Having said that, there are some terms used throughout the thesis that require some academic definition at the outset. The terms defined below are provided here, in the introductory chapter, to make clear my approach and assist the reader in clarity of understandings and readability in the rest of the thesis.

**‘Indigenous’**

Accepted nomenclature in the discussion of Aboriginal and Torres Strait Islander peoples is subject to changes regarding appropriateness, usually as a result of Indigenous people themselves being unhappy with certain terminologies. Given this,
I use the term ‘Indigenous’ throughout the thesis as a term intended to include a diversity of Indigenous culture and people throughout Australia and the Torres Strait, while being cognisant that Indigenous people themselves have their preferred terms of identification and nomenclature pertaining to their cultural, linguistic and geographical backgrounds, which I have used where possible. In this regard I have endeavoured to be sensitive, while noting the heuristic need in the thesis to identify Indigenous people as distinct from the antonym of non-Indigenous. I also note that the term ‘Indigenous’ is the preferred nomenclature of the Commonwealth Government at the time of writing and that in consultations with people on fieldwork the word ‘Indigenous’ was seen as being acceptable as a generic term.

‘Community’

The term ‘community’ in its varying connotations has long formed a cornerstone of social science research and method. Arguably with much of its conceptual beginnings in Tonnie’s (1887) binary opposition between Gemeinschaft and Gesellschaft, modern anthropological discourse has been highly critical of the term ‘community’, particularly in relation to ‘community development’ (see for example Walker 2001, Cohen 1985 and Smith 1989).

As Smith critically notes:

The use of the term ‘community’ without Aboriginal consultation, self analysis and definition has in fact acted as a barrier to self determination, setting communities up for administrative failure, and thus denying Aboriginal people the opportunity to work through the development process, with specialised professional support, and in their own time (Smith 1989: 4).

Much of this critique relates to post-structural readings of context which see uncritical use of the term ‘community’ as proffering a static, bounded and unchanging conception upon a fluid and dynamic social structure. Similarly, the term community is heavily criticised for masking the heterogeneous and often disparate views of people and institutions within a given locale (see for example Amit, Vered and Indigenous people due to its historical associations with the processes of colonisation. Similarly, the term ‘Aboriginal’, in an Australian context is seen not to include people from the Torres Strait Islands or of Torres Strait Islander decent.

Simplistically, Gemeinschaft, as expressed by Tonnie, relates to a social structure whereby there exists a communal sense of direction and action that is as important as, or more important than, the interest of the individual. Similarly, individuals understand a shared set of social mores and norms that to a large extent dictate behaviours of the individual. This is contrasted with Gesellschaft where the self interest of the individual is seen as the driving force in social action. Ferdinand Tönnies (2001) ed. Harris J, Community and Civil Society, Cambridge University Press.
Rapport (2002) and Tsing (2005)). Ironically though, as noted by Gold (2005), many of the critiques of the term community nevertheless recognise its utility in encapsulating particular subsets of the social and have been instrumental in revitalising concepts of ‘community’ in academic discourses. This revitalisation of ‘community’ has occurred particularly in relation to the linkages between a notion of community and the environment, a primary concern in this research (Agrawal 2005).

Given this, I have chosen to use the term ‘community’ throughout the thesis for three reasons. First, as a heuristic device the term ‘community’ allows for readability and the delineation of discrete Indigenous communities in remote Australia (see chapter 2) while also noting that:

Communities are not, however, monolithic, undifferentiated entities. They contain categories of people distinguished by age, sex, interest, and power. Nor do they exist in a political or economic vacuum; they are linked in various ways with the larger society that surrounds them (Murphree 1994: 403 cited in Gold 2005).

Secondly, my consultations with Indigenous people found the term ‘community’ in common use, and that such parlance was seen as positive. While such use can be potentially seen as a reflection of colonial discourses, the sentiment expressed by Mathew, one of the people I worked with closely, was not atypical of understandings of the term ‘community’.

“We are really one community, but different mobs here are different. You know, same same but different. We all need to be one community for all the kids. Stop teasings at school. This is a big problem. But everyone has to talk the right way for their own mob and then talk one way, community for government mob or other mobs.” *Personal communication 5th October 2006*

Finally, I use the term ‘community’ in opposition to an increasingly individuated, neo-liberal understanding of education and work, which empties context and community out of the educative process.

**‘Remote Indigenous Development’**

In the same vein as community, the term ‘development’ is difficult to define. The field of ‘development’ and ‘development studies’, particularly during the last 20 years, has contributed much to the decolonisation and deconstruction of a post-World War II paradigm which saw capitalisation and rapid growth as the panacea to ‘underdevelopment’ in third world contexts. In particular the seminal works of Sen

Despite this intellectual growth in the development field, Hunt (2008) critically notes that the idea of development as modernisation is ‘the dominant approach to Indigenous development in policy terms’. This approach, in the context of remote Indigenous Australia, has been primarily prefigured on the idea that economic development and its associated modalities of modernity will alleviate Indigenous disadvantage and allow remote Indigenous people access to the ‘mainstream’ wealth of the nation state. However, even in purely economic terms such a conceptual base is heavily critiqued. For instance, Altman (2003a) stated that:

Economic development in such contexts is not just about development for enhanced market engagement, high formal employment and high and growing income. Such options rarely exist in these contexts. Rather, development should be viewed as a process that might enhance Indigenous participation with local, regional and national economies. The nature of economic development will be a function of the precise nature of local and regional economies, rather than of the currently prosperous metropolitan economies of south-east Australia successfully engaging with globalization (Altman 2003a:2).

So, my use of the term ‘development’ in this thesis is cognisant and intellectually indebted to the ‘post development’ movements of the international development literature as well as being critically opposed to prescriptive or narrow definitions of development as simply a function of the economic. Specifically, I use the phrase ‘remote Indigenous development’ to incorporate a diversity of Indigenous development aspirations in remote regions of Australia. In addition, I posit remote Indigenous development as different, or at least in need of a contemplation of difference, from development in other areas, such as urban, eastern seaboard cities. Importantly, this does not preclude the incorporation of ‘mainstream’ development in such contexts.

‘Pedagogy, pedagogic discourse and the pedagogic device’

A final definition is required around the term ‘pedagogy’. The word pedagogy, as a principal function of the educative process is often used and rarely ‘unpacked’ in education. As a result, I wish to be specific in my usage of the term. In the vernacular
of professional educators, the term ‘pedagogy’ is often taken to simply mean the art of teaching or instruction, however, in academic discourse the term is linked to a vast body of literature relating to discourse theory, critical theory, linguistics and post modernity in education. The use of the term ‘pedagogy’ in this thesis arguably draws on all these intellectual traditions; however, it owes much to the influences of Michel Foucault (see Deacon 2002, Foucault 1980, Foucault 1986, Foucault 1987a, Foucault 1987b, Foucault 2000, Gore 1998, Popkewitz & Brennan 1998) and Basil Bernstein (2000). I prescribe to the notion of pedagogy as a discourse in a Foucauldian sense in that pedagogic discourses are structured to reproduce hierarchical power relations of class, gender and ethnicity within an educational system. Through this lens pedagogy becomes a vehicle for the (re)production of dominant discourses in society and, ipso facto, represses and devalues marginalised discourses, such as those of an Indigenous educative community. Conversely, I also subscribe to Bernstein’s position regarding the need to explicitly consider the process that takes place in the transmission of knowledge, which he refers to as the ‘pedagogic device’.9 Bernstein argues that pedagogic discourse is distinct in that it is dependent upon external discourses. As a result, a Bernsteinian approach must not only consider what forms of knowledge are being selected in pedagogic development, but also how such knowledges are recontextualised and transmitted to students at the ‘chalkface’. Thus, he suggests that the study and creation of the device that delivers education, what is selected as knowledge and how it is communicated, should form a basis of educational research (op cit 2000).

So, initially I use the term ‘pedagogy’ to refer to the process, construction and actualisation of learning and its associated contestations. I do not limit my meaning to what occurs within the formal institution of schooling. Secondly, I use the term pedagogic discourse(s) to describe the interplay between knowledge and power, and education and knowledge transmission. Lastly, I use the term ‘pedagogic device’ to describe the ‘black box’ of learning transmission, where competing forms of knowledge are actually transferred to students.

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9 Bernstein critiques the Foucauldian approach for not analysing the ‘discourse within the discourse’ of pedagogy.
Style and Tone

In certain sections throughout the thesis I use a specifically personal voice and adopt a reflexive tone, particularly in recalling memories or events related to the thesis. I do this in order to locate myself, as an ethnographer, as part of the construction of a moment rather than an omnipresent, somehow impartial observer. In a critical sense, I hope this exposes and makes transparent my potential subjectivities in the research.

Similarly, I have tried to use a blend of writing styles. In some places, I have used thick description or privileged the voices of collaborators and informants I have worked with. In other places I have relied upon a tone that could be considered detached and traditionally academic. Part of my justification for such eclectic approaches relates to the fact that this thesis moves between theoretical, policy oriented and applied analyses.

Conclusion

In this introductory chapter I have outlined the methodology I have used in this research, as well as introducing a dilemma that has long characterised remote Indigenous education. The dilemma is the need for education to be able to provide mainstream educational outcomes in English literacy and numeracy, as well as being locally relevant and culturally responsive. While education policy has oscillated between providing education based in culture and education that denies culture, the classrooms in remote Indigenous communities have struggled with this dilemma and are currently characterised by pedagogic approaches that are compromised by external ideology and dominated by uncertainty. However, in this bleak educational landscape there are local programs and approaches based in common sense that are deserving of far more attention than they currently receive. The educational potential of linking Indigenous land and sea management and school is one such approach. In the following chapters, I examine the potential of this approach to reconnect schooling with local communities and local development. Before doing so, however, it is first necessary to examine the historic and contemporary relationships between policy and pedagogy in remote Indigenous education that have exacerbated the dilemma with which I have started. I do this in the next chapter.
Chapter 2: Policy and Pedagogy

It’s late November in a remote outstation and the stifling heat of the buildup is unbearable under a small tin shelter. Seventeen students are inside. This is their school. There is no power, few desks and a broken piece of chipboard serves as a blackboard. The ‘school’ is filled with chatter, mainly in Burarra,\textsuperscript{10} as students tackle a basic English literacy task. They have already survived a morning routine of times tables, counting by twos, fives and tens, a spelling test, a journal writing exercise and numerous recitals of the alphabet. An Aboriginal education worker with 14 years experience works with a small group of students on the concrete at the far end of the shelter. She is patient, but firm, stopping her work only to swear at a mangy dog that steps on a student’s work. Four parents sit just outside, keeping an eye on a group of toddlers playing in the dirt in front of them, while inside a sweating, balanda\textsuperscript{11} teacher teeters from student to student. The students range in age from 3 to 19. Everyone working - everyone hot. Suddenly, an engine roars and a Toyota full of young men bristling with wide smiles and shotguns thunders into the small community. They have been hunting and school breaks for lunch as a haul of magpie geese are dragged from the truck, soon to be roasted on the fire.

The scene painted above is just one piece of a mosaic that constitutes something called ‘Indigenous Education’ in Australia’s far north. Belying its simplicity simmers an ongoing debate in which Indigenous education in remote communities is cast as a failure amid constant calls for reform. Remote Indigenous education sits at the forefront of a larger political landscape that has long been characterised by ideological polarisation, political expedience and complex policy function. On the ground, this landscape is overlain by a diversity of lifestyle and geographic location, highly localized histories of engagement with non-Indigenous Australia and a wide spectrum of aspirations for economic and community development. Furthermore, daily life in remote communities takes place against inequitable rates of employment, mortality, violence, crime, substance abuse and suicide when measured against the non-Indigenous population. Education is often touted as the ‘road map’ through which future generations will negotiate this complex web to become productive and engaged members of the wider Australian community. In so doing, the students are

\textsuperscript{10} An Indigenous language of Arnhem Land.
\textsuperscript{11} Local term for non-Indigenous people.
also subject to the social norms and practices required by parents and family in their immediate community and develop as independent thinkers with their own world views. As such, questions considering what should constitute remote Indigenous education, from policy to practice, are far from simple and must account for the inherent complexities that make up the pedagogic field. Similarly, educational development, at its best, should be empirically grounded, culturally informed and free from ideological pre determinism.

*Figure 2 Discrete Indigenous communities and Indigenous-owned land*

Source: (Altman and Fogarty 2010)

In this chapter, I discuss the historical and contemporary issues surrounding remote Indigenous education. Figure 2 denotes the location of discrete Indigenous communities throughout Australia. Throughout this thesis I use the term ‘remote’ to refer to these discrete communities situated in remote regions in the top end and the
In tracing the historic, pedagogic and contemporary features of remote Indigenous education I examine the problem of engagement, or lack thereof, in education by Indigenous youth. In simplistic terms, I show that there has been a structural disconnect between the lived experience of remote Indigenous students, school and work. I argue that past and present educative practice in remote Indigenous contexts has failed to adequately link three crucial components needed for educational relevance and successful outcomes. These components are the educational demands of the local labour market, the recognition of Indigenous knowledge and development aspirations and the role of localised pedagogy in creating a purpose and relevance to learning. To explore these three areas further, however, it is first necessary to examine the contemporary features of Indigenous education. This is followed by a more detailed examination of Indigenous education in the Northern Territory and an historical analysis of the NT’s education policies. I pay particular attention to the crucial educational area of transitions from school to work and the vocational educational sector. The chapter ends by showing that if a connection between school and work is going to be actualised in education, it must account for the realities of complex context.

Indigenous education, as both a distinct pedagogic field and a kaleidoscope of intercultural practice, can be characterised in modern policy terms as either an attempt to attain statistical equality with non-Indigenous Australians, or the pursuit of cultural imperatives through self determined, educational development. Policies surrounding Indigenous education have oscillated between a basis in constructs of Indigeneity and empowered, representative control on the one hand and the struggle to address educational outcome disparities relative to the rest of the population on the other. The degree to which policy emphasis has concentrated on educational equality versus more self determined forms of education has shifted, as policy has shifted in Indigenous Affairs at a national level. These often dichotomous positions in policy are set against an unresolved historical legacy of institutionalised racism and assimilationist ideology that has dominated educational provision for Indigenous

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12 The term remote is based on the Australian Bureau of Statistics Remoteness Area. In this thesis, 'remote' areas include the Remoteness categories Remote Australia and Very Remote Australia, unless otherwise stipulated. For further information see Statistical Geography: Volume 1 - Australian Standard Geographical Classification (ASGC) 2001 (ABS cat. no. 1216.0)
students. This is particularly evident in the paucity of educational opportunities students have had to attend highschool or study in their own languages.

Increasingly contemporary policy is based in a portrayal of systemic failure (Collins 1999, DETYA 1999, Hughes 2007, Scrymgour 2008). Conservative commentators such as Hughes (2007) and Cleary (2005), for example, have blamed this failure on the ‘separatism’ of curricula for Indigenous students, bilingual education, land rights and even self determination policies which began in the 1970s. Such positions exhibit naïve presentism and ignore the interdependence of complex educational and social variables. Unfortunately, the constants in Indigenous education over the last 50 years or more have been poor levels of attendance, low retention rates and literacy and numeracy outcomes well below those of other groups within Australian society, regardless of policy (Hunter and Schwab 2003).

The current situation

Australia has recently experienced a period of rapid economic growth, yet the relative economic position of Indigenous Australians has at best remained constant and at worst declined (Altman and Hunter 2003, Altman, Biddle and Hunter 2008). In the context of that economic growth there have been some gains for Indigenous Australians in education and training outcomes. However, Hunter and Schwab (2003) have found that despite some small improvements in Indigenous education outcomes, these gains have not kept pace with other Australians and, as Schwab (2006) more recently noted, this discrepancy is most pronounced in the remote areas of Australia. In particular, Schwab draws attention to the key measure of the ‘apparent retention rate’. Finding that the national retention rate for Indigenous year twelve students in 2003 was just 39% compared to 77% for non-Indigenous Australians, he goes on to say that in the Northern Territory things are even worse. Retention rates in the NT of just 25% for Indigenous students are compounded by the fact that up to 20% of the secondary aged Indigenous cohort are not even enrolled (ibid 2006).

The continuing relative educational disadvantage of Indigenous people is most pronounced in remote parts of the Country where the likelihood of students speaking languages other than English is highest and the availability of education and training services and infrastructure is lower than in rural and urban areas (Australian Bureau of Statistics 2004).
One element of the explanation for this pattern is that few Indigenous students in the remote far north of the Country have secondary schools in their communities (Schwab and Sutherland 2005). Not surprisingly, distance to a secondary school has a strong effect on the attendance and completion of studies by individuals. Yet there are other factors that affect decisions to attend that derive from the needs and aspirations of young people that schools do not always meet. In the drive to attain literacy and numeracy benchmarks, educators and policy makers seldom recognise the degree to which Indigenous people are disappointed in the failure of Western education to align with and enhance their own development aspirations or to recognise the pre-existing knowledge sets Indigenous students bring to the classroom (Schwab 2001).


A major report into the issue of poor attendance commissioned by the then Department of Employment Training and Youth Affairs (DETYA) (Bourke et al. 2000) found that:

There is agreement in the literature that among Indigenous students the level of school attendance in remote areas is markedly lower than in urban areas, particularly at secondary level (Watts and Gallacher 1964; Parish 1990; Lasora 1990; Baarda 1994; Schwab 1998); with considerable variation in attendance reported between schools in remote areas, as well as dramatic variation in the level of attendance from one week or time period to another (Groome and Hamilton 1995; National Language and Literacy Institute of Australia (NLLIA) Vol 21996; Schwab 1998).

Furthermore, the research base is consistent in its findings that not only is school attendance lower in remote areas, it has been for some time. For example, a study of Indigenous students in remote schools in the central desert region of Australia (Desert Schools Project, NLLIA 1996) found that ‘in all communities but one, student attendance was low and irregular, with sometimes as many unexplained absences as
attendances’ (cited in Bourke et al. 2000). Recent research in the top end of the Northern Territory has shown that in some places, on any given day as few as a quarter of the potential school aged cohort are actually going to school (Fogarty 2005, 2008, Taylor 2005, 2010). Maningrida Community Education Centre (CEC) is a large school by remote standards in the Northern Territory. It has a highly fluctuating student population that oscillates between 400 and 700 enrollments, but it has a potential student cohort of approximately 950 students in the catchment area. Attendance over that last decade has been a state of steady decline. At the time of writing, there were 130 students attending the school and 700 students enrolled. In 2010 I estimated that there were a potential 920 students of school and preschool age. Only 559 of these students are enrolled, with less than half of them actually attending school. So on any given day up to 700 children are not attending school.

Figure 3 shows the attendance of students in schools classified as ‘very remote’ in the NT by the ABS. The 2008 figures show that the mean attendance rate in very remote areas of the NT is 71.5%. This compares to a national school attendance rate of approximately 97%.

Figure 3 Percentage attendance by very remote school NT

Original data NT DET 2009. Includes non-Indigenous attendance. Statistical assistance provided by Dr W. Tyler
At a national level figures showing the enormity of Indigenous non-attendance become somewhat softened by better attendance patterns in urban areas, but are, nevertheless, consistently and markedly less than those of non-Indigenous students. Most pronounced in this pattern of non-attendance is the low number of students in their middle and later teens that are choosing to engage in education in remote areas. They are, in fact, highly conspicuous in their absence. The apparent retention rate for full-time Indigenous students from their first year of secondary school, through to year 12 in 2009 was 45% compared with 77% for non-Indigenous students (ABS 2010).

The lack of engagement of a significant proportion of Indigenous youth in remote education is usually presented in the literature as a ‘problem’. However, this is also challenged. Schwab (1998), for example, in discussing the notions of success and failure in education, finds that traditional performance measures such as student attendance, retention and national performance tests ignore the fact that Indigenous people may use education to fit their specific needs. From this perspective, Western education can be seen as successful. Similarly, Devlin (2009) argues that the ‘value’ of an education program should be:

…considered from a human, quality-of-life perspective. People’s views count every bit as much as the ideology of government politicians which are inevitably swayed by short-term considerations, and arguably more so, for it is the people that the government serves. People know what they want and care about, and so they sign petitions, write letters to put their views and vent their frustrations. While it may come as a surprise to mainstream Australia and to the NT Government, Indigenous people in remote settlements know what they value (Devlin 2009:14).

Rhetorically all sectors of the educational sphere from Ministers and administrators to parents and, sometimes, students themselves, openly and consistently represent non-attendance and poor outcomes as an issue. (MCEETYA 2003). Yet the discourse...
of Indigenous education policy has seen chronic non-attendance, or ‘attendance problems’ as a reliable feature for well over fifty years and, unfortunately, the spectre of the word ‘intractability’ looms over an ever mounting, discarded pile of programs designed to combat the ‘problem’.

Issues of low attendance, poor retention and low outcomes in literacy and numeracy may have a number of causalities. Hunter and Schwab (2003) list a number of these causal factors including

…disaffection with school and teachers, difficulties in attending school arising from poverty, high mobility, Indigenous inter-group tensions, family pressures particularly in single parent families, high levels of sickness and high death rates among adults and the consequent social obligations placed on the young are prominent among the reasons that Indigenous students have difficulties with formal education (Groome & Hamilton 1995: 4, Hunter & Schwab 1998, Schwab 1998). Cultural conflict, cross-cultural miscommunication, and racism are additional important factors influencing decisions by some Indigenous students to abandon school (Hunter and Schwab 2003:16).

Patterns of disengagement and poor outcomes for Indigenous students are replicated across jurisdictions at the national level. Figure 4 shows the percentage of students, both Indigenous and non-Indigenous, who have reached the national benchmarks in literacy and numeracy. The National Assessment in Literacy and Numeracy (NAPLAN) results have been instrumental in showing that Indigenous students in remote areas are performing markedly worse against these benchmarks than their non-Indigenous peers in the rest of Australia.  

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14 ‘NAPLAN results are reported using five national achievement scales, one for each of the NAPLAN assessment domains of Reading, Writing, Spelling, Grammar and Punctuation, and Numeracy. Each scale consists of ten bands, which represent the increasing complexity of the skills and understandings assessed by NAPLAN from Years 3 to 9’. (Ministerial Council for Education, Early Childhood Development and Youth Affairs MCEEDYA: 2009:2)
Figure 4 NAPLAN Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Subject</th>
<th>Indigenous%</th>
<th>Non-Indigenous%</th>
<th>Gap in percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3</td>
<td>Reading</td>
<td>68.3</td>
<td>93.5</td>
<td>25.2</td>
</tr>
<tr>
<td>Year 3</td>
<td>Writing</td>
<td>78.8</td>
<td>96.4</td>
<td>17.6</td>
</tr>
<tr>
<td>Year 3</td>
<td>Numeracy</td>
<td>78.6</td>
<td>96.0</td>
<td>17.4</td>
</tr>
<tr>
<td>Year 5</td>
<td>Reading</td>
<td>63.4</td>
<td>92.6</td>
<td>29.2</td>
</tr>
<tr>
<td>Year 5</td>
<td>Writing</td>
<td>69.7</td>
<td>93.9</td>
<td>24.2</td>
</tr>
<tr>
<td>Year 5</td>
<td>Numeracy</td>
<td>69.2</td>
<td>94.0</td>
<td>24.8</td>
</tr>
<tr>
<td>Year 7</td>
<td>Reading</td>
<td>71.9</td>
<td>95.4</td>
<td>23.5</td>
</tr>
<tr>
<td>Year 7</td>
<td>Writing</td>
<td>67.9</td>
<td>93.2</td>
<td>25.3</td>
</tr>
<tr>
<td>Year 7</td>
<td>Numeracy</td>
<td>78.6</td>
<td>96.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Year 9</td>
<td>Reading</td>
<td>70.7</td>
<td>94.2</td>
<td>23.5</td>
</tr>
<tr>
<td>Year 9</td>
<td>Writing</td>
<td>59.7</td>
<td>88.8</td>
<td>29.1</td>
</tr>
<tr>
<td>Year 9</td>
<td>Numeracy</td>
<td>72.5</td>
<td>94.8</td>
<td>22.3</td>
</tr>
</tbody>
</table>

Original Source: 2008 national Assessment Program literacy and Numeracy. MCEETYA 2008

However, education researchers caution against the use of such data as a panacea of educational measurement. As Dr Chris Sarra has noted:

> whilst the NAPLAN data is in many ways extremely useful, we should not ‘overestimate’ their value and pretend that this tells the complete story about our children in schools.’ (Sarra 2009)\(^\text{15}\)

Similarly, there is some question as to what such benchmarks are actually testing. Since Edward Thorndike invented formal achievement tests in 1904 (McKenna in NEA: 1977:7) they have been heavily critiqued, particularly in their application to minority student populations. As McKenna noted over thirty years ago such tests use:

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vocabularies and illustrations unfamiliar to those who are not of white middle class cultures or for whom English is a second language; that is the tests are culturally and linguistically biased (Ibid:8).  

Furthermore, the use of testing regimes as the indicator of educational ‘success’ can perpetuate stigma of minorities in the wider community and lead to students or teachers being blamed for poor outcomes. For example, Heath (2010b), in writing about education in the United States argues that in:

the first decade of the 21st century, notions of equity narrowed to mean everyone reaching certain levels on standardized test measures of achievement. Popular media, educators, and political and legal spokespersons for underrepresented groups raised to national awareness the idea of the “achievement gap,” or the disparity of scores among racial groups. Descriptors such as minorities or inner-city stuck to young people confined in their local schools. Busing mandates and equal-opportunity ideals fell away from policymakers and judicial systems; the equity these had strived for fell back onto the shoulders of individual teachers and occasionally their principals (Baldacci, 2004; Fisher, 2007; Thomas-El, 2003). They were left to take on both blame for the achievement gap and responsibility for closing it (Heath 2010b: 9).

Heath’s analysis of the United States situation resonates strongly with contemporary policy in Australian Indigenous Education where the focus is firmly on ‘Closing the Gap’ in literacy and Numeracy (see chapter 5).

**Northern Territory Education and Policy**

Perceived patterns of non-engagement in education and poor results against mainstream testing regimes such as NAPLAN are particularly stark in the NT. This is not surprising given that the NT has a demographic and geographic profile that creates unique educational challenges. Sixty percent of the Northern Territory’s Indigenous population reside in 985 remote communities spread across 1,346,200km². There are a total of 183 schools (151 public and 32 private schools), 54 Homeland Learning Centres and 41 schools that have fewer than four teachers.

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16 More recently Klenowski and Gertz (2009) concurred in their analysis of NAPLAN results. They noted that student results are more attributable to access to learning, different social and cultural contexts, or due to student experiences and socio-cultural background.

17 For example, 90 per cent of students nationally are performing at or above the national minimum standard in each of the key areas assessed. (Gillard 2008) as opposed to the results in the Northern Territory where 14 per cent of very remote Indigenous students met the national reading standard for Year 3; 8 per cent in Year 5; 14 per cent in Year 7; and 13 per cent in Year 9.
Seventy five percent of Indigenous students are located outside of the few urban centres and many of these students may experience English as a foreign language (DEET 2005). In the NT, 23% of secondary students enrolled in government and non-government schools are categorised as English as a Second Language (ESL) learners (DEET, 2002b).

Indigenous students make up 83% of the total number of ESL students in all primary and secondary government schools, with 68% of these attending remote schools (DEET 2004). Twenty three percent of NT schools are located in very remote areas, compared with 0.9% Australia-wide. While 48.9% of NT government primary schools have fewer than 100 pupils, this is true for only 30.3% of primary schools across Australia. All of these elements contribute to a raft of educational issues including difficulty in providing secondary education and a need for increased levels of funding for service. The situation is similar in the non-government education sector. For example, there are 15 schools in the Catholic network in the NT. Of the 5,000 students in those schools, about 1,500 are Indigenous (ibid).

Indigenous education policy in the NT is formed by the Northern Territory government, in consultation with the Commonwealth government and is the key responsibility of every division within the education system. Implementation is overseen by the Indigenous Education Division. Indigenous education is far from being a separate or bounded pedagogic system. In fact, 40.5% of students enrolled in the NT are Indigenous and many attend urban high schools and primary schools in Darwin and Alice Springs as well as attending schools in remote areas. Students from remote areas regularly spend periods of their schooling in mainstream urban schools. While ‘take up’ and success via this option is relatively low, usually because of students’ wish or need to stay close to family and the land they own, there is no structural impediment to this happening under current arrangements. 

A number of remote secondary schools are involved with urban secondary schools under a ‘sister’ school arrangement which encourages exchanges of staff, students and educational ideas. All NT students study under the Northern Territory Curriculum.

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18 The extensive literature on the mobility of Indigenous Australians indicates that their patterns of mobility are predominantly determined by identification with place and a desire to maintain connections between kin. Indigenous people are often unwilling to relocate to places outside of areas with which they identify, and where family is located, in pursuit of employment or further education and training. (Taylor 2003)
Framework that covers key learning areas in maths, science, English, social science, sports and Indigenous studies. There is no separate curriculum framework for remote Indigenous students (DEET 2002). Phonetics, arithmetic and grammar exercises form a daily part of the teaching and learning cycle in the remote schools of the NT. Genre based approaches that underpin curriculum frameworks are based on multidisciplinary approaches, drawing on communication theory, linguistics and a range of literacy theories. Outcomes in Indigenous education are the end points of this cycle and are there to ensure students are proficient, teachers are accountable and achievement can be measured. Curriculum content and design determine daily lessons. External moderators are regularly involved in this process and each teacher is accountable for their program. However, as we shall see, there is a systemic disconnect between these practices and the local labour market, as well as very little recognition of education’s potential role in Indigenous development aspirations.

Any consideration of Indigenous education in the remote regions of the Northern Territory must recognise the plethora of research acknowledging the close relationship between low levels of attainment and poverty, health, housing, access to government services, infrastructure and socio-economic status (MCEETYA 1999:21). The links between such barriers are well documented in education research, regardless of ethnicity or location (eg Smyth and Hattam 2004). Similarly, as Gray et al. discuss in their survey of Indigenous Education Outcomes, ‘it is relatively easy to develop policy (but) it is often very difficult to measure the impact of specific programs’ (1998). This is due to the often intergenerational lead time needed to make impacts and the multitude of interrelated variables that affect a student or program in education.

An example of how social variables, in this case health status, can contribute to poor educational attainment in remote areas is the prevalence of hearing loss through ear infections (Otitis Media). In a survey of more than 1,000 Indigenous students in the NT, 79% were found to have an ‘educationally significant hearing disability’ (CoA 2000). In a similar survey conducted in Maningrida, the figure was 100% (NT Health 2000). This is just one of a myriad of health factors that affect the education of Indigenous students.

Similarly, massive underinvestment in infrastructure and secondary education in remote areas has been a major impediment to achievement by Indigenous students. As
Hughes (2007) states ‘a very considerable share of government expenditure evidently does not reach its targets. Australia’s fiscal federalism that is based on the allocation of resources on a recurrent needs basis, has historically made no account for backlogs, nor for whether targeted resources are actually expended as intended’. This situation has long been problematic in the funding of remote area Indigenous education.

Taylor and Stanley (2005: 63), in a study of the Thamarrurr region, found that under-spending on education in the region totalled $3.2 million dollars per annum and that for every dollar spent on a child elsewhere in the NT, only 0.51c was spent on a student in the Thamarrurr region. This is likely to be replicated in other remote communities; indeed it may be worse as Thamarrurr was a Commonwealth Of Australian Government (COAG) showcase trial site at the time of the study. Such underinvestment is further compounded by historical legacy in the NT. Commonwealth monies targeted for Indigenous education were either not being accessed or were misspent by the former NT Government. A 1999 review of Indigenous Education Strategic Initiatives Program (IESIP), a major commonwealth funding source, found that nearly half of money designated for Indigenous education salaries was going straight to treasury coffers as ‘on costs’ (Collins 1999). Furthermore, the review found that:

…the failure (of the NT government) to access significant, available Indigenous education resources from the Commonwealth, despite having by far the greatest Indigenous student population proportion in Australia, to be an inexcusable management oversight. Out of $38 million available for strategic initiatives, the Northern Territory Department of Education accessed only $196 000 (Collins 1999:55).

And that

The Commonwealth Department of Education Employment Training and Youth Affairs (DEETYA)… described a thirteen-year-old dysfunctional relationship between themselves and the NT Department of Education (ibid).

This is in a context where, until recently, Indigenous students in remote communities had access only to primary education and were provided with limited or no high school facilities. Similarly, a detailed statistical analysis of 2001 census data

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19In 2005, 75 Indigenous students attained their NTCE (Northern Territory Certificate of Education) including 45 from remote and very remote locations. The numbers may be small but the rate of growth is significant. There have been significant improvements in the retention of Indigenous students from Year 8 to Year 10 and to Year 12 over the last five years or so. Yet it is also true that while Indigenous
Chapter 2: Policy and Pedagogy

Learning through Country: Competing knowledge systems and place based pedagogy
W. Fogarty

by Biddle, Hunter and Schwab (2004) found that access to schools and other institutions is the most important factor in determining educational participation of young Indigenous adults. DEET has estimated that there could be as many as 2,000 children aged 6–15 who are not enrolled in compulsory schooling and a further 2,000 children aged 3–5 who may not access early childhood services. No estimate of the number of post-compulsory-aged students who could possibly attend has been published.20

In recent times this disengagement of Indigenous students in the NT has been increasingly characterised as a function of the economic ‘failure’ or unsustainability of remote Indigenous communities on the one hand and welfare dependence on the other. As a consequence, conservative commentators such as Hughes and Warrin (2005) (see also Hughes 2007, 2008; Cleary 2005 and Johns 2005) have advocated an extremely interventionist course of policy redress whereby notions of protectionism demand prescriptive pedagogic integration, or even physical relocation of the educative process. While these positions fail to account for the complexities of the Northern Territory’s contemporary policy landscape, they are also characterised by historisis, in that they fail to adequately account for the complex relationship between historical Indigenous affairs policy and pedagogy in remote Indigenous education. In order to fully understand the current educational ‘crisis’ in the Northern Territory, it is first necessary to unpack the complex historical relationships between Indigenous affairs policy and pedagogy within Indigenous education at both a national and NT level.

students comprised 40% of the whole secondary student population in 2005, only 12% of the students who completed their NTCE were Indigenous (13.5% in 2006). The Combined Aboriginal Organisations have estimated that 43% of Indigenous secondary students are registered as ‘ungraded’ students – secondary-aged students who have not achieved Year 7 primary school education. 2004 saw the first remote Indigenous students graduate from year 12 in their own communities.

20 Altman (2008) has estimated that to include the 2,000 children of compulsory age who are currently not enrolled and to have the 8,000 children in the prescribed areas under the intervention attend every day would cost around $79 million per year plus infrastructure costs of $295 million. Over five years, the cost for remote communities would be an extra $690 million.
Policy and Pedagogy

Indigenous education’s historical beginnings in a paradigm of colonial dispossession, coupled with the protectionist and paternalistic practice of secular education (White et al. 1995), have left a deep scar on the collective psyche of both Indigenous people and educational practitioners (Rowley 1972). Becoming a tool of repression, educational policy aimed at disenfranchising the cultural fabric of Indigenous communities dominated much of last century. Key components of cultural production such as language and religion were deliberately subverted through education as a vehicle for indoctrinating students in dominant, Western ideologies (ATSIC 1999). This is best evidenced through practices of ‘training’ stolen generation children in skills of domestic servitude and the common practice of banning children from speaking their own languages in school (White et al. 1995).

Such practices occurred against a policy landscape of protectionism from the turn of the century and assimilation policy which dominated governance from approximately 1950 until 1970 (see Sanders 2002). In Queensland, Western Australia and the NT in particular, education departments adopted pedagogic frameworks which denied any notions of ‘difference’ for Indigenous students (NBEET 1992). This was coupled with an absolute relative paucity of resourcing, particularly in remote settings, denying equitable access to education, while non-Indigenous students were denied, except in the most basic terms, the opportunity to engage with Indigenous versions of history and culture (NBEET 1992). While the effects of this can, in part at least, be represented in the quantification of poor educational outcomes for Indigenous students relative to the rest of the population (Hunter and Schwab 2003), the individual and collective effects of this on the educative process are much more ambiguous. At the very least, however, the possibility that the assimilation era of policy and governance created cultural misrecognition between Indigenous and non-Indigenous educational communities must be entertained. Indeed, a number of submissions to the inquiry into the ‘Stolen Generation’ drew attention to the relationship between past racist policies and practices in education which excluded or marginalised Indigenous children, and contemporary low secondary school retention.

21 Campbell (2000) notes that in 1970 there were only 2,000 Indigenous children enrolled in secondary schools throughout Australia (Hughes 1988: 8). At the same time, at the post-compulsory level there were fewer than 100 Indigenous people enrolled anywhere in Australia (Hughes 1988: 11).
rates and low participation rates in tertiary education (Commonwealth of Australia 1997). As such, the symbiotic nature of policy and pedagogy cannot be underestimated in analysing the ‘way’ and the ‘what’ of Indigenous education in Australia.\(^{22}\)

In the early 1970s,\(^{23}\) the advent of self determination as an ideological framework for governance saw a profound shift in educational development for Indigenous people. The rise of a distinctly Indigenous sector of governance (Rowse 2002) saw the creation of many publicly funded organisations at state and national levels, while at local levels, particularly in remote communities of the NT, constructs of ‘community government’ developed (Sanders 1996). With the rise of this sector came issues of representation and tensions in the strategic fit between democratic notions of governance on one hand and self determined expressions of Indigeneity on the other. These tensions also permeated all areas of service delivery and while education, for the most part, remained firmly under the control of State and Commonwealth governments, the need to be inclusive saw the development of a distinctly ‘Aboriginal’ field of education. Indigenous education branches were created in all states and territories during the 1980s, while at a Commonwealth level Aboriginal Education Policy (AEP) was born. As with other areas of Indigenous public service delivery, the idea of self determination began education’s search for ‘public policy arrangements which recognised the distinct minority nationalism of Indigenous people, while also drawing them into a single nation state’ (Sanders 2002:16).

As a result of self determination, internal governance arrangements began to be developed at all levels of education.\(^{24}\) While as diverse as Indigenous people themselves, these structures generally revolved around notions of inclusivity and much effort went into ‘Aboriginalising’\(^{25}\) schools where there were high numbers of Indigenous students. In practice, these arrangements consisted of parental committees,

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\(^{22}\) To return briefly to Indigenous education’s metaphorical scar, the rawness of assimilation’s injury, and the need to account for it, can be evidenced in Indigenous education communities’ reactions to the Northern Territory Government’s controversial move to cut bilingual education programs in 1998.

\(^{23}\) Sometime between April 1971 and January 1973 (see Rowse 2002).

\(^{24}\) While recognising Sander’s assertion that ‘if government is thought of more as a process than a structure, there is no need to categorise organisations as either internal or external to government, or…to the Indigenous community’ (Sanders 1996:8), for the purpose of clarity in this paper some distinction must be made. ‘Internal’ refers to governance within local education systems, while ‘external’ refers to governance outside local education systems.

\(^{25}\) The concept of ‘Aboriginalisation’ dominated remote Indigenous education in communities in WA and the NT during the 1990s. This was seen as a key component in self determined education.
representation on school boards, the creation of Indigenous faculties in universities, the development of ‘consultative’ process in decision making and affirmative action in the training and employment of Indigenous staff in schools. Ideologically, education underwent a fundamental shift from the assimilation policy era, where pedagogy had been an instrument of aculturation, and the field of practice began to become re-politicised. The process and style of educational delivery became paramount while outcomes took a decidedly back seat. Underlying this was an ethos whereby Indigenous people would control the nature, pace and delivery of education. In reality, however, many remote communities lacked the capacity for this to occur within education’s often rigid institutions (Schwab and Sutherland 2003). Hence, internal governance arrangements, such as those mentioned above, became the norm while the majority of power and control remained very much in the hands of external, non-Indigenous government (Schwab and Sutherland 2003).

Self determination policy also provided the environment for pedagogic change. Notions of ‘cultural appropriateness’ and ‘Indigenous learning styles’ (Christie 1993, Harris 1980, 1990), coupled with English as a Second Language (ESL) strategies based on the communication theories of writers such as Chomsky (2002), Vygotski, Gallimore and Tharp (1990) and Halliday (1995) began to dominate the pedagogic landscape. Simultaneously, deconstructionist theory and critical literacy approaches emerged as a major development in educational theory. While slow to permeate the teaching/learning cycle in Indigenous communities, by the late 80’s and early 90’s curriculum documents such as ‘Walking Talking Texts’ in the NT and ‘ESL in Anangu Schools’ in SA were becoming de riguer. Pedagogically, this era of educational development either emphasised the difference, or otherness, of Indigenous students and proposed curriculum and content design based in ‘culture’, or advocated the exploration of post modernist readings of power relations. The reality saw many educators attempting to program for both. However, due to the capacity issues mentioned above and the continued control of external governance, pedagogic development was seated firmly in the mainstream, while its implementation was distinctly top down. Paradoxically, this situation was the antithesis of the assumptions such pedagogy is underpinned by. For example, Halliday (1995) proposes a set of

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26 Both programs rely heavily on connections between literacy and social environment, while emphasising cultural ‘difference’.
literacy and communication fields that are determined by the context in which they occur.

One of the key educational developments in the NT during this time was the Bilingual education program. Bilingual education is a model of language teaching where students' first language is used as a basis for instruction and teaching while simultaneously learning to use English (Devlin 2009). During the 1970s and 1980s the program was adopted in an increasing number of remote communities, yet by the mid 1980s funding for growth became scarce. In 1998, the then NT Government chose to ‘phase out’ Bilingual education. This was met with strong resistance by remote communities and the program was eventually ‘rebranded’ to become the ‘two way learning’ program (Ibid:6).  

The history of Bilingual education policy (see Simpson et al. 2009) in the NT provides a clear example of the tensions between local pedagogic wants and the control over pedagogy exerted by the state through shifting policy positions.

With the advent of ‘Practical Reconciliation’ under the Howard government, which came to power in 1996 (Altman and Hunter 2003), Indigenous education once again experienced a distinct ideological shift. Concepts of ‘mutual responsibility’ between government and Indigenous people combined with a global shift in education theory, driven by economic rationalism (Greening 2000), created a shift towards demonstrable outcomes in education. This has manifest in the creation of national and state level benchmarking of educational performance. The reasons for this can be seen as twofold. The first can be seen as a measurement issue. The use of agreed educational benchmarks allows for homogeneous reporting and increased monitoring and evaluation of state education systems. In this way, the teaching and learning cycle becomes subject to the demands of attainment and more easily controlled by centralised education systems. The second use of benchmarks can be seen as economic and subscribes to corporate models of project cycles where inputs and outputs are measured as a function of value. In this way an increasing

27 Many remote communities demonstrated against the cut to Bilingual programs, using the slogan ‘Don’t cut off our tongues’. In Maningrida, where I was teaching at the time, a large community meeting was organised and hundreds of cardboard tongues were plastered across the school in symbolic protest to the decision.

28 More recently, in October 2008, the NT Government (Scrymgour 2008) announced that ‘two way learning’ programs would be superseded by ‘English only’ instruction for the first four hours of everyday. See Simpson et al. (2009) for full discussion.

29 For critique of this see Rowse (2002).
commodification of education, driven by economic rationalism saw outcomes become paramount and learning increasingly forced to fit the demands of the labour market.

However, the use of educational outcome frameworks and testing has undoubtedly contributed much in characterising and analysing the nature of Indigenous education.30 Not only does such data allow for the mapping of performance trends, it also disaggregates key areas of literacy development (eg reading, writing, listening, speaking and numeracy) for analysis at local, state and national levels. However, as Altman and Hunter critically note, ‘the current policy agenda ignores the interdependencies between many of the dimensions of Indigenous disadvantage, particularly how social and historical factors can influence contemporary Indigenous practical outcomes’ (Altman and Hunter 2003). Similarly, the homogenizing of educational approaches privileges Western knowledge and subjugates the opportunity for local control of the educational process.

In Indigenous education, the outcome era has expressed itself through the development of prescriptive, outcomes focused, pedagogic design which has actualised in curriculum documents such as the Northern Territory Curriculum Framework (NTCF). While such documents allow for some local negotiation of content, internal governance arrangements, and more importantly the educational aspirations of Indigenous people, are unable to contribute to the outcome of the educational process which is centrally developed and assessed. In this vein, the outcome era of Indigenous education has exacerbated an already historically and socially complex relationship between policy, governance and pedagogy at the local level. The politicising of pedagogic development as a function of external ideology has left the ‘chalkface’ in an invidious position. On the one hand, ideals of Indigenous control of the educative process have allowed the penetration of pedagogy based around context specific, culturally appropriate development, while on the other, external governance structures and poor resourcing have made it difficult to realise these ideals. Consequently, the potential of locally developed pedagogy has been subverted. This has resulted in compromised curricula and practice at the classroom level and a disconnect between school and remote Indigenous students’ lived experiences (Kral 2007).

30 There are a number of frameworks currently employed in Indigenous education in Australia, eg ‘Outcome Profiles’ in the NT and NAPLAN.
From School to Work

While the complex relationship between pedagogy and policy has led to increasingly reductionist, and hence less relevant, praxis at the classroom level, a similar disconnect is apparent in the transition from school to work. Research on Indigenous educational outcomes in recent years has pointed out the need to address the difficulties experienced by Indigenous students who struggle with the transition from school to work (Long, Frigo and Batten 1999). Policy makers at the state, territory and national levels are continually searching for programs and approaches to alleviate the difficulties faced by Indigenous students in negotiating transition points within school, particularly from the primary to secondary levels, and into the adult world of work (Mellor and Corrigan 2004). Policies and programs to assist and manage such transitions and to provide multiple pathways for Indigenous students are now commonly accepted as essential components of broad strategies to achieve greater social, political and economic gains for Indigenous communities.

Yet a national evaluation of programs created to address those struggles found that many young people in Indigenous communities are continuing to disconnect from an educational system they perceive as both irrelevant and hostile to their culture (Powers and Associates 2003). This is particularly true in remote regions where school retention is lowest and social and educational disengagement is highest. This is particularly the case in the Northern Territory, for example, where nearly 40% of the Indigenous population is 15 years of age or younger and the number of young people in that age category is growing (Hunter, Kinfu and Taylor 2003). The social cost to Indigenous communities of the decision by young people to leave school is high with mental health, criminal activity, drug abuse and other social welfare issues increasing among this group in the Northern Territory relative to the rest of the nation (Ogilvie and Van Zyl 2001, Walker and McDonald 1995). An independent review of Indigenous education in the Northern Territory (Collins 1999) and the more recent ‘Report on Future Directions for Secondary Education in the Northern Territory’ (Charles Darwin University and the Northern Territory Government 2004) each identified an urgent need to address the transitions from school to adulthood for Indigenous youth. The review of secondary education undertaken by the Northern Territory Government found that the majority of Aboriginal students are withdrawing from secondary education by Year 8 or 9 (ibid). Contributing factors include poor
access to local education facilities and the difficulties students experience with boarding options. Declining rates of Year 5 and 7 literacy and numeracy achievement across the Northern Territory reported between 2002 and 2005 (NTDEET 2006) further exacerbate this risk. Occasional Vocational Education Training (VET) programs on remote communities are therefore the only post school (usually primary level) education on offer and assume uneasily the role of secondary education substitution.

These reviews recognise the seemingly intractable problem of early school leaving among young Indigenous people in remote areas, and both cited the need for new options and career pathways that better fit the needs and aspirations of young people and their communities. In some communities, early school leaving is simply a function of the fact that secondary studies are not locally available, but in many others it is because young people perceive education and training as irrelevant to their future lives and experiences.

The tendency for early school leaving by Indigenous youth takes place in the context of a relatively tight mainstream labour market in remote areas and a lack of employment opportunities for Indigenous youth. Taylor (2003) found that between 1996 and 2001 Indigenous participation in mainstream employment in the Northern Territory actually fell from 5,492 to 4,994, while the CDEP scheme offered expanded employment opportunities. Thus, in the Northern Territory, CDEP had overtaken mainstream employment as the primary employer of Indigenous people in the Northern Territory (Taylor 2003). At the same time, Indigenous labour force participation rates also dropped from 42% to 38%, considerably lower than those for the non-Indigenous population. The key area where Indigenous employment fell in the five-year period was the private sector, with job growth for Indigenous people concentrated in CDEP and commonwealth government agencies.

Most striking are Taylor’s projections of Indigenous jobs which need to be generated to maintain the current levels of employment relative to population or to bring it to the level of non-Indigenous Australians in the Northern Territory, in a context where the Indigenous population is rising from 30% to 33% of the total NT population by 2011. To achieve employment rates equal to those of the non-Indigenous community Taylor calculated that an additional 20,000 jobs, or 2,000 per year, would be required, which he stated is ‘a task an order of magnitude way beyond
the capacity of current policy settings’ (Taylor 2003:15). While recognising that most Indigenous people in the Northern Territory live well away from the urban job market, Taylor noted a host of other barriers to Indigenous people achieving equal status in the labour market with non-Indigenous Territorians. Among these, he cites poor literacy and numeracy levels, and the high rates of morbidity and disability prevalent in the prime working years. However, he also commented that ‘real lifestyle choices’ are being made and various aspects of the customary economy are being overlooked in statistical data available. There is also potential for greater economic returns and employment, for example through wildlife harvesting, land management and arts activities, as such work provides a better cultural fit with the choices many people in remote communities are making. Another avenue he saw for boosting jobs would be through ‘import substitution’, that is, employing local Indigenous people, rather than non-Indigenous staff, in a range of industries such as construction and infrastructure maintenance, education, health, retailing, public administration, transport, land management, tourism etc. Thus, Indigenous people may be able to enter mainstream jobs without moving to major cities, but, as Taylor recommends, there is a need for targeted strategies at regional levels to boost Indigenous employment, which must be matched by appropriate training strategies. However, Indigenous people in remote regions seem to be consistently rejecting some forms of mainstream employment, such as mining, in favour of work that allows them to stay connected to ‘Country’ and to fulfill kinship and customary obligations.

Given the need for targeted strategies to enhance remote Indigenous labour opportunities, the role of education in transitioning students from school to work is a critical area of the Indigenous educative field. However, in examining the provision of vocational education strategies and programs designed to transition Indigenous students into employment, it is clear that there is a disconnect, or schism, between their structural design and their intended outcomes. Campbell (2000:12) makes this point clearly stating:

The fundamental issue is that the national agenda and strategies for addressing equity (for Indigenous students) do not meet the diverse requirements and expectations of Indigenous students and their communities.

Similarly, Boughton and Durnan (1997b) argue that much of the orientation of vocational educational development is at odds with the range of aspirations and
expectations Indigenous students bring to their education, particularly in remote communities. Part of the problem resides in that fact that many Indigenous students in VET are attempting to engage in a different, highly localised labour market (more about this in chapter 5), while studying under a national, competency based framework intended for mainstream employment. Previous studies have consistently shown that Indigenous students specifically pursue educational outcomes which will enable them to gain meaningful employment and generally to contribute in their own communities (Boughton and Durnan 1997b; Schwab 1996a; Teasdale and Teasdale 1996). In the same vein there is a consistent theme across research into Indigenous vocational education that much of the training and program delivery is simply inappropriate for the context in which it is being delivered (ATSIC 1999, Boughton 1998, Boughton and Durnan 1997, Buchanan and Egg 1996, Commonwealth of Australia 1993, McIntyre et al. 1996, Schwab 1996, 1998, Teasdale and Teasdale 1996). As Kral and Falk (2004) show in an in depth case study of a Central Australian community, this disconnect between appropriateness and education has serious ramifications for what they term ‘the training culture’ of Indigenous students. They note:

"...most training does not fit into the meaning and purpose of community life. The connection between education, vocational education and training and employment pathways is not linked to any future planning process that takes account of community aims and aspirations. Consequently, a relevant and appropriate “training culture” has yet to evolve and become integrated into community life (ibid:18)."

Flamsteed (1999) concurs, finding that ‘top down’ (see also Boughton 1999) structural drivers of training and VET mean that many remote communities experience training as responding to the agendas of the training providers rather than the clients. Furthermore, Flamsteed argues that generally, little effort is made by providers to align funding or programs with community objectives. She also found that many remote communities experienced training delivered more as a response to the requirements or agendas of the training providers rather than to their clients. In many cases little effort was made to consult with communities prior to the funding or delivery of training programs to identify ways in which they could respond to the objectives of community strategies, or, practically, to work efficiently with community schedules.
Similarly, she states that:

In many instances there was a view that training was happening for training’s sake (Flamsteed 1999:12).

The systemic failure to provide educational strategies that are commensurate with the realities of remote locations is not new. Most notably, a large study into this issue in 1996 (Desert Schools) found that ‘the Australian version of formal education as it presently exists does not seem to be overtly valued in many Aboriginal communities …especially… where the conventional range of job prospects and further educational and training opportunities seem inaccessible’(ibid:13). Furthermore the report concludes that

…our ‘mainstream’ education system principally prepares students for urban living, for employment and for further studies, and consequently may appear irrelevant to those who cannot see these options in their own foreseeable futures (Desert Schools 1996:16, cited in McRae et al. 2000:45-6).

It is therefore reasonable to assume that part of the future of remote Indigenous education will lie in directing more education resources to the implementation of meaningful vocational education and training strategies in remote schools.

Reconnecting School, Work and Indigenous Communities

The research base, as shown above, is very clear in delineating both the relatively poor educational outcomes of remote Indigenous students in Australia as well as the disconnect between education, local development and employment. Similarly the literature is also very clear in exposing the critical need for education, Indigenous development aspirations and work opportunities to be aligned. Much of the research in contemporary studies on education makes this point. For example, McRae (2000) cites the need for training and educational development to be linked with community aspirations and development goals, while Miller (2005), Ballati et al. (2004) and Catts and Gelade (2002) all concur. In their 2004 paper Gelade et al. make this point strongly, suggesting that location, student aspirations and contextual realities play an integral role in determining relative ‘success’ in education. In a major study for the National Centre for Vocational Education Research (NCVER), Miller (2005) found that seven key factors lead to positive and improved outcomes for Indigenous Australians in vocational education and training. These are:
- community ownership and involvement;
- the incorporation of Indigenous identities, cultures, knowledge and values;
- the establishment of ‘true’ partnerships;
- flexibility in course design, content and delivery;
- quality staff and committed advocacy;
- extensive student support services (Miller 2005:18).

In the same vein, there is a plethora of research suggesting that the goal in policy and delivery must be to provide Indigenous people with the education and training they need in order to be able to raise their living standards on their own lands and in their own communities (e.g., Boughton 1998). In line with this, much of the literature is also unequivocal in stating that Indigenous knowledge and local development aspirations must form a central component of educational and pedagogic design (see for example Henry et al. 1999, Anderson 2003, Schwab 2006, Ball and Pence 2001, O’Callaghan 2005).

Wallace et al. (2005) make this point succinctly, noting:

> Developing innovative and successful approaches to education and training in remote and regional contexts with Indigenous people necessitates effective partnership and the recognition of diverse knowledge systems as they relate to the worlds of work, community engagement and learning (Wallace et al. 2005:9).

Paradoxically, however, there is very little research in Australia examining the role Indigenous knowledge systems and development play in education. In particular there is a paucity of substantial research on the development of pedagogic theory or frameworks that may actualise a connection between local Indigenous development aspirations and employment. Addressing this shortcoming forms a central goal of this thesis. In order to achieve this, the following chapter will provide a theoretical repositioning of the concept of Indigenous knowledge in development and link this with pedagogic theory. This is done in order to create a pedagogic framework for an intercultural model of education.
Chapter 3: Indigenous Knowledge, Development and Pedagogy

In the previous chapter, I examined the systemic lack of engagement by remote Indigenous students in education. I also analysed and described a disconnect between local work, school and community that a compromised policy history has exacerbated. In exploring the literature concerning this disconnect, the research base is clear in stating that Indigenous knowledge and local development aspirations should form a central component of pedagogic design. Yet, current policy and mainstream discourse are choosing to ignore this, focusing heavily upon the need to gain improvements in literacy and numeracy with little analysis of what purpose such gains mean locally. In this chapter, I wish to shift away from a focus on the failure of Indigenous students to attend school and do well against standardised forms of testing. Instead, I wish to concentrate on a more localised and commonsensical approach to remote education, where local knowledge and local educational needs inform approaches that provide a reason to attend school and to learn.

While a great deal of lip service has been paid in Indigenous education research to the need to incorporate Indigenous perspectives and Indigenous knowledge in education, there has been a paucity of analysis considering how such knowledge can connect education and Indigenous development aspirations in a remote context in Australia. If we accept the proposition outlined in chapter two, that Indigenous knowledge and local development aspirations must be included in educational design, it is clear that we should also find a way in which to do this effectively. Towards this end, this chapter works in three parts. The first part examines theories that have influenced the study of education and its role in the transfer of knowledge. The second part of this chapter discusses theoretical positions on the nature of Indigenous and Western knowledge and how these understandings have been used in ‘development’. The final section of this chapter provides a practical example of how both Indigenous and Western knowledge come together in a case study of a development in Arnhem Land. I finish the chapter by discussing the educational ramifications of the case study.
**Knowledge and Education**

Both the terms *knowledge* and *education*, while common in everyday parlance, are difficult to define. Rather than do this, I turn my attention to how knowledge and education interact. So, first, I propose that ‘knowledge’ represents a set of learning, principles and ideas that coalesce to form a discourse or action that can be used in some way. Second, I contend that the production, consumption, distribution and exchange of knowledge is permeated by ideologies that either explicitly, or implicitly, imbue certain types of knowledge with more or less importance. However, it is in the process of transmitting knowledge that ascendant or dominant knowledge is able to be (re)produced. This is achieved through a process of learning, which can be institutionalised or highly localised. This is, for me, what constitutes a broader notion of education.

The institutionalisation of Western knowledge in education has been the subject of a great deal of theoretical investigation. In particular, the academic discipline of sociology has concentrated on how education has developed as a social institution. Beginning most notably in the work of Emile Durkheim (1933), education is seen as a system in which the individual is deliberately constructed through the social institution of the school, to reproduce the dominant values and norms of society. Therefore, the dominant knowledge of a society is (re)produced in the society’s institutions. In turn, this allows a society’s ‘elites’ to maintain power and control through the process of education. Crucially, however, Durkheim also noted that education could be used to disseminate new ideas, and in so doing, change societal values. Such structural pre-determinism in theories of the education has dominated much of the research effort and has produced a massive body of work concerning interconnectivities between the economy, the education system and society (see Levinson et al. 1996). Most notable in this is that many of the doyens of social theory, such as Weber (1968), Engles (1944) and Bourdieu (1977) have all concerned themselves deeply with the role of education in social reproduction.

The more recent intervention of Anthropology, with an alternate focus on agency and a grounding in ethnography, showed that the structural boundaries of class, and indeed gender or ethnicity, are punctuated by individual or group agency, forming a highly complex web of interaction far removed from the Durkheimian. Educational
Anthropology has been dominated by concerns of culture, and based in notions of difference. Anthropology looked for different ways in which to explain the educational responses students choose to make. This is best exhibited in Australia in writings by Christie (1993) and Harris (1980, 1990), who outline an ‘Aboriginal way of learning’. More recently, anthropology has increasingly acknowledged that knowledge production occurs in sites where social capital is inequitably distributed to students and that agency always occur within a limited set of pre-existing structural conditions. Writers such as Merlan (1998) have shown us, cultural norms and practice are far from static or bounded. Similarly, increased communications and interactions between remote Indigenous communities and the global village (Mishra 1999), combined with an increasing diversity in the roles remote Indigenous people wish to play in development and education, make it difficult to delineate a specifically ‘Indigenous’ way or style of learning.

In addressing this, a predominantly US based academic fraternity stepped in to open a previously closed gap between the structuralist and culturalist positions, most notably Apple (1979), Giroux (1983), Bowles and Gintis (2005). In Europe and Australia the writings of Bourdieu (1977), Passeron (1977), Bernstein (2000) and Michael Young (1961) provided a similarly widened conceptual framework to examine education. These writers allowed that the process of social production and reproduction must be seen as lodged within the space between structure and agency. Such approaches have been instrumental in demonstrating that ideologies of an institution such as a school, and the influence of student choice or agency, work in unending creative tension. If we accept this, the educative analysis should be directed at the dialectic interaction between structure and agency. Consequently, the role of education becomes far more complex than simply (re)producing dominant knowledge for social reproduction.

So, if viewed as a vehicle for the transmission of knowledge, school becomes a site where different forms of knowledge coalesce and compete to be transferred to students. In education, one form of knowledge must compete with another for its place in the transmission process and is reformed or recontextualised through the pedagogic device (Bernstein 2000). In remote Indigenous education, this begins in the student who comes to a classroom with a pre-existing world view and a set of knowledge born of culture and circumstance.
To fail to account for the inherent contestability of knowledge in school, or to recognise previously existent knowledges of the individual, casts the subject as an empty vessel devoid of a socio-political history. Under such prescriptions, the agency, habitus (Bourdieu 1999) and autonomy (Martin 1993) of the individual are simultaneously denied to return us to a Durkheimian position, where knowledge transfer is simply a function of a dominant production discourse. Such simplistic constructions of the pedagogic process in Indigenous education have and will continue to fail.

For example, a report entitled ‘What Works’, an examination of 88 Indigenous education programs released in 2000 (McRae et al.), the largest case study of its kind ever conducted in Australia, found that the best models of education include a combination of local and community based aspirations and locally relevant pedagogy. The lesson here is that Indigenous education must find space for local programs where existent and new knowledge can come together. This gives learning utility.

In local settings a community’s existent knowledge can be valued, and add value, to learning if the educational programs can provide the space. One way to do this is to find a synergy between the knowledge to be taught and the knowledge that already exists. Such synergies of knowledge are, in practice, not always easy to find. One area where this can occur is in schooling that brings together Indigenous and Western knowledge in a practical sense. For example, Indigenous land and sea management programs provide an important point of alignment between Indigenous and Western Knowledge that values both existent community knowledge and provides a purpose to the learning of Western knowledge. This makes a connection between such programs and education an exciting opportunity for learning. However, for such a synergy to be useful in a pedagogic sense, one must first unpack what ‘Indigenous knowledge’ may be and how it can be included in education.

What is Indigenous Knowledge?

Curricula interventions have periodically tried to be inclusive of Indigenous perspectives and IK. This has usually resulted in static, bounded and piecemeal representations of IK. Similarly, the ‘development’ discourse has generally essentialised IK as diametrically opposed to Western scientific forms of knowledge. However, if education is to provide a space for Indigenous knowledge and connect
learning to local community aspirations, it is necessary to delineate an approach in which the pedagogic and development fields align. To do this it is first necessary to deconstruct the boundaries surrounding notions of Indigenous knowledge. In the next section of this chapter I discuss the theoretical influences on the term Indigenous knowledge, as it has been used in anthropology and development.

1. Indigenous Knowledge and Anthropology

To examine the term ‘Indigenous knowledge’, it is necessary to begin in the profound historical influences of functionalism on anthropology. Functionalism in anthropology is generally divided into two schools of thought, each associated with a key personality. Psychological functionalism is linked to Bronislaw Malinowski, while the second school, structural functionalism, is associated with A.R. Radcliffe-Brown (1965). Malinowski’s *The Trobriand Islands* (1915) was the first of a series of works (*Argonauts of the Western Pacific* (1922), *The Scientific Theory of Culture* (1922), *Magic, Science, and Religion* (1948) and *The Dynamics of Culture Change* (1961) concerned with the functional interrelations between systems of beliefs and thought and the underlying social structure of the Trobriands’ Indigenous population. Radcliffe-Brown, although an academic critic of Malinowski, added considerable depth to Malinowski’s position by recasting anthropology as a comparative science of social structure seen as a ‘complex network of social relations’. This is best described, in part, through his analysis of the kinship system and social structure (Brown 1965). Drawing heavily on classical European theorists of sociology, such as Durkheim, Weber and Engles (Holton 1996) and as an antithesis to notions of evolutionary process, such as expounded by social Darwinism, these two important theorists have been critical in framing an inherent dichotomy in anthropology.

First, functionalist positions represent the social order as ‘static’, internalised and bounded. Secondly, such positions are underpinned by a positivism of Western scientific constructs of knowledge and, arguably, by both design and ethnocentrism, have positioned the Indigenous domain firmly as the ‘other’. Functionalist assertions that the social is a construct of the interaction between mutually dependent structures, and that individual behaviours flow from this interaction, have difficulty theorising exogenous change or ‘shock’. In the same vein, activity is seen as a result of an institutionally determined cultural order. Importantly, this can lead to essentialised
representations of society and culture, which in turn have seen the proliferation of anthropological descriptions of Indigenous communities as complete and unchanging (see Sillitoe 1998). Similarly, the inherent ‘rightness’ of Western science as expressed in positivism, has characterised industrialised modernity as progressive and the ‘other’, or Indigenous, as primitive and unchanging. This can be evidenced in the semantics of terms such as ‘traditional’. Consequently, psychological functionalism and structural functionalism in anthropology have served to institutionalise a binary opposition, and this is paramount in any theoretical consideration of the term IK and its place in anthropology and educational development.

An example of the inherent binary that developed in functional anthropology can be seen in the relation between colonialism and ‘orientalism’ in anthropology (Said 1978). Orientalists, as defined by Said, constructed Indigenous cultures, which it must be said were often revered and admired, as foreign, exotic and fundamentally non-Western (Jan van Bremen and Akitoshi Shimizu 1999). The emphasis here was on the difference of Indigenous people and in turn, Indigenous forms of knowledge were cast as completely different to Western forms of knowledge. In development terms, orientalists favoured British colonial policy and saw the modernisation of Indigenous people as progressive. This led to ethnography, as defined by Pels (Pels 2002), becoming a colonial resource for portraying complex, and often politically inconvenient, Indigenous systems of land tenure, jurisprudence and as ‘artificial’ overlays of disputed territories (Jan van Bremen and Akitoshi Shimizu 1999:23). As such, it can be seen that the politics of colonisation both reinforced and repositioned Indigenous knowledge as ‘the other’ in the field of anthropology. As Talal Asad asserts, ‘the process of European global power has been central to the anthropological task of recording and analysing’ (cited in Jan van Bremen and Akitoshi Shimizu 1999:29).

However, the theoretical positions of anthropology do not exist independently of the real world. The characterisation of the Indigenous domain as a distinct and exotic other, has long been driven by religion, social Darwinism and racism in the Western world. Most recently, the post world war II development period has seen the positioning of Indigenous people as the ‘other’, driven by a universalist right to modernise. As Gupta notes, the rapid expansion of Western industrial modernisation has re-enforced the practice of defining traditional Indigenous beliefs by their lack of
modernity (Gupta 1998:179-80). However, anthropology’s tendency to be complicit in the representation of Indigenous people and their knowledge as an exotic other has been recognised and challenged within the discipline as post colonial, post structural and post modern readings of the relationship between Western and Indigenous knowledge have become more prolific.

**Postmodernism and Anthropology**

While it can be seen that anthropology’s construct of Indigenous knowledge is born of a dichotomy perpetuated by ethnocentric representations of Indigenous people’s social context, anthropological theory has not been static. Post structuralist and postmodern readings of society reject the positivist assumptions of modernity, and provide for a multi-paradigmed discourse of Indigenous people’s perspectives and knowledge. While, by its very nature, defining postmodernism is contested, perhaps Spiro’s definition is useful in analysing the nature of the dichotomised positions of Indigenous knowledge and Western science.

The postmodernist critique of science consists of two interrelated arguments, epistemological and ideological. Both are based on subjectivity. First, because of the subjectivity of the human object, anthropology, according to the epistemological argument cannot be a science; and in any event the subjectivity of the human subject precludes the possibility of science discovering objective truth.

Second, since objectivity is an illusion, science, according to the ideological argument, subverts those of oppressed groups, females, ethnics, third-world peoples (Spiro:1996:765).

If we accept this, anthropology is confronted with some difficulty in determining a position on the existence of Indigenous knowledge. The rejection of Western, essentialised ‘truth’ recasts all knowledges as equally valid and interconnected in a web without time and space, while simultaneously, writers such as Foucault (McHoul and Grace 1997), have upset history as a chronology of inalienable fact, and replaced it with under layers of suppressed and unconscious knowledge. Similarly, postmodernism attacks ethnography on the grounds that there is no true objectivity and that scientific method is not possible. Furthermore, categories of knowledge systems are further problematised by migration, processes of self identification and the politics of assimilation (Purcell 1998). In attempting to tackle these issues, writers such as Ellen and Harris (1997:238) define Indigenous knowledge as ‘local, orally transmitted, a consequence of practical engagement reinforced by experience,
empirical rather than theoretical, repetitive, fluid and negotiable, shared but asymmetrically distributed, largely functional, and embedded in a more encompassing cultural matrix’ (Ellen and Harris 1997, cited in Ellen 1998:238). However, this position is also heavily critiqued. Milton, for example, sees such representations as adding to the dichotomy aforementioned, and that such definitions allow for the dominance of technical and Western modes of science (Milton 1996:193).

So, it can be seen that identification of Indigenous knowledge is open to a plethora of definitions and interpretations and that euphemisms such as the ‘local’ or ‘traditional’ are inherently problematic, both as a result of historical theory and as a consequence of postmodern readings. Instead, perhaps the concept of knowledge can be seen as fluid and changing, dependent on the political, institutional, cultural and economic contexts. Agrawal (1995) develops this theme further by suggesting that knowledge changes depending on the interests it serves and the purpose for which it is used. However, by conceiving the construct of Indigenous knowledge as inherently problematic, unbounded and untied to self reproducing values, are we conceptually limited to a position ‘which can mean everything to everyone and ultimately means nothing to anyone’ (Martin 2003:5)?

In Education, this question and its ramifications are better examined in methodology, for it here that the standards for research design are adopted and actioned. The challenge is for methodology to provide a framework that participates in the transformation and decolonialisation of the dichotomous relation between Western and Indigenous knowledge systems. With this challenge comes an implicit shift in the paradigms between the researcher and the researched. The problematic, therefore, is not to identify a separate realm of knowledge, but rather the discourses which construct essentialist representations of heterogeneous knowledge (Nygren 1999:269). Similarly, the foci of methodologies should become the interconnectedness of knowledge (Ferradas 1998:240). As such, there is validity in Nygren’s assertion that ‘continuity in change, traditionality in modernity, and situationality in hybridity’ should compose the analysis of knowledge in anthropology. (1999:279). Meanwhile, in her book Caging the Rainbow, Francesca Merlan argues that a framework for the problematic should question the idea of autonomous Indigenous domains and that anthropology should:
…cut across radical dichotomies between traditionality and (presumably) non- or post traditionality, between persistence and change; to assume neither is more fundamental than the other and to begin in the middle where both are relevant, rather than with notions of separateness and distinctiveness (1998:223).

Using the Australian context of Katherine in the Northern Territory, Merlan further hypothesises that representations of the Indigenous by others can result in a ‘mimetic’ style, whereby Indigenous people’s self concept is partly a product of the static and essentialising view of the dominant discourse (Merlan 1998:150). In a more skeptical perspective, Agrawal and Sivaramakrishnan see this as a symptom of the reification of the Indigenous. They argue that it is a political strategy by Indigenous peoples themselves in claims on land and development (Agrawal and Sivaramakrishnan 2000:8). Despite this, Merlan’s concept, illustrated through self determination policy and land rights, has major implications for the methodology underpinning the collection and documentation of ‘Indigenous knowledge’. If the anthropological and/or scientific communities ignore such notions, there is a real risk that the essentialised representations of IK will serve to further dichotomise the field of practice and miss the potential of interculturality as a development opportunity.

**Indigenous Knowledge and Development**

The ‘value’ of Indigenous knowledge has been increasingly recognised in the fields of agriculture and medicine (see Sillitoe 1998) and, as such, has been subject to medicalised models of scientific enquiry. Increasingly, however, these fields have come to recognise the ‘human’ face of knowledge and as such there has been an emergence of ‘ethno’ disciplines such as ethnoecology, ethnozoology and ethnobotany. While epistemologically diverse, essentially these branches combine elements of the anthropological and ‘hard’ sciences. For example, ethnobotany studies ‘the uses of plants and animals by Indigenous peoples’ (Battiste and Henderson n.d.:69). As such, the ethnosciences have been characterised by a method which collates and records data in fragmented ways and have failed to take account of holistic representations of knowledge. Similarly, the process of research has been largely extractive and conducted by technical ‘experts’. This is evidenced by distinctly Westnocentric representations of IK in media such as scientific journals and databases. While some, such as Sillitoe, see this as contributing to more appropriate development interventions (see Sillitoe 1998), others such as Ahmed (2000:17), see
such practice as perpetuating the dichotomy between the scientific and the ethnographic. In the same vein, Agrawal is highly critical of such representations of Indigenous knowledge.

Indigenous-knowledge research therefore appears to contribute to the accumulation of exotic ethnographic documentation and databases which are sterile and undynamic from a developmental perspective, even potentially disempowering people by representing their knowledge in ways inaccessible to them and beyond their control and perhaps infringing their intellectual property rights (Agrawal 1995).

In response to such practices, there has been increasing activism, both in the development field and in Indigenous communities over intellectual property rights. Networks of knowledge resource centres have proliferated and are active in collating and documenting ‘Indigenous knowledges’, many with a central charter of protecting the intellectual property rights. Writers such as Warren (1992) see these centres as economically viable and as ‘easily communicated’ ways of representing Indigenous knowledge. Similarly, groups such as the Indigenous People’s Council on Biocolonialism have developed research protection acts, which while underpinned by notions of ethics and informed consent, are specifically concerned with protecting intellectual property rights of Indigenous people. Paradoxically, such developments, while intended to protect Indigenous interests, may serve to essentialise them further, thus replicating and reproducing polarised notions of the Indigenous as the ‘other’. It must be noted, however, that many would argue that such developments have been necessitated by the commercialisation and commoditisation of knowledge and constitute a necessary evil (Comaroff and Comaroff 2009).

In many regards, the act of dislocating knowledge from its context serves to inherently change and transform it. Deconstructionists such as Nygren (1999) would argue that re-representing that knowledge, be it in a map, a database or in text, subjugates the knowledge to the inherent power structures of dominant culture. Furthermore, the postmodern perspective, such as proposed by Focault (op. cit) and Tyler (1988), may consider that any attempt to map a living culture transfixes it in time and space. Given these quandaries, it must be noted that the argument that there is danger in ‘unchanging’ and ‘static’ notions of Indigenous knowledge must be given credence.

Yet it is important to remember that, although imbued with positivist notions of the scientific, it is this dichotomy that has given anthropology the platform to develop a more dynamic methodology.

**Remote Development and Indigenous Knowledge**

While accepting that the term ‘Indigenous knowledge’ is subject to diverse interpretations, and difficult to define, there is, nevertheless, an increasing importance being placed on the role of Indigenous knowledge in remote Indigenous development in Australia. The central concern of this chapter is to connect local development and education and to provide a space for Indigenous knowledge in the pedagogic process. A crucial step in this is to demonstrate how Indigenous knowledge may contribute to local development in a remote Indigenous setting. Taking up Merlan and Nygren’s positions that research should begin in the complementarity of knowledge systems rather than dichotomy, the next section of this chapter describes a research project which was undertaken by myself and three other researchers in order to explore the knowledge foundations of a remote Indigenous development enterprise.32

**A wildlife enterprise development in Arnhem Land**

The following case study begins in an attempt to understand the link between Indigenous knowledge, local development and education. This research was specifically concerned with the relationship between Indigenous knowledge (IK) and Western scientific knowledge (WSK) in an Indigenous owned and run sustainable commercial wildlife enterprise. We explored the theoretical and methodological assumptions underpinning these knowledge relationships and paid particular attention to the complementarity and interdependence of Western and Indigenous contributions to the business venture. Furthermore, we also researched the pedagogic structures currently supporting, or not supporting, the continued and sustainable transmission of these knowledges, as well as suggesting some areas for innovative pedagogic intervention in the future.

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32 Work undertaken during the second half of 2008 by staff from the Centre for Aboriginal Economic Policy Research at the Australian National University. The field work forms part of a larger ARC funded project on the re-engagement of young people living in remote indigenous communities in education, training and employment.
The research was conducted in Maningrida in Western Arnhem Land (see chapter 4 for detailed analysis of the field site). The full findings of this research can be found in ‘Knowledge Foundations for the Development of Sustainable Wildlife Enterprises in Remote Indigenous Communities of Australia’ (Fordham et al. 2010a) and ‘The Viability of Wildlife Enterprises in Remote Indigenous Communities in Australia: A Case Study’ (Fordham et al. 2010b). I present a summary of the main findings of this research here in order to show that the relationship between Western scientific knowledge and Indigenous knowledge is demonstrable in a remote development enterprise. I also show that this relationship can be supported by appropriate pedagogic development.

The study highlighted the dependence of a wildlife enterprise in a remote region upon both IK and Western science. This not only related to the enterprise’s foundations, but also its ongoing operation. The study identified the intergenerational transmission of IK and the role experiential learning on Country plays in the transmission of Western scientific knowledge and IK between scientists and Indigenous people involved in the enterprise. Most importantly, in the context of this thesis, the study also demonstrated the important links between education and training and the knowledge needed to run the wildlife enterprise. Just as wildlife enterprises are dependent on recognising the important contributions of both IK and Western scientific knowledge, appropriate training and education delivery is also needed to transmit both forms of knowledge.

The case study demonstrates that the pedagogic relationship between IK and Western science needs to be reflected in the delivery of education and training by schools and training institutions, at least in this highly localised example.

**Knowledge Foundations of a Sustainable Wildlife Development Enterprise**

The study investigated the establishment of an enterprise engaged in selling wildlife for the domestic market. The research concentrated on the commercial use of two species. The first was a well-developed, freshwater, northern long-necked turtle (*C. rugosa*) industry that has been operating for five years (Fordham et al. 2006) and a fledgling tarantula spider (*Selenotholus sp.*) industry which is at its very earliest stages of development. Whilst more prominence is often given to Indigenous land and sea management activities in remote communities, there is growing importance being placed upon the development of sustainable wildlife enterprises for commercial
purposes (eg Fordham et al. 2004 & 2006). However, in purely economic terms the viability and long term sustainability of such enterprises is unclear and, as such, they should be considered as emergent opportunities (see Fordham et al. 2010b). From a local perspective, wildlife enterprises provide Indigenous people with opportunities to continue their close connection with Country and maintain customary wildlife harvesting practices (Altman & Cochrane 2003, BAC 2008). Furthermore, wildlife enterprises established on sound ecological principles have potential to contribute to the maintenance of biodiversity in fragile environments such as those characterising much of northern Australia (Webb 2002) and themselves can play a significant role in land management (Altman and Cochrane 2005).

At an institutional level, the Commonwealth government’s Caring for our Country program and proposed Biodiversity Conservation Strategy 2010-2020 highlighted the importance of ensuring that ‘traditional ecological knowledge’ is utilised in land, sea and wildlife management. The government identified as a priority ‘reversing the ongoing erosion of Indigenous environmental knowledge’ in biodiversity conservation (National Biodiversity Strategy Review Task Group 2009) and ‘maintain[ing] traditional ecological knowledge’, utilising Indigenous knowledge to ‘develop a more distinctly Australian approach to biodiversity conservation’ (Caring for our Country 2008). Similarly, two Indigenous Land Councils have recently accorded priority to those land, sea and wildlife management activities which utilise Indigenous knowledge, maintaining the spiritual and physical health of Country and linking their young people back to Country and culture (Kimberley Land Council 2009; Northern Land Council 2009).

The research was clear in recognising that not all Indigenous knowledge is accessible to researchers and other non-Indigenous people involved in wildlife enterprise development, even Indigenous knowledge that might be potentially valuable to the enterprise. For example, the study does not include sacred knowledge or Mardayin, which can be loosely translated to a body of ‘sacred law’ relating to ancestral beings which forms a complex relationship with land ownership and ceremonial obligations. Essentially, it is the responsibility of customary managers to look after the Mardayin, as it forms an ancestral charter to land ownership (see

33 The rationale used by BAC for seeking a permit to harvest wildlife was ‘to develop a culturally suitable employment program based on the sustainable use of natural resources’.
chapter 4). Such knowledge could be deemed important to a wildlife enterprise, but is solely the property of the Indigenous people who hold such knowledge and is therefore deliberately excluded from the analysis.

The research was also clear in showing that the Indigenous knowledge underpinning the wildlife enterprise is embedded in the socio-cultural fabric of the Maningrida region—its spiritual cosmology, social organisation, linguistic features and defined clan estates (see chapter 4). As a result, the Indigenous knowledge foundations of the BAC wildlife enterprise have spiritual and cultural dimensions as well as more ecological dimensions associated with the targeted species.

The study also recognised the caution that documenting IK is time consuming and is best achieved over a lengthy period of time (Huntington 2000). However, the collaborative approach to the research, involving Rangers, traditional owners and Indigenous interpreters, together with the researchers’ extensive experience working in the Maningrida region, led to a willingness to share knowledge that may not always be the case under other circumstances.

As already noted, this investigation began with a methodology concentrating not on the separateness of Indigenous knowledge and Western scientific knowledge, but rather in a position that sought to understand and demonstrate where different knowledges could complement one another in a specific development in a remote Indigenous community.

With such a complementary approach and caveats in mind, a series of interviews was conducted with Indigenous people from Maningrida and surrounding outstations in order to explore the strength, relevance and availability of Indigenous knowledge surrounding the two targeted species. This was done to try to gauge and expose the contribution Indigenous knowledge could bring to such a development. Interviews were conducted as per a negotiated framework of questions, and in the case of the tarantula-related interviews, all interviews were conducted in conjunction with Indigenous collaborators and interpreters, with both male and females participating at different times. As an impetus and visual aid to each of the interviews, a live specimen of *Selenotholus sp.* was procured from the wildlife enterprise. Respondents were not chosen randomly, but rather through connections to Country within the scope of the enterprise development, seniority within the socio-cultural fabric of the
region and immediate township, as well as through self selection. Information was gathered in situ during August and September 2008 by myself (see chapter 1) and augmented by interviews conducted by Dr Damien Fordham, an environmental scientist, periodically between 2000 and 2006. One of the interviews was specifically conducted with staff of the wildlife enterprise development as a training exercise, where the method of semi-formal anthropological interview was demonstrated with the staff acting as respondents and students. As well as identifying IK held by Wildlife Centre staff, it also increased their awareness of interview techniques which, in turn, would assist them during future consultations and information gathering. In all 68 separate interviews were conducted.

Information about training provision and the Maningrida Community Education Centre (MCEC) science curriculum was gathered through interviews with senior MCEC staff, MCEC students, Charles Darwin University (CDU) staff, the BAC training officer, Northern Territory Department of Education and Training (NTDET) science consultants, Djelk wildlife rangers and the BAC wildlife enterprise manager. These interviews occurred during August 2008 - February 2009. Many of the same individuals were also interviewed during field research in the context of a broader ARC study, and this thesis, over 2007 and 2008 by myself. While the findings of both papers were broad ranging, I specifically report here on the knowledge the people of the Maningrida region held and how this contributed the enterprise development. Secondly, I report on the implications this has for education in the region.

**Summary of Indigenous knowledge about Species Used in the Wildlife Development**

*Indigenous knowledge: Cosmological importance of turtle and spider*

Rock paintings and ceremonial stories about freshwater turtles indicate that Indigenous people have been interacting with *C. rugosa* for many millennia (Chaloupka 1993, Fordham 2007). This high level of interaction is largely due to their harvesting of *C. rugosa* which provides Indigenous people in tropical northern Australia with a seasonal source of protein (Georges & Kennett 1988; Russell-Smith, Lucas, Gapindi et al. 1999).

Tarantula spiders (*Selenotholus sp.*) are not harvested for customary or subsistence purposes in the study region. However, spiders form a key part of
Indigenous cosmology and are heavily represented in ceremonial activity, rock art and bark paintings.

*Photo 2* Spider rock art at Baradj clan estate in Western Arnhem Land

Photo courtesy of Ian Munro with permission from D. Yibarbuk
The moiety for both *C. rugosa* and *Selenotholus sp.* is *Yirritja*:34 this was consistent across all language groups consulted in the region. Both *C. rugosa* and *Selenotholus sp.* (as are all species of turtles and spiders) are subject to strong ceremonial obligation, having their own *Bunggal*, or song lines and creation story through dance. The *Bunggal* for freshwater turtles is an extremely important story for people of central and Western Arnhem Land (according to one respondent) because the Turtle Spirits cross the Country of many language groups including Mawng, Kuninjku, Kune and Rembarrrnga on their journey inland. A number of respondents

34 Social relatedness within the region is divided by a system of moieties which also correspond to spatial relationships to Country. Patrimoieties, matrimoieties and ceremonial subsections are primary categories in relatedness, while also delineating property rights. See chapter 4
noted that the spider has ‘a really good show’ and that the Bungal features a very expressive dance outlining the life cycle of a spider.

**Indigenous knowledge: Language and the differentiation of species**

Interviewees across language groups were in agreement that no specific Indigenous name was attributed to *Selenotholus sp.* Rather the generic name for ‘spider’, as per language group, was considered the relevant term. During early field work associated with mapping the distribution of *Selenotholus sp.*, there was some confusion as to whether Indigenous people were referring to *Selenotholus sp.*, or to any large spider that lived in the region, such as the golden orb spider.

For the scientist assisting in the development of the tarantula spider industry, this did not mean the rejection of the IK associated with the tarantula but provided a challenge to ‘think and see how they [the Indigenous people] think and see’ (excerpt from interview 2008). Grouping the tarantula with the local orb spider for example could be made on the basis of particular common features such as them being large, their painful bites, the fear held of spiders in general, their burying of eggs underground and possibly on their ability to climb trees. As the scientist explained:

> The morphology that we hold and love and which provides the basis for our taxonomy, doesn’t transact with this one at all. We are talking about a functional taxonomy, based upon the lives they live—so it is a different kind of taxonomy, it doesn’t fit into a Linnaean system but it is of a different order (pers.comm 2008).

Interviews indicated that the Indigenous people differentiated the tarantula spider from other local spiders, but further ethnographic work is required to understand better the basis of such differentiation.

Since the field work commenced, the traditional owner for the Gurrgoni Country on which the tarantula species was discovered has named the ‘new’ spider *dji-djigardapa*. For consistency and for scientific naming purposes, however, the traditional owner agreed the species name be spelt *kidjikarrabba* which is also the new Ndjebbana name for the species (see table 2). Prior to the field work the tarantula spider had been referred to as *na-mewaya ka-raya ka-nora* in Ndjebbana and *mut-gumewiyi mu-rratji dji-nerre* in Gurrgonni, both meaning ‘spider’ or ‘big spider’.
### Table 2 Indigenous names attributed to *Chelodina rugosa* and *Selenotholus sp.* from language groups interviewed

<table>
<thead>
<tr>
<th>Language Group</th>
<th><em>Chelodina rugosa</em></th>
<th><em>Selenotholus sp</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ndjebbana</td>
<td>makeddja</td>
<td>kid karraabba*</td>
</tr>
<tr>
<td>Rembarrnga</td>
<td>wattarra</td>
<td>garr</td>
</tr>
<tr>
<td>Kune</td>
<td>ŋormdow</td>
<td>garr</td>
</tr>
<tr>
<td>Kuninjku</td>
<td>komrdaaw</td>
<td>ŋarrum</td>
</tr>
<tr>
<td>Burrarra</td>
<td>bunrda</td>
<td>gardany</td>
</tr>
<tr>
<td>Dalabon</td>
<td>wamarra</td>
<td>karrh</td>
</tr>
<tr>
<td>Djinang</td>
<td>darnda</td>
<td>djomborok</td>
</tr>
<tr>
<td>Gurrgoni</td>
<td>ngalagi</td>
<td>kidjikarraabba*</td>
</tr>
</tbody>
</table>

Note *The new name for tarantula spider to be used by scientists for taxonomic purposes.*

A similar issue of identifying different species according to the Indigenous name used relates to the long-necked turtle. There was a clear differentiation between turtle species that inhabit the Maningrida region, although this may not be apparent from the name attributed to different species. The sandstone long-necked turtle *Chelodina burrungandjii* is recognised as anatomically different from *C. rugosa* by Rembarrnga and Kuninjku speaking people (on whose Country this species is distributed in the study region) yet there is no distinction in the names applied to each. This demonstrates the importance of scientists understanding that Indigenous knowledge about the species may vary with spatial scale. In this instance there could potentially be problems from a Western scientific perspective if the scientist was asking where *wamarra* were found—they would be told in the escarpment as well as on the floodplain.

**Indigenous knowledge: Distribution and abundance**

Respondents were asked about their knowledge of the distribution and abundance of *C. rugosa* and *Selenotholus sp.*, as a key aspect of Indigenous knowledge that might provide insights for the Wildlife Centre in its enterprise development. All interviewees reported *C. rugosa* on their traditional lands, suggesting the species has a wide distribution, as it is found in floodplain and savannah environments. Furthermore, all respondents believed that the distribution of *C. rugosa* had not
contracted in their lifetime—that is, turtles were still found in the same billabongs as when they were children. However, in terms of abundance, it had become harder to find turtles at traditional harvest sites. Similarly, respondents tended to indicate a wide distribution of *Selenotholus sp.*, reporting the species existed not only on the floodplain but also in savannah environments and was found in both wet and dry areas. No-one believed that the species distribution had changed during their lifetimes.

Floodplain and savannah woodland billabongs were identified as important habitat for *C. rugosa*. Interviewees with access to both floodplain and savannah billabongs noted that the former had greater turtle abundance, based on harvest success. More specifically, respondents noted that billabongs which are seasonally dry and are vegetated with water chestnut (*Eleocharis dulcis*) and paperbark trees (*Melaleuca sp.*), and possibly water lilies (*Nymphaea sp.*), support the highest density of turtles. All respondents reported high numbers of *Selenotholus sp.* in savannah (occurring in woodlands and regions of low relief) as well as floodplain environments. Spiders in floodplains could be found ‘hiding’ underground on floodplains during the wet season, when their habitat is inundated. However, if the region experienced severe flooding, they moved to higher ground, where they existed under logs, and in hollows and termite nests.

In early interviews (those conducted during 2000–02) respondents did not identify a decline in turtle numbers in their present lifetime. In 2008, four of the five respondents identified a decline in turtle harvest success and, in turn, abundance. The general consensus was that, firstly, pigs eat turtles and their eggs and their rooting makes it harder to find turtles and, secondly, buffalo stand on turtles when they are aestivating. The largest damage was thought to occur at ephemeral billabongs with *E. dulcis* and *Melaleuca sp.* The remaining respondent identified no reduction of turtle abundance in recent times, although there had been a decline in the extent of turtle harvesting by outstation people. This suggests that, despite significant pig and buffalo impacts on the turtle population, these predatory pressures were compensated for by the reduced level of harvesting and that the turtle population may have responded positively and quickly to harvest reduction. In previous years (2003–05) cane toads had been blamed for a general reduction in harvest success (D Fordham

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35 It is also possible that this is due to declining skills in harvesting methods.
unpublished data), however any impact by cane toads is likely to swamped by other threatening processes (Fordham et al. 2008). Similarly, there was some concern that pig and buffalo damage to floodplain areas may threaten the persistence of *Selenotholus* *sp*. The impact of cane toads on tarantula spiders was raised but more in the context of the overall impact on local fauna and associated food chains.

**Indigenous knowledge: Life cycle of the species**

Respondents had a good understanding of the life cycle of *C. rugosa*. There was a general consensus that:

- turtles breed during the wet season, when the billabongs fill with water;
- turtles move between billabongs during the wet season in response to intensive flooding;
- turtles aestivate under the mud when billabongs recede;
- aestivation coincides with a period of elevated mortality, owing to predation by pigs, birds (eagles and jabirus) and dingoes, and turtle eggs hatch at the onset of the following wet season. Interestingly, there was no information given regarding nesting, though goannas were identified as an egg predator. Earlier surveys concluded that *C. rugosa* eggs were not targeted as a food source, and there was much confusion as to where the turtle nests (D Fordham unpublished data).

Information regarding the life cycle of *Selenotholus* *sp.* was generally sparse. However, there were some key points of consensus around the breeding cycle. Most respondents agreed that the spiders breed underground during the ‘build up’ or *Gormmal* season (see seasonal cycle table 16)—the female and male make separate, but connected burrows, spinning webs at their entrance after pairing. The majority of respondents thought the young hatch and stay in and around the mother until the end of the wet season. No information was forthcoming on periods of high mortality, birds were considered the major predator and no threat to the species from human interaction was reported.
Indigenous knowledge: Customary use

*C. rugosa* are harvested for food, though one respondent indicated that the turtle carapace was once also commonly used as a plate. Turtle harvesting is primarily viewed as ‘women’s business’ or work. Harvesters target aestivating turtles during the late dry season when ephemeral waters have receded. The characteristic mound and breathing hole of the aestivating turtle are used to locate the turtle. A digging stick (the wooden digging stick has now been replaced by a steel bar) is used to determine the exact location of the turtle and for excavation by tapping the shell underground. The angle of the late afternoon sun improves harvest success by facilitating the observation of tell-tale signs of an aestivating turtle. Billabong vegetation is often burnt to make finding the breathing holes easier. Less commonly practiced harvest techniques include looking for the tracks of turtles that exit the billabong to aestivate, and (during the wet season) muddling in shallow creeks which extend from ephemeral billabongs. *C. rugosa* in permanent waterways are sometimes caught using fishing-line, while targeting fish.

Respondents identified areas (spatial population refugia) where turtles could not be harvested for cultural reasons—reflecting harvesting techniques, which prevent the harvest of turtles in permanent waterholes, and cultural beliefs. They also identified temporal refugia which occur when billabongs are not able to be harvested in a particular year owing to extreme rainfall, ceremonial commitments and customary law. As already noted, there was no customary use of *Selenotholus sp.* identified.\(^{36}\)

Indigenous knowledge: Access issues

Most Indigenous people agreed that access to Country requires prior negotiation with the relevant landholders, before collection or study of either species occurs. However, land owners with familial connections to the employees of the BAC Wildlife Centre agreed that these workers could act as their proxy to negotiate permission where appropriate. The extent of required consultation varied: those who

\(^{36}\)Refugia are regions in which certain species persist during a period in which most of the original geographic range becomes uninhabitable. This may include regions where a species retracts for short periods of time when large parts of their preferred habitats become uninhabitable because of drought or other effects (temporal refugia). It may also refer to regions where the species have permanently retracted because of long-lasting environmental changes (spatial refugia). (See Morton, Short & Barker 1995).
require extensive consultation are particularly concerned with royalty entitlements and benefit sharing arrangements.

Custodianship of the species is also an important consideration when granting access. One traditional owner referred to the fact that he is one of the keepers of the spider *mardayin*, which brings with it important responsibilities requiring consultation about the potential impact (eg, on the spider population) of any use of spiders in commercial or educational development. *Mardayin* ceremony does not preclude the collection of a species provided other permission protocols have been fulfilled, although the need to consult with the *Junggayi* (or ceremony ‘boss’, ‘manager’ or ‘policeman’) during such times was considered very important.

While cognisant that representing Indigenous knowledge in a static and eurocentric mode, such as this thesis, is contestable, we nevertheless decided that in order to explore the contribution such knowledge was making to the wildlife enterprise development we needed a heuristic device to summarise our findings. To this end, and to facilitate expedience for the reader, I provide the Table 3 below summarising the information we gathered from people regarding the two species.
Table 3 Summary of IEK information for each of the two species gathered during semi-directive interviews and field work

<table>
<thead>
<tr>
<th>Indigenous Knowledge</th>
<th>C. rugosa</th>
<th>Selenotholus sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural Importance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceremonial obligations</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Artistic representation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dance</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Food source</td>
<td>✓</td>
<td>N</td>
</tr>
<tr>
<td>Regular interaction</td>
<td>✓</td>
<td>N</td>
</tr>
<tr>
<td><strong>Species identification</strong></td>
<td>✓</td>
<td>?</td>
</tr>
<tr>
<td><strong>Species distribution</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Distribution over time</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td><strong>Species abundance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of species</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Change over time</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Habitat</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Seasonal effects</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Life cycle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time of breeding</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Location of breeding</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Pre-adult development</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Mortality</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Predators</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Intergenerational transfer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customary activity</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ceremonies: dance, art, songlines</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sacred Law</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Key: ✓ - respondents generally provided consistent information
N - respondents agreed does not occur
✗ - no or little knowledge held by respondents
? - conflicting or uncertain information provided by respondents

Western scientific knowledge

While the data collected with Indigenous people of the Maningrida region summarised above clearly demonstrated the importance of their knowledge concerning the species used in the wildlife enterprise development, the study was concerned also with how such knowledge interacted with, differed from, and complemented Western scientific knowledge.
The role for Western science in supporting wildlife industries is twofold. Firstly, it needs to provide the necessary evidence to show that, at a general level, it is possible to exploit wildlife for commercial purposes without long-term impacts on wildlife survival. There is a need for greater scientific discourse in legitimating the practice of wildlife harvesting by answering claims that wildlife harvesting can never be sustainable; where it might be sustainable, it either must have a conservation benefit or not be used at all for commercial purposes, even by Indigenous Australians (eg Irwin 2009, ACF 2006). Secondly, it can help identify those species most suitable for wildlife harvesting and the necessary conditions for their long-term persistence given the impact of wildlife harvesting.

In the case of the northern long-necked turtle wildlife enterprises, there was a well-developed body of scientific knowledge about the physiology and life cycle of *C. rugosa* prior to the development of the enterprise. Ecological principles of population maintenance at a general level and technical aspects of animal husbandry for reptiles were also available. The challenge for the scientific community in developing the turtle enterprise was therefore one of applying this scientific knowledge to the populations of *C. rugosa* living in the specific region of Maningrida and understanding the regional impacts and industry specific requirements.

However, there was a less developed body of scientific knowledge about *Selenostholus sp.* available on which to build a tarantula wildlife enterprise (Raven 2008). The challenge for the scientific community, then, is different from that required when developing the turtle wildlife enterprise. The research required was much more basic: identifying taxonomic or morphological differences between spiders to differentiate species, morphological adaptations for mating and undemanding breeding in general, juvenile development and impacts on population growth. Fortunately, this basic research is not as critical to developing the wildlife enterprise as it might be to the turtle enterprise. This is largely due to the fact that, at least under present conditions, the impact of harvesting tarantulas on the sustainability of tarantula populations is insignificant. The reported density of tarantulas in the Maningrida floodplains is extremely high and the general spider population the highest seen by the researchers anywhere in Australia (Raven 2008). Nevertheless,

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part of the scientific research required as part of industry development will be to undertake population monitoring to ensure sustainability.

In both cases, but more so in relation to *C. rugosa*, wildlife enterprise development has been and continues to be one of adaptive management, involving a structured process of ‘learning by doing’, but ‘doing’ based upon rigorous field experimentation (Walters 1997). Not only did it require close collaboration with stakeholders, but also recognition of the importance of a well-designed experimental basis to build upon existing scientific knowledge which was incomplete and insufficient for enterprise development: essential features of adaptive management (Whelan 2002).

**Combining knowledge systems for the successful development of the wildlife enterprise**

The study found that the development of the turtle and spider wildlife enterprises was clearly dependent upon the contributions of both WSK and IK. This reflects the point made earlier that WSK focuses upon generalisations across large areas and populations of species. In contrast, IK is more locally based and can identify variations within species and population numbers within the location, variations in habitat and impact of extreme events such as wet/dry seasonality.

Those developing the enterprises acknowledged the legitimacy of both forms of knowledge and have combined elements of each in undertaking the major tasks involved in establishing an enterprise. As might be expected, this has occurred to a much greater degree in the case of the turtle enterprise which has a longer history of operation.

In summarising the major contributions of each form of knowledge, there is a temptation to differentiate the value that might be attached to each. For the researchers, this becomes a question of to what extent does that particular piece of IK add value to the scientific knowledge required for the task. However, this assumes that each form of knowledge remains static during the research and development process whereas both WSK and IK can change in the normal process of gaining more information from the respective scientific and Indigenous communities. Furthermore, such a question does seem to suggest an ordering of hierarchy in terms of the legitimacy of the two knowledge systems.
However, this study found that the collaborative research and development approach adopted for these two wildlife enterprises has respected the legitimacy of the knowledge systems of each partner and recognised that each is continually evolving due to the interaction and development of knowledge that accompanies collaboration.

**Development and the transmission of knowledge**

The results of the study found that the continued intergenerational transmission of Indigenous knowledge of northern long-necked turtles and tarantula spiders through story-telling, painting, close observation, customary pursuits and ceremony is a critical component in sustaining a wildlife enterprise. Similarly, field work out on Country provided the opportunity for transmission of Indigenous knowledge, and IK in particular, between Indigenous outstation residents and scientists. Field work also provided opportunities for experiential learning and transmission of Western scientific knowledge between scientists and Indigenous outstation residents and Djelk Rangers’ communities. This flow of knowledge between different stakeholders in the enterprise is demonstrated in figure 5.


**Figure 5 Transmission of IK and WSK**

Adapted from Fordham et al. 2010

**Formal education and training**

The study highlighted the dependence of wildlife enterprises in remote regions upon both IK and Western science. This not only related to enterprise establishment but also its ongoing operation. The study identified the intergenerational transmission and the role experiential learning on Country plays in the transmission of Western scientific knowledge and IK between scientists and Indigenous people involved in the enterprise. The study also demonstrated the important links between education, training and the continuing sustainability of wildlife enterprises. Just as wildlife enterprises are dependent on recognising the important contributions of both IK and
Western scientific knowledge, so too successful training and education delivery is dependent upon facilitating the transmission of both forms of knowledge. To maximise the benefits that can accrue from each knowledge system in the development of wildlife enterprises, the pedagogic relationship between IK and Western science needs to be reflected in the delivery of education and training by schools and training institutions.

The case study of the Djelk wildlife enterprise found that while the transmission of knowledge within the enterprise and between stakeholders is important, the sustainability of the development is also clearly dependent on the transmission of knowledge through formal education and training. Formal training of Djelk Rangers and the education of Indigenous secondary school students in skills and knowledge that are necessary for the effective operation of a wildlife enterprise is critical. Without a skilled workforce, the sustainability of the enterprise is at risk. This is particularly important for long-term viability, which will depend upon an emerging group of well-trained young people to replace staff moving to other occupations, or to enable expansion of the enterprise. Whilst the principal role of formal training and education relates to the transmission of Western knowledge (in this case science), it is clear that the transmission of Indigenous knowledge through an appropriate pedagogic device is also necessary. Conversely, and arguably more importantly from an educational perspective, wildlife enterprises are an example of a learning opportunity that can bring together Indigenous and Western forms of knowledge. Such opportunities, if exploited by schools, provide a reason for students to engage in learning and a way of engaging the community in the educational process.

Towards this end, the study noted that articulating a solid pedagogical foundation for a learning program that will develop the skills and understandings necessary for future employment and understandings in land, sea and wildlife management is an area of great need. The study suggested that such a program could involve customary skills and knowledge, life skills and ranger skills, delivered both within the classroom and out on Country and utilise the specialist knowledge of teachers, rangers and scientists, and the Indigenous community including traditional owners (see Schwab 2006). Importantly, the research also clearly stated that successful education and employment pathways into such developments cannot be founded solely on existing approaches to secondary school curricula.
The pedagogic needs of a remote Indigenous development

The research on the knowledge foundations of the Djelk enterprise demonstrated the complex relationship between Indigenous knowledge and Western knowledge that underpins a remote Indigenous development. It also pointed to a critical need for pedagogy that could support such a development. In the model below (figure 6), I have attempted to represent the key elements of this need heuristically, based upon the case study I have summarised earlier in this chapter.

**Figure 6 Pedagogic needs of a remote Indigenous Development**

[Diagram showing the relationship between Indigenous Knowledge and Western Scientific Knowledge, with arrows indicating the flow of information and control between three loci: Indigenous (Community), Djelk Development Enterprise, and Non-Indigenous (School).]

- Indigenous Knowledge:
  - Cosmological
  - Linguistic
  - Customary uses
  - Connections to land and country
  - Distributions and abundance
  - Life cycles
  - Secret/Sacred

- Western Scientific Knowledge:
  - Taxonomy and Morphology
  - Population density
  - Sustainability
  - Utility
  - Husbandry
  - Marketability
  - Refugia Modeling
  - Generic
  - Field based
  - Classroom based
  - Instructional
  - Technical
  - Discipline specific
  - Teacher/expert control

Locus of control: Indigenous (Community), Djelk Development Enterprise, Non-Indigenous (School).
The model in Figure 6 is made up of four quadrants Q1, Q2, Q3 and Q4. Q1 lists the Indigenous knowledge about species used in the wildlife enterprise case study and Q2 lists the Western scientific knowledge needed to run the wildlife enterprise. While I have separated these two quadrants in the model they should be seen as working together, with each type of knowledge informing the other. For example, in the case of the turtle enterprise, Indigenous knowledge about the distribution and abundance of turtles can complement and inform a Western scientific need to quantify population density. In this way both Q1 and Q2 work together to provide the actual knowledge that is needed to operate the enterprise.

Q3 lists the types of learning, or pedagogic need, required to inform and sustain Q1. For example, Indigenous knowledge about the life cycle and secret knowledge (Q1) of the tarantula is dependent upon experiential learning that takes place ‘on Country’. This type of learning is listed in Q3. Similarly, Western scientific knowledge used in the enterprise is listed in Q2, and the type of learning, or pedagogic need, required to generate and sustain such knowledge is listed in Q4.

However, as shown in both the theoretical discussion and the case study earlier in this chapter, the relationship between IK and WSK is not necessarily one of separateness, but can also be one of complementarity. In the example of a wildlife enterprise modeled here, IK and WSK work together, but be to be sustainable this knowledge needs to be informed by learning generated in both Q3 and Q4. So, Q1, Q2, Q3 and Q4 all work together in a cycle. This is represented in the arrows which flow between quadrants and come together in the wildlife enterprise development.

In figure 6, I also note that Q1 and Q3 are dependent upon knowledge and a type of learning generally controlled by the local Indigenous community. Conversely, Q2 and Q4 are dependent upon knowledge and learning generally controlled by the scientific community and the school. I have termed this the ‘locus of control’, which is represented on the vertical axes of the diagram. However, as with the quadrants in figure 6, these ‘loci of control’ should not be seen as mutually exclusive, but rather as in dynamic tension and complimentary. In practical terms this means that the place based teachings of Aboriginal (and non-Aboriginal people) people need to work in tandem with the generic teachings of scientists and formal, or mainstream, schooling
to support the enterprise. So, the need for for a local or ‘place-based’ pedagogy becomes as important as generic, or mainstream, forms of pedagogy.

While Figure 6 is specific to the Djelk wildlife enterprise, the demonstrated relationship between knowledge and pedagogy is not unique. Other forms of remote developments can be seen to have the same needs. Most obviously, such needs exist in Indigenous land and sea management programs, Indigenous ‘culture’ and tourism enterprises, bush food production enterprises, Indigenous owned and run recreational fishing ventures, remote nursery and propagation programs (such as in the sale of cycads for domestic markets), Indigenous carbon abatement programs, such as the West Arnhem Land Fire Abatement program (WALFA) and the larger field of bio-prospecting using Indigenous knowledge. Less obviously, this model of pedagogic need may also have application for remote governance structures such as Aboriginal corporations, although more research is required in this area. With this in mind, Figure 7 represents a generic model that could be used as a starting point for making explicit the pedagogic needs for remote developments.
As with Figure 6, each of the quadrants of this model should be seen as non static and in dynamic tension. Similarly, research effort should be directed at the interaction and complementarity of each quadrant and should not be construed as separate or distinct domains. Importantly, such a model may be used as a starting point in making the connection between school, community and work more explicit and, in turn, help in the development of education that is locally relevant and engaging for Indigenous students.

In this chapter I have traced the theoretical relationship between knowledge and education in anthropological discourses and provided a theoretical deconstruction of the notion of Indigenous knowledge. I have also discussed the role Indigenous knowledge plays in a remote development and its relationship to pedagogy. I have demonstrated, with a detailed case study the importance of Indigenous knowledge to
the operation of the Djelk wildlife enterprise. Similarly, my research has shown that such developments have specific pedagogic needs and I have provided both a specific example and a generic model for analysing these needs. However, as noted in chapter 2, current approaches to remote Indigenous education have little capacity to cater for these needs. In particular, the application of mainstream educational approaches has failed to connect remote Indigenous learning communities with local development. The research base is clear in positing this failure as a major cause of student disengagement and poor educational outcomes. This chapter has shown that a key element in rectifying this is the need for an education that has the ability to cater for context specific or ‘place based’ pedagogy, as well as providing for generic educational provision. In the next chapter I briefly explore the notion of place based pedagogy and make comment upon its applicability in contemporary remote educational settings. This is followed by a detailed examination of Maningrida in Arnhem Land as one ‘place’ which place based pedagogy might account for.
Chapter 4: Pedagogy and Place

In chapter 2, I showed that there is a strong research base stating that remote Indigenous education has failed to connect Indigenous learning communities with Indigenous development. The research delineates this failure as one of the causes of Indigenous student dis-engagement and poor educational outcomes. In strategies to redress this, connecting education with Indigenous knowledge and local development aspirations begins in understanding the nature of Indigenous knowledge. In chapter 3, with a focus on anthropology, I explored the theoretical underpinnings of a false binary between differing forms of knowledge and their place in development and education. I did this with a particular emphasis on the positioning in early literature of Indigenous knowledge as the ‘other’. I argued that, instead, complementarity and synergies, rather than opposition and difference should inform research analysing Western and Indigenous knowledge. I demonstrated how this can be done through a detailed case study of the complex knowledge foundations needed to actualise a remote Indigenous enterprise. I also demonstrated that remote developments, such as the Djelk wildlife enterprise, have specific pedagogic needs and provided two conceptual models that can be used to extrapolate and identify such needs. Chapter 3 also showed that a key element in connecting education with remote development is the need for context specific or ‘place based’ pedagogy, which is as equally important as the provision of generic education if the pedagogic needs of these developments are to be met.

In this chapter, I examine the foundational concepts of ‘place based’ pedagogy and its applicability in contemporary educational settings. While I begin with some brief comment on this type of pedagogy, it is clear that any such notion must be informed by a detailed understanding of the complexities of a remote Indigenous community, as the ‘place’ that such pedagogy must cater for. Towards this end, this chapter also examines the social, economic and physical characteristics of one of the largest Indigenous communities in Australia, Maningrida in Western Arnhem Land in the Northern Territory. In so doing, I argue that although the region has experienced a rapid period of modernisation, there exists a distinctly intercultural form of development that is providing engagements with ‘the mainstream’, but that rests very much on the creation of a space for aspects of ‘traditional’ social organisation to continue. Through this examination it becomes clear that the design of pedagogy to
cater for a setting like Maningrida must embrace ‘place based’ strategies as well as linking learning to the global educational community.

**A Pedagogy of Place**

A pedagogy of place, or place based pedagogy, can arguably be seen as having its beginnings in John Dewey’s (1897, 1900, 1902, 1916) progressive education theories which, paradoxically, are perhaps the antithesis of more postmodern readings as discussed herein. Essentially, Dewey was a proponent of a positivist educational approach, seen by many as pragmatic, although its essential elements called for a learner centered approach through scientific inquiry. In more recent times, the advent of critical theories of communication, education and development, as discussed in chapters 2 and 3, have reinvigorated the place of local pedagogy, but with a neo-Marxist or Foucauldian representations of class, power, gender or ethnicity at its centre. This type of education has many generic terms, but perhaps community based education is most encapsulating. Community-based education, concerned with people and their immediate reality, has a reasonably long history and an international research base (Corson 2000; Corson 1999; Corson & Lemay 1996; Cummins 1986, 1996; Garcia & Otheguy 1987; Greenberg 1989; Haynes et al. 1989; Rasinski & Fredericks 1989). Much of this work draws heavily on the writings of Paolo Freire (1972) and argues that Indigenous communities can reform education by inserting their own educational aspirations into the organisation, management, pedagogy, curriculum and the modes of evaluation in schools. In this way, the community’s goals can become aligned with those of educational delivery.

In 1999, Alberto Arenas coined the phrase ‘pedagogy of place’. The notion of a pedagogy of place is positioned as oppositional to the focus on school underachievement as an indicator of social injustice, a predictor of future economic disadvantages, and a target for social justice reforms. This approach, in part can be seen as a reaction to a view of social justice as synonymous with school achievement, because social justice has increasingly been implemented as testing regimes (Arenas 1999) Furthermore, this position sees a primary focus on statistical achievement as antithetical to place-based education, in that it distracts from a focus on community well-being and other moral purposes of schooling. Therefore, educators
...need to do more than echo the mantra of policy makers to prepare learners (future workers) for high-stakes testing and the global economic competition. They need to examine how the discourse of globalization, the discourse of progress, and the discourse of development shape schooling and community life at the local level (Gruenwald 2003:51).

In 2003, Gruenwald combined these approaches with the pedagogic notion of ‘socioecological justice’. Gruenwald (2003, 2004, 2005, 2007) outlines a field of inquiry which encompasses a number of previous areas of inquiry including ‘experiential learning, contextual learning, problem-based learning, constructivism, outdoor education, Indigenous education, environmental/ecological education, bioregional education, democratic education, multicultural education, community-based education’ (Gruenwald 2005:55). Under this approach, Gruenwald notes that the ‘social and ecological landscape should be studied through first-hand experience; it also must link such experience to the experience of others in other places and to the cultural, political, economic and ecological forces that connect people and places on a global scale’ (Gruenwald 2005:55).

Conceptually, this approach is set against a universal trend for Indigenous students to reject what Kwagley et al. (1998) see as the compartmentalisation and reductionist nature of school based knowledge acquisition. Rather, such approaches try to provide what Aikenhead (2000, 2002, 2004, 2007) has referred to as a process of ‘border crossing’ which provides points of pedagogic alignment between, for example, a student’s dominant world view and a scientific experiment.

While it is clear that a concept of a ‘pedagogy of place’ has obvious applicability in remote Indigenous educational and development contexts (see chapter 3), it must be noted that this type of pedagogic approach is often subservient to a dominant discussion in education about jobs and productivity. Consequently, concepts such as ‘a pedagogy of place’ have difficulty penetrating, or finding room, in large scale curriculum frameworks.

As Zandviliet (2007) explains

38 In general terms, the goals of a pedagogy for socioecological justice can be described as education for the purposes of cultural decolonisation and ecological reinhabitation (Gruenwald, 2003). Berg and Dasmann (1990) define reinhabitation as ‘learning to live-in-place in an area that has been disrupted and injured through past exploitation’ (35)
…educational concern for local space (community in the broad sense) is sometimes overshadowed by both the discourse of accountability and by the discourse of economic competitiveness to which it is linked. In my opinion, place becomes a critical construct to its opponents not because it is in opposition to economic well-being, but because it challenges assumptions about the dominant ‘progress’ metaphor and its embedded neo-conservative values.(2007:5)

The criticisms to which Zandvilt refers are often expressed in an anxiety that over emphasis on pedagogy based in the local can lead to the creation of educational pathways that are ‘closed’; that is, pathways between schooling and work become restricted to providing educational skills that are only of use in a local employment context. However, an increasing research base coming out of the USA is finding that the opposite is true. For example, a study involving 60 schools across America found that place based education strategies, particularly when coupled with environmental education,

help students make the connections they need to transfer concepts from familiar to unfamiliar contexts. Its interdisciplinary nature helps students to understand the world around them and sharpens their ability to think systemically. The content and skills taught can be correlated to national and state standards and can provide an effective, interesting and motivating way to tie the curriculum together.(NEETF 2000:13) (see also NEEFT 2005)

Furthermore, the study found that the use of place based strategies in these 60 schools led to better performance on standardised measures of academic achievement in reading, writing, maths, science, and social studies.39

In remote Indigenous education in Australia, the research base, and the research in this thesis thus far, demonstrates that the provision of pedagogy with a basis in place and context is an essential element in providing a linkage between Indigenous knowledge and local development. Such a link can generate pathways to work and a utility of education thus engaging students in learning. What is missing, however, is a mechanism, or pedagogic device, enabling a connection between ‘mainstream’ educational provision, which is equally required, and pedagogic design based in real local contexts. A first step in considering what such a model may look like, however, is to have an understanding of the complexity and actuality of a remote Indigenous

39 As assessed against standardised American state testing regimes and against American national averages.
community. With this in mind, the next section of this chapter provides an analysis of the key social, economic and physical features of Maningrida. As I will show, Maningrida is a very complex place and, as such provides an ideal case study. If a connection can be made between place based pedagogy and the mainstream in such a setting, it is likely that similar approaches can work in other remote settings.

**Maningrida**

Maningrida is a community in Western Arnhem Land that lies on the banks of the Liverpool river, 550km east of Darwin, 250km west of Nhulunbuy and 300km north east of Jabiru (12.0482 E: 134.2263). The broader Maningrida region, however, covers some 10,000 square kilometres and can be considered as loosely bounded in the west by the Kunjinku clan estates surrounding the Outstation Marrkolidjban (12°14.37, 134°03.79) and the estates of the Djinang and Walaki surrounding Gamardi (12°16.54, 134°40.96) in the east (see figure 8). With a population of approximately 2,950, (approximately 200 of those people being non-Indigenous) (ABS 2007) (see figure 9), the region is characterised by complex and overlapping socio-cultural and linguistic structures. Similarly, the physical environs exhibit a plethora of Indigenous flora and fauna, coupled with an array of divergent topographic and geographic features, making the region important in terms of national bio-diversity.
Figure 8 Map of Western Arnhem Land

Figure 9 Population distribution – Maningrida Township

Original data (NTDEET 2007)
Regardless of our experiences human beings are all, to a lesser or greater extent, an amalgamation of the nexus between ‘the social’ as a myriad of real or imagined fields including class, race, gender, age and ethnicity, and the constraints of physicality, be they environmental or genetic. Insomuch as this delineates a set of structural determinants on the individual or group, the Indigenous people of the Maningrida region are, as people elsewhere, active agents in constructing and deconstructing these determinants. They have the power and the ability to change and reconstitute the parameters of the lived experience, giving rise to a fluidity in all the realms of the social and the physical. As such, a discussion around the features of the area can only ever be a snapshot in time and owes much more to the historical rather than contemporary, as the contemporary is ever-shifting, dynamic and attempts at its description may be obsolete before they are written. Despite this, the people of the Maningrida region and their environment have exhibited a remarkable cultural continuity despite, or perhaps in spite of, a short, but incredibly intense engagement with colonisation. Given this, it is justifiable to begin an analysis in the salient realities of the region as it is now, with a recognition of constant change in the face of Indigenous agency, expanding globalisation and shifting engagements with the state.

Social and Linguistic Organisation

Post colonial anthropological theory has challenged the notion of static and unchanging structures of social organisation (see chapter 3). However, there are some fundamental elements of the Maningrida region’s organisation that stem from Indigenous tradition and are of key importance. The social organisation of different groups within the region has been described in previous literature including Altman (1982, 1987); Armstrong (1973); Hiatt (1965); Keen (1994) and Meehan (1982) to name a few. Throughout this section I seek to build on these previous bodies of work. There are currently 7 major languages and 22 different dialects that can be considered endemic to the area (see Table 4). However, the complexity of the communicative field cannot be understated. For example, the 1996 Needs Survey of Community Languages (BAC) found 51 Indigenous languages being spoken in the region, making

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40 Dialects may be exceedingly different and people may see themselves as part of discrete or distinct language group, despite official orthography pertaining to dialectical classification. Locally, people of the Binjin Kunwok language group in particular see their dialects’ as distinct and separate languages.
Maningrida one of the most linguistically diverse places per capita in the world (see also Evans 2010).

Table 4 The major languages spoken in the region

<table>
<thead>
<tr>
<th>Language</th>
<th>Dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Djinang</td>
<td>Wurlaki</td>
</tr>
<tr>
<td>Djinang</td>
<td>Marrangu</td>
</tr>
<tr>
<td>Djinang</td>
<td>Murrungun</td>
</tr>
<tr>
<td>Djinang</td>
<td>Yan-nhangu</td>
</tr>
<tr>
<td>Djinang</td>
<td>Ganalpingu</td>
</tr>
<tr>
<td>Djinang</td>
<td>Gapalpingu</td>
</tr>
<tr>
<td>Djinang</td>
<td>Djanbarrupinngu</td>
</tr>
<tr>
<td>Burarra (Ginjingarliya)</td>
<td>Martay</td>
</tr>
<tr>
<td>Burarra (Ginjingarliya)</td>
<td>Maringa</td>
</tr>
<tr>
<td>Burarra (Ginjingarliya)</td>
<td>Anbarra</td>
</tr>
<tr>
<td>Burarra (Ginjingarliya)</td>
<td>Gunartpa</td>
</tr>
<tr>
<td>Njeebana (Kunibidji Mob)</td>
<td>Marnadalangurrnga ‘Hard’ Njeebena (inland)</td>
</tr>
<tr>
<td>Njeebana (Kunibidji Mob)</td>
<td>Ngarridj ‘Soft’ Njeebena (coastal)</td>
</tr>
<tr>
<td>Gurrongi</td>
<td></td>
</tr>
<tr>
<td>Bininj Kunwok</td>
<td>Kunwinjku</td>
</tr>
<tr>
<td>Bininj Kunwok</td>
<td>Kuninjku</td>
</tr>
<tr>
<td>Mayali</td>
<td></td>
</tr>
<tr>
<td>Kune</td>
<td></td>
</tr>
<tr>
<td>Gundeihmi</td>
<td></td>
</tr>
<tr>
<td>Kundedjnjenghmi</td>
<td></td>
</tr>
<tr>
<td>Dangabon/Dalabon</td>
<td></td>
</tr>
<tr>
<td>Rembarrarrnga</td>
<td>Galduyh</td>
</tr>
<tr>
<td></td>
<td>Gikkik</td>
</tr>
<tr>
<td></td>
<td>Mappurn</td>
</tr>
</tbody>
</table>

Many Indigenous people in the area speak their own language as well as one or two other Indigenous languages and English. While English is the lingua franca of daily business dealings with non-Indigenous people, English is not the dominant language of the area and exists primarily as a bridging tool for cross-cultural engagements with administrative institutions, usage in ‘work’ roles, modern signifiers (signs etc) and in school based education. As such, daily communicative forms are highly variable. For example, a Kuninjku person may greet a Djinang person in Djinang with the question *Manymuk?* (good. Are you good?) and expect a reply in Kininjku, *Kamuk!* (good. I’m good). In this way linguistic forms affirm the relational status of the two individuals, while also providing for a convention of manners. It should be noted that such niceties are not observed during conflict. After a litany of insults is delivered in the plaintiff’s first language, swearing in English is often

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41 Levels of oral English proficiency vary markedly between individuals. It should be noted that some people in the region speak very little English at all.
invoked. For example, a common exclamation during such moments is “fuck you mob!” designed to ensure that the non-Indigenous population is equally aware of the person’s displeasure or anger.

The different languages also provide for a super-structure of social relations within the township of Maningrida as they serve as a demarcation for geographical and cultural diversity. This is expressed through common usage of the English term ‘mob’. For example, the statement below tells us much about the speaker:

“Me, I come from that Burarra mob. I don’t like Kuninjku mob. They too greedy.”

In such ways, language group terms are used to express both belonging and difference, while, in this case, also being used to disparage the collective grouping of another ‘mob’. Over the ten years I have worked with the people of the region, I believe the use of language groupings, rather than smaller sets of groupings such as clan names, as terms of relatedness has increased. However, I note that the use of language groupings as identity markers has been a result of colonial settlement history of the region and feature of communication between Aborigginal people and non-Indigenous people since the early 1960s. Borsboom and Hagar (1984) provide a reason for this suggesting that:

Having lived under deteriorating social conditions on the fringes of Darwin and other towns for more than two decades - often separated from fellow-tribesmen - Aborigines reunited with their families at Maningrida to form "residential clusters" (Hiatt 1965:33), being a number of dwellings separated from others by tall grass. Such clusters were composed of people who spoke the same language, so that, for example, Burera (sic) speakers lived together, the Gunavidji formed a group, the Djinang did so, and so on. Another important point was the relative location of these residential clusters. Thus in the first years of the settlement's existence, new arrivals settled next to their traditional neighbours, with the result that on a reduced scale the residential pattern at Maningrida roughly corresponds with the spatial relationships among language groups in northern-central Arnhem Land as a whole.( Borsboom and Hagar 1984:40)

I also suspect a mimetic influence here as non-Indigenous people often do not delineate between groups at any deeper levels, so a language group name may be used by people more as an expedience in dealing with non-Indigenous peoples. Indeed, such superstructures are mostly superfluous in purely Indigenous communications as
people already know who is who, and where they fit within the related social sphere. In Indigenous to Indigenous communication, it is much more common for a self reference to be made through a skin name, bush name, totemic reference or clan name. Further complicating this variability in the communicative field is the existence of particular lexicons pertaining to particular clans. Garde (2008a) notes there are particular lexicons and linguistic features within clans themselves that serve to mark membership of a clan and ownership of land.

In Western Arnhem Land, the Bininj Kun-wok dialect chain and its neighbors Dalabon and Rembarrnga, to the south and southeast respectively, all feature a system of elemental language distinction whereby each patriclan has a small set of lexical features exclusively owned by that clan. The central feature of the exclusive but very limited lexicon are clan-specific interjections and verbal prefixes (in addition to a small number of other lexical items), which when used in conversation or certain formal speech genres pragmatically index membership in a particular clan or acknowledge that the speaker is visiting a site of significance belonging to the clan that ‘owns’ that particular interjection (Garde 2008a:145).

Similarly, linguistic features and lexicon specific to a certain clan may be used in invoking or greeting ancestral Country or making oneself known to certain piece of land. I found this to be common when with people who were taking me to Country where I had not been before and or in situations where people were going to Country where they had not been for a long period of time. Different semantics and linguistic features are also to be found in joking relationships and avoidance relationships where a person’s kinship determines the actual language that can be used (Garde 2008b). Thus, linguistic features of the greater Maningrida region are not able to be easily separated from relatedness through kinship structures, the specific linguistic features of clan organisation or connections and rights and responsibilities in Country and estate ownership.

**Kin, Clan and Estate**

The relationships people of the area ascribe between kin, clan and Country are complex, forming a mosaic of identity linking spiritual cosmology, intellectual and landed property rights with ancestral lineages and social mores that determine much in daily interaction. It must be noted that these daily relational parameters exist in a perpetual state of contestation and are continually challenged, particularly through intergenerational interpretations of the ‘right way’ things should be done. Despite this
contestation, the fundamentals of social organisation, such as skin group relations, or subsections, and ceremonial obligations have remained remarkably consistent in the face of benign state colonisation.

Social relatedness within the region is divided by a system of moieties which also correspond to spatial relationships to Country. Patrimoieties, matrimoieties and ceremonial subsections are primary categories in relatedness, while also delineating property rights (See figure 10). Local organisation and estate tenure is mainly founded on patrilinial kin groups known in Njebena as nguya, babburr or yakkarrarra, or in Burarra as bapparrurr (descriptive), murndurn (noun) or in Djinang as mala, yakarra or bundurr (patrilinear clan noun). Each mala holds a defined territorial estate and its component sites which often includes estates both on land and sea (Bagshaw 2007). While there is generally only one clan or group who is the Traditional Owner for a particular estate, alliances with other clans means that different clans share the resources provided by different estates. In this way, areas rich in particular resources, for example a creek or section of river, are shared by neighbouring and affiliated clans, however access is by permission of the owning clan, either explicitly or implicitly granted due to long standing social arrangements. Similarly, as table 5 (p 98) shows, some clans have equal ownership rights to the same Country, yet distinguish themselves as separate. Such arrangements, it should be noted, are occasionally subject to dispute. Altman noted that while all Kuninjku have rights to their clan estates as a patrilineal birthright, it is access to the ‘band’s’ range that was of greater importance in everyday subsistence activity (1987: 108). Furthermore, if the owners of a particular estate were absent, bordering bands could utilise resources

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Anthropologists have engaged in much debate over the delineation of terms such as clan, horde or band, particularly during the 1960s after the publication of Hiatt’s 1962 article Local Organisation Among the Australian Aborigines (Hiatt 1962) (see also Hiatt 1996). In the terminology of today, the horde is referred to as the band or land-using group, as opposed to the clan or land-owning group (Peterson 2006). For further discussion see (Keen 1994), and more recently (Peterson 2006). While a broader use of the term ‘clan’ is contestable and in some ways simplistic and misleading, it is a term, through memetic linguistic adoption, that is readily used by the people of the Maningrida area and as such will be used by me in this thesis, while noting the important distinctions between clan, horde and band in the literature.

There is a vast body of literature and research on Indigenous systems of land ownership as it operates in the Northern Territory. For example, Bromley (1991) asserts that Indigenous constructs of land use are dependent on who has rights and responsibilities in its usage, and by who may be excluded. Ostrom and Schlager (1996), Berkes (1989) and Hardin (1968) concur, all stressing that this clearly distinguishes the basis of a land ownership regime. Crucially, Williams (in Altman et al. eds 1999) notes that in the Australian Indigenous context ‘to request permission to enter, camp on or use the resources of a particular area is to acknowledge the right of the owners to accede or to deny permission’.
on the unoccupied estate quite readily, although permission to reside on another’s estate was generally requested (ibid.).

An individual, who has patrilineal birth rights to a piece of Country may call themselves a landowner, but may also lay a lesser claim to a different section of Country as their ‘mother’s Country’, ‘mother’s father’s Country’, ‘mother’s mother’s Country’ and ‘wife or husband’s Country’. In the same vein, a person from the Yirritja moiety will have particular claims to Yirritja Country while simultaneously having a guardianship role in Jowanga or Duwa Country. Adding to this, Langton (1997) notes that women may have particular kin based roles and rights in land and sea that can be structured differently, and are not necessarily a result of simple matrilineal or patrilineal descent. Roles and responsibilities relating to Country are further complexified by ceremonial subsections which provide for another level of rights in estates, pertaining to totemic structures. Figure 10 demonstrates the relationship between the moities Yirritja and Duwa patrimoieties and skin names for the Kuninjku people of the region. Figure 11 represents the relationships between partimoieties, ceremonial sub sections and skin names for the Djinang people of the region.
Chapter 4: Pedagogy and Place

**Figure 10** Kuninjku subsections

![Diagram of Kuninjku subsections]

- = First marriage choice
- = Poison cousin (avoidance relationship)
D = Yirritja patrilineal
Y = Duwa patrilineal
- = Matrilineal descent

**Figure 11** Djinang ceremonial subsections

![Diagram of Djinang ceremonial subsections]

**Butal Subsections**

- Ngarritj
- Bangardi
- Balang
- Gamarrang

- Yirrchinga
- Djowunga

- Ngarritjan
- Bangadi-jan
- Balany-jan
- Gamany-jan

Learning through Country: Competing knowledge systems and place based pedagogy
W. Fogarty
Clans

The high number of clans in the region makes relationships to Country difficult to separate using Eurocentric notions of property boundaries. For example, Table 5 analysing only two language groups demonstrates that some clans share the same Country but identify themselves as discretely different clans. My research on four language groups in the region found 111 different clans. While I was unable to complete this list for all language groups in the area, it is likely that the number of clans in the region is well over one hundred and fifty if detailed for the seven major language groups.
### Table 5: Language, clan, moiety and Country

<table>
<thead>
<tr>
<th>Language</th>
<th>Clan</th>
<th>Moiety</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burarra (Ginjingariya)</td>
<td>Ana-gujalala</td>
<td>Yirrchinga</td>
<td>Near Mu-lela</td>
</tr>
<tr>
<td></td>
<td>An-gapmarlaja</td>
<td>Yirrchinga</td>
<td>Ji-bolbol</td>
</tr>
<tr>
<td></td>
<td>An-nguliny</td>
<td>Yirrchinga</td>
<td>Gochan Jiny-jirra</td>
</tr>
<tr>
<td></td>
<td>Bagurra (extinct-Now Martay)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Balkarranga</td>
<td>Yirrchinga</td>
<td>East of Blyth river</td>
</tr>
<tr>
<td></td>
<td>Balngarra</td>
<td>Jowunga</td>
<td>West of Bulukhadaru</td>
</tr>
<tr>
<td></td>
<td>Birlanya</td>
<td>Yirrchinga</td>
<td>Mu-lela</td>
</tr>
<tr>
<td></td>
<td>Boburerra</td>
<td>Yirrchinga</td>
<td>Gurgoni mob- Nanak</td>
</tr>
<tr>
<td></td>
<td>Bunduri</td>
<td>Yirrchinga</td>
<td>Beyong Gochan Jiny-jirra</td>
</tr>
<tr>
<td></td>
<td>Bununggu</td>
<td>Jowunga</td>
<td>Gochan Jiny-jirra</td>
</tr>
<tr>
<td></td>
<td>Burlkarranga</td>
<td>Yirrchinga</td>
<td>Jamalga</td>
</tr>
<tr>
<td></td>
<td>Galngawurru</td>
<td>Jowunga</td>
<td>West of Ji-bolbol</td>
</tr>
<tr>
<td></td>
<td>Gangarl</td>
<td>Jowunga</td>
<td>Merwinba</td>
</tr>
<tr>
<td></td>
<td>Garnawula Niya</td>
<td>Yirrchinga</td>
<td>Wurdeja</td>
</tr>
<tr>
<td></td>
<td>Garrpam</td>
<td>Yirritja (Nakara mob)</td>
<td>Maningrida</td>
</tr>
<tr>
<td></td>
<td>Girgirba</td>
<td>Yirrchinga</td>
<td>Beyong Gochan-Jiny-jirra and Bunduri clan Country</td>
</tr>
<tr>
<td></td>
<td>Jarlwayngu</td>
<td>Yirrchinga</td>
<td>Clan name for Gapaulpingu mob</td>
</tr>
<tr>
<td></td>
<td>Jartmarr</td>
<td>Yirrchinga</td>
<td>Beyond Ji-bobol</td>
</tr>
<tr>
<td></td>
<td>Maljikarra</td>
<td>Yirrchinga</td>
<td>Maringa Mob</td>
</tr>
<tr>
<td></td>
<td>Mapi</td>
<td>Yirrchinga</td>
<td>Gartchi</td>
</tr>
<tr>
<td></td>
<td>Marrarrich</td>
<td>Yirrchinga</td>
<td>Gu-bulopula and Gunangarna</td>
</tr>
<tr>
<td></td>
<td>Mirtalanga</td>
<td>Yirrchinga</td>
<td>Damdam</td>
</tr>
<tr>
<td></td>
<td>Warrawarra</td>
<td>Yirrchinga</td>
<td>Gamurra Gu-yurra</td>
</tr>
<tr>
<td></td>
<td>Warrayngu</td>
<td>Jowunga</td>
<td>Beyond Gochan Jiny-jirra</td>
</tr>
<tr>
<td></td>
<td>Wurakich</td>
<td>Yirrchinga</td>
<td>Beyond Gochan Jiny-jirra and Jartmarr clan Country</td>
</tr>
<tr>
<td>Njebhana (Kunibidji Mob)</td>
<td>Yi-mulamula</td>
<td>Yirriddjanga</td>
<td>Mumeka (north)</td>
</tr>
<tr>
<td></td>
<td>Dukurrdji</td>
<td>Yirriddjanga</td>
<td>Mahanard</td>
</tr>
<tr>
<td></td>
<td>Nabbanda</td>
<td>Yirriddjanga</td>
<td>Mahanard</td>
</tr>
<tr>
<td></td>
<td>Malanjdarridj</td>
<td>Yirriddjanga</td>
<td>Mahanard</td>
</tr>
<tr>
<td></td>
<td>Karddurra</td>
<td>Djowanga</td>
<td>Mahanard</td>
</tr>
<tr>
<td></td>
<td>Kulumararrar</td>
<td>Djowanga</td>
<td>Marro</td>
</tr>
<tr>
<td></td>
<td>Kanduwulka</td>
<td>Djowanga</td>
<td>Marro</td>
</tr>
<tr>
<td></td>
<td>Wurnal</td>
<td>Djowanga</td>
<td>Marro</td>
</tr>
<tr>
<td></td>
<td>Naddjodjdjarra</td>
<td>Yirriddjanga</td>
<td>Marro</td>
</tr>
<tr>
<td></td>
<td>Warlkwarlk</td>
<td>Djowanga</td>
<td>Kanakana/Wandurrk</td>
</tr>
<tr>
<td></td>
<td>Namanankarerrben</td>
<td>Yirriddjanga</td>
<td>Kanakana</td>
</tr>
<tr>
<td></td>
<td>Nganamuwa</td>
<td>Djowanga</td>
<td>Kanakana/Wandurrk</td>
</tr>
</tbody>
</table>

Clan boundaries are further blurred through the crosscutting nature of relationships with totemic sites of importance on Country. These sites are related to ancestral and spiritual cosmologies, which link broader sections of Country through acknowledged

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44 In the scholarly literature on eastern Arnhemland languages and clans the terms ‘Dhuwa and Yirritja’ are used to denote the two moieties. These terms are represented differently in different languages. For example, the equivalent terms are ‘Jowunga’ and ‘Yirrchinga’ in Ginjingariya Burarra.
journeys of spiritual beings. These linkages group sites on different parcels of Country through totemic relationships. For example, the Djinang story of *Botji* or dog dreaming (an ancestral dog), delineates a number of sites in Djinang Country and beyond that are connected through the dog’s travel or creationist journey. These sites exist in Country associated with several clans and belong to the Dhuwa moiety. The dog’s journey thus links several clans, giving rise to a special set of totemic rights and responsibilities in these places beyond simply patrilineal or matrilineal rights ascribed by birth.

In practice, however, there is no clear or neat hierarchy between each of the different forms of connection to Country. Rather, the realities of rights and claims, particularly in regard to resource use, are subject to political negotiation. This was clearly demonstrated to me on a hunting trip with people from Gamardi to a nearby area called Merwinbi.

The purpose of the trip to Merwinbi was to access a large area of clay pan at the end of a floodplain. This area was characterised by tidal surges which pushed water up into the clay pan and, upon receding, left large schools of tiger prawns trapped in the waters which could be caught using throw nets. The prawns were a highly valued food and the area at Merwinba was under some pressure, as people from Cape Stewart, Yilan, Jimardi, Jimalawa, Wurdeja and Gamardi were all interested in harvesting the prawns. Before leaving Gamardi to head to Merwinbi, Maggie, the recognised land owner of Gamardi stated that we should go and get some prawns because that Country was her mother’s mother’s Country and she was welcome in that Country.

Upon arriving, however, the recognised land owner of Merwinbi, Tommy, immediately walked away from the truck yelling that we should all go back to our own Country. Maggie got out of the truck and sat on a flour tin poking a stick at the ground for some time. Everyone else from Gamardi stayed in the truck. Eventually Tommy came back. He sat down some distance away, and while not looking directly at the old lady from Gamardi, explained that too many people were ‘humbugging’ the prawns, that people from Wurdeja had already taken a ‘big mob’ of prawns that morning and that soon all the prawns would be ‘finished up’. He said this would make him very angry and that other people would get angry at him for not looking after the prawns properly. Maggie nodded, listening patiently and then offered him a cigarette.
She then reminded him that they were much closer relations than the people from Wurdeja, that his clan group had married *galbe miyalk* (lots of girls)\(^{45}\) and referred to a shared ancestor.\(^ {46}\) She also reminded him that his ‘mob’ had camped at Gamardi for some time last year when the geese at *Nenekere* were in season and that they shared them because they were all ‘one family’.\(^ {47}\) Finally, she asked if he was going to bring lots of *wale* (food) to an upcoming ceremony. This had the desired effect and Tommy soon granted access to the prawns, happily drew a mud map showing the best place to get them and told Maggie to take as many as she wanted.

The hunting trip described here demonstrates how long standing relationships, informed by complex overlays of social and linguistic structures regarding land, are used to negotiate daily action in the region. It also demonstrates how such connections and relationships are used to leverage social capital regarding resource use and to wield political power. Importantly, it is constructs of land or ‘Country’ that underpin all such action. Given the importance of ‘Country’ in dictating social action, it is salient that one has an understanding of the region’s environment. Towards this end, the next section in this chapter provides a brief overview of the region’s physical and ecological features.

**Physical and Environmental Features of the Maningrida Region**

While distinctly Aboriginal forms of social organisation dictate a large percentage of daily interaction within the region, from an Indigenous perspective these constructs are not easily separated from the physical attributes of the region. All flora and fauna are divided along patrimoieity, matrimoieity and ceremonial subsection. For example, a crocodile or *mundergerning* is *Yirritja* and a goanna or *Djarrkarr* is *Dhuwa*.\(^ {48}\) In this way, each person from each moiety has responsibilities to the land and its flora and fauna. This entails ceremonial obligations, as well as forming the platform for the transmission of Indigenous knowledge, thus creating a cyclical process of social reproduction.

“When I was a little boy, that old man walk over there and over there, everywhere and show me that *Nenkerre* and tell me like *manakay*, and story for that *munipal* (goose) or for that *bokburra*, (frog) you know

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\(^{45}\) Presumably from Gamardi.
\(^{46}\) I was unable to ascertain who this was, but Maggie said they had ‘same old people long time ago’.
\(^{47}\) *Nenekere* is a large paperbark swamp to the east of Gamardi on Wulaki land
\(^{48}\) Fresh water monitor found in swamps such as *Nenekere*
everything story way. Then, when I know coming up Ceremony time, I bin learn him.” (M.G. 18th September 2006 Pers. Comm.)

While Indigenous people of the region still hold strong knowledge about the Country and its attributes, the Western scientific knowledge base of the region is relatively sparse when compared to other regions of the nation. However, the unique features of the region, both in terms of national biodiversity interests and their potential use in pedagogic design, place the ecological make up of the area as important to this thesis. The landscape and its attributes are also a central feature of both pre-colonial and contemporary economic structures, through hybrid modes of economic production. Altman’s work on the hybrid economy (see Altman 1987 and 2006 for example) demonstrates that a mix of customary production, transfers from the state and market based enterprise form a localised economic system, while also allowing for the transmission of knowledge ‘on Country’ (see Altman and Fogarty 2010). Crucially, the synthesis between these practices, the knowledge they transfer and an increasing demand for the skill sets Indigenous people bring to land management and its associated functions have seen the creation of the Caring for Country program (see chapter 6) and subsequent growth in employment.

Geography

The landscape of the region is dominated by two major river basins, the Blyth River basin in the east and the Liverpool River basin in the west (see figure 8:89). Each of these basins has socio-cultural connections with clan groups outside the Maningrida service region. The Blyth River is located to the east of Maningrida and drains a catchment of 6,200 km² (Messel et al. 1981). The Cadell River is a major tributary of the Blyth. The areal extent of wetlands is estimated at 100,000 ha (ibid). The headwaters of the Blyth River basin emanate from the Arnhem Land Plateau that rests in the basin’s southwest corner. Headwaters also join the basin from permanent and semi-permanent spring and billabong Country at the head of the Blyth River or An-gatja (Meehan 1982) and Guyuyu Creek. The Blyth and Cadell Rivers that flow into the Arafura Sea at Boucaut Bay constitute the major waterways in the basin. Seasonal floodplains and coastal samphire flats are associated with the Blyth River and the creeks that flow into the bays near Milingimbi Island (NLC environmental management report 2004, Smith 2001). Wetlands of national significance in the basin include the Blyth-Cadell floodplain, the Boucaut Bay system and the adjacent coastal
estuary and floodplain. The basin falls within the Arnhem Coastal, Arnhem Plateau and Central Arnhem bioregions (Hall 2002).

The Liverpool basin begins to the southwest of Maningrida and the basin includes the Liverpool, Tomkinson and Mann Rivers which move through savannah woodlands and coastal floodplains, emptying into the Arafura Sea at the mouth of the Liverpool River where the township of Maningrida is located. The Liverpool River system is the largest of the tidal river systems of northern Arnhem Land and drains a catchment of about 8,125 km² (Messel et al. 1979). The headwaters of the basin are in the sandstone plateau of the Arnhem Plateau in the south of the basin. This habitat is characterised by sandy soils which dominate the region and are generally poor as they are heavily impacted upon by the seasonality of climate, resulting in much of the nutrient value being transported onto the floodplains downstream (Hall 2002).

Together, the Blyth and Liverpool River basins form a geographical area of 18,084 km², 10,000 of which constitutes the jurisdiction of what could be broadly termed Maningrida’s service region (ibid).
Flora

Scientific documentation of the vegetation and physical environment has been limited. The earliest in-depth description of the vegetation of the region was presented by Specht and Mountford (1958), utilising collections from the American-Australian Expedition to Arnhem Land (Giffiths 2001). Extensive surveys of the flora of the Alligator Rivers region to the west have been carried out (Cowie and Finlayson 1986), while detailed mapping of vegetation in Arnhem Land has mostly been restricted to the Arafura Swamp (Brocklehurst and Wilson 1992).

The vegetation of the Maningrida region has been most recently and thoroughly described in Griffiths et al. (2000). Griffiths et al. found that 1,085 species of plants have been identified of which 20 have been labelled as having probable conservation significance (Hall 2002). They also found that the estuarine areas around Maningrida provide considerable habitat for mangroves. There have been 34 mangrove species identified in the region, mainly occurring as a fringe immediately adjacent to the Liverpool River (Griffiths et al. 2000). There are also a number of non-Indigenous

Photo 5 Mouth of Cadell River, Blyth basin 2007

Photo W Fogarty

weeds in the area which left unmanaged may pose a significant threat to the region’s long term bio-diversity. Tables 6, 7 and 8 summarise the major species of flora in the region as well as their frequency within each of the major river basins.

**Table 6 Major and significant vegetation types - Blyth River basin**

<table>
<thead>
<tr>
<th>% of Basin</th>
<th>Area (km)</th>
<th>Broad Vegetation Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>65.8</td>
<td>5963</td>
<td><em>Eucalyptus miniata</em> (Darwin woolly butt), <em>E. tetrodonta</em> (stringybark), open forest with sorghum grassland understorey.</td>
</tr>
<tr>
<td>2.3</td>
<td>210</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>Callitris intratropica</em> (cypress pine), woodland with grassland understorey.</td>
</tr>
<tr>
<td>2.1</td>
<td>190</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>E. miniata</em> (Darwin woolly butt), <em>E. bleeseri</em> (smooth-stemmed bloodwood), woodland with sorghum grassland understorey.</td>
</tr>
<tr>
<td>12.9</td>
<td>1173</td>
<td><em>Eucalyptus tectifica</em> (northern box), <em>E. latifolia</em> (round-leaved bloodwood), woodland with sorghum grassland understorey.</td>
</tr>
<tr>
<td>0.9</td>
<td>82</td>
<td><em>Eucalyptus papuana</em> (ghost gum), <em>E. polycarpa</em> (long-fruited bloodwood), woodland with grassland understorey.</td>
</tr>
<tr>
<td>6.6</td>
<td>601</td>
<td><em>Eucalyptus dichromophloia</em> (variable-barked bloodwood), <em>E. miniata</em> (Darwin woolly butt), low open woodland with <em>Plectrachne pungens</em> (curly spinifex), open hummock grassland understorey.</td>
</tr>
<tr>
<td>0.2</td>
<td>18</td>
<td><em>Melaleuca viridiflora</em> (broad leaved paperbark), eucalypts, low open woodland with <em>Chrysopogon fallax</em> (golden beard grass), grassland understorey.</td>
</tr>
<tr>
<td>0.9</td>
<td>77</td>
<td><em>Melaleuca</em> forest (paperbark swamp).</td>
</tr>
<tr>
<td>6.6</td>
<td>600</td>
<td>Mixed closed grassland/sedgeland (seasonal floodplain).</td>
</tr>
<tr>
<td>0.2</td>
<td>13</td>
<td>Coastal dune complex.</td>
</tr>
<tr>
<td>1.5</td>
<td>135</td>
<td>Saline tidal flats with scattered chenopod low shrubland (samphire).</td>
</tr>
</tbody>
</table>

**Table 7 Major and significant vegetation types - Liverpool River basin**

<table>
<thead>
<tr>
<th>% of Basin</th>
<th>Area (km)</th>
<th>Broad Vegetation Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.3</td>
<td>2619</td>
<td><em>Eucalyptus miniata</em> (Darwin woolly butt), <em>E. tetrodonta</em> (stringybark), open forest with sorghum grassland understorey.</td>
</tr>
<tr>
<td>1.7</td>
<td>155</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>Callitris intratropica</em> (cypress pine), woodland with grassland understorey.</td>
</tr>
<tr>
<td>23.2</td>
<td>2068</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>E. miniata</em> (Darwin woolly butt), <em>E. ferruginea</em> (rusty bloodwood), woodland with a sorghum grassland understorey.</td>
</tr>
<tr>
<td>6.3</td>
<td>562</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>E. miniata</em> (Darwin woolly butt), <em>E. bleeseri</em> (smooth-stemmed bloodwood), woodland with a sorghum grassland understorey.</td>
</tr>
<tr>
<td>3.2</td>
<td>286</td>
<td><em>Eucalyptus tetrodonta</em> (stringybark), <em>E. tectifica</em> (northern box), woodland with sorghum grassland understorey.</td>
</tr>
<tr>
<td>3.1</td>
<td>279</td>
<td><em>Eucalyptus tectifica</em> (northern box), <em>E. latifolia</em> (round-leaved bloodwood), woodland with sorghum grassland understorey.</td>
</tr>
<tr>
<td>1.6</td>
<td>143</td>
<td><em>Eucalyptus papuana</em> (ghost gum), <em>E. polycarpa</em> (long-fruited bloodwood), woodland with grassland understorey.</td>
</tr>
<tr>
<td>0.5</td>
<td>49</td>
<td><em>Eucalyptus tinctinans</em> (salmon gum) with a sorghum grassland understorey.</td>
</tr>
<tr>
<td>% of Basin</td>
<td>Area (km)</td>
<td>Broad Vegetation Type</td>
</tr>
<tr>
<td>------------</td>
<td>-----------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>27.4</td>
<td>2446</td>
<td><em>Eucalyptus dichromophloia</em> (variable-barked bloodwood), <em>E. miniata</em> (Darwin woolly butt), low open woodland with <em>Plectrachne pungens</em> (curly spinifex), open hummock grassland understorey.</td>
</tr>
<tr>
<td>1.5</td>
<td>134</td>
<td><em>Melaleuca viridiflora</em> (broad-leaved paperbark), eucalyptus, low open woodland with <em>Chrysopogon fallax</em> (golden beard grass), grassland understorey.</td>
</tr>
<tr>
<td>0.7</td>
<td>61</td>
<td>Melaleuca forest (paperbark swamp).</td>
</tr>
<tr>
<td>0.9</td>
<td>82</td>
<td>Mixed closed-grassland/sedgeland (seasonal floodplain).</td>
</tr>
<tr>
<td>0.6</td>
<td>51</td>
<td>Saline tidal flats with scattered chenopod low shrubland (samphire).</td>
</tr>
</tbody>
</table>
Table 8 Weeds of major importance

<table>
<thead>
<tr>
<th>Species</th>
<th>Flora %</th>
<th>Weeds of Major Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>15.3%</td>
<td>Andropogon gayanus (gamba grass)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antigonon leptopus (coral vine)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Azadirachta indica (neem)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cenchrus ciliaris (buffel grass)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clitoria ternatea (blue pea)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crotalaria goreensis (rattlepod)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gmelina arborea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyptis suaveolens (hyptis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ipomoea quamoclit (Cupid’s flower)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leucaena leucocephala (coffee-bush)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mimosa pigra (mimosa)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pennisetum pedicellatum (annual mission grass)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senna occidentalis (coffee senna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sida acuta (sida)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stachytopheta australis, S. cayennensis, S. jamaicensis (Snake-weed)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tribulus cistoides (caltrops)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urochloa maxima (Guinea grass)</td>
</tr>
</tbody>
</table>

Original Source: BAC IPA 2008

Fauna

While there is some quite rich ethno-botanical research on selected parts of the region (e.g., Altman 1982, 1987, Meehan 1982) in terms of comprehensive scientific data concerning the area’s fauna, the Maningrida region is one of the least surveyed reserves in the Northern Territory (BAC IPA 2008). Extensive inventories of Kakadu and Nitmiluk National Parks to the west and the Gove region to the east provide good records of adjacent biomes, but pose several questions about the intervening Maningrida region (BAC IPA 2008). The Biological Records Scheme established by the NT Conservation Commission show records for 200 bird, 65 reptile, 20 mammal and 19 frog species, a total of 305 vertebrate taxa. Christian and Aldrick (1977:37 in Altman PhD) in their survey of the Alligator Rivers region found 22 species of frogs, 75 reptiles, 230-270 birds, 51 native mammals, 6 introduced mammals. More recently, an aerial survey of the Mann River district of Central Arnhem Land was undertaken in September, 2000. The survey covered 3,936 km2 on the eastern and central part of the Arnhem Plateau and 1,944 km2 on the adjacent lowland in central Arnhem Land. The uncorrected density estimates (per km2) for the species observed in this aerial survey are as follows: buffalo 0.74 ± 0.08; cattle 0.10 ± 0.04; horse 0.009 ± 0.008; pig 0.007 ± 0.003; black wallaroo 0.02 ± 0.006; and emu 0.006 ± 0.003. (Koenig et al. 2001). Importantly, many of these animals are used by Indigenous
people of the region in customary production. Altman’s extensive study of the Kunjinku at Mumeka listed 110 species used in this way (1982).

Even less is known of the invertebrate and non-terrestrial fauna of this region. Recent collections by Maningrida secondary school students have gone some way to rectifying this in the area of arachnids. Their discovery of 33 previously undescribed species clearly demonstrates the dearth of Western scientific knowledge of the region.

There are also a number of threatened species in the area. Many of these species are listed as critically endangered and are also listed as of national importance in maintaining bio-diversity in Northern Australia. These are listed in table 9.

Table 9 Threatened fauna recorded with NT and National conservation status.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Species name</th>
</tr>
</thead>
<tbody>
<tr>
<td>northern quoll</td>
<td>Dasyurus hallucatus</td>
</tr>
<tr>
<td>olive ridley</td>
<td>Lepidochelys olivacea</td>
</tr>
<tr>
<td>green turtle</td>
<td>Chelonia mydas</td>
</tr>
<tr>
<td>flatback turtle</td>
<td>Natator depressus</td>
</tr>
<tr>
<td>leatherback turtle</td>
<td>Dermochelys coriacea</td>
</tr>
<tr>
<td>partridge pigeon</td>
<td>Geophaps smithii</td>
</tr>
<tr>
<td>northern shrike-tit</td>
<td>Falcunculus whitei</td>
</tr>
<tr>
<td>northern hopping-mouse</td>
<td>Notomys aquilo</td>
</tr>
<tr>
<td>water mouse</td>
<td>Xeromys myoides</td>
</tr>
<tr>
<td>Arnhem Land rock-rat</td>
<td>Zyzomys maini</td>
</tr>
<tr>
<td>merten's water monitor</td>
<td>Varanus mertensi</td>
</tr>
<tr>
<td>floodplain monitor</td>
<td>Varanus panoptes</td>
</tr>
<tr>
<td>emu</td>
<td>Dromaius novaehollandiae</td>
</tr>
<tr>
<td>Australian bustard</td>
<td>Ardeoitis australis</td>
</tr>
<tr>
<td>white-throated grasswren</td>
<td>Amytornis woodwardi</td>
</tr>
<tr>
<td>narrow sawfish</td>
<td>Anoxypristis cuspidata</td>
</tr>
</tbody>
</table>

Original Source: BAC IPA 2008

One of the main risks to the region’s long term ecological health is the presence of large populations of feral animals. Feral animals pose a significant risk to the native flora and fauna, and are associated with potentially severe land degradation and the spreading of noxious weeds and disease.50 The distribution and frequency of feral animal populations in the region are summarized in table 10.

50 For example, Fordham (2007) shows that extripation of long neck turtles due to pig predation is possible within fifty years. See also photo 6
### Table 10 Status of exotic animals occurring within the region

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>buffalo</td>
<td>Moderately high densities in the south of the region, elsewhere sparsely distributed; impacts upon biodiversity undetermined, but considered to affect vegetation dynamics, particularly of wetlands.</td>
</tr>
<tr>
<td>cane toad</td>
<td>Recently established throughout bioregion: detrimental impacts upon a range of animal species, such as quolls, goannas, snakes and native amphibians.</td>
</tr>
<tr>
<td>cat</td>
<td>Widespread, but at relatively low densities: impact unquantified but likely to be significant, particularly in the case of small to medium sized mammals.</td>
</tr>
<tr>
<td>cattle</td>
<td>Widespread but patchily distributed within the region; probably limited detriment to biodiversity, except where they congregate on permanent water sources. As a preferred resources species, numbers are controlled by regular hunting.</td>
</tr>
<tr>
<td>dog</td>
<td>Widespread, but generally uncommon away from outstations; impacts upon biodiversity are probably generally minor.</td>
</tr>
<tr>
<td>honey bees</td>
<td>Widespread in region: impacts uncertain but may affect native plants (through altered pollination regimes), native invertebrates (through competition), and native hollow-dwelling species (through aggressive usurpation of hollows).</td>
</tr>
<tr>
<td>pig</td>
<td>Widespread and locally common within the region; probably substantial biodiversity detriment, to some plants (eg ground orchids, yams and <em>Corypha</em> palms), ground-nesting birds, small mammals, reptiles (turtles in particular), frogs and some invertebrates.</td>
</tr>
<tr>
<td>Asian house gecko</td>
<td>Populations established at Maningrida and in adjacent mangrove communities, also know from regional outstation dwellings. No recorded impact on biodiversity.</td>
</tr>
</tbody>
</table>

Original Source: BAC IPA 2008
Climatic Influence

The reproduction and natural replacement of the broader indigenous flora and fauna of the region are determined to a large extent by the wet/dry cycle of the tropical seasons. Fordham (2007), for example, notes that the timing and severity of the monsoonal influence dictates the presence and abundance of water at the end of the following dry season, in turn directly influencing survival rates of species such as *C. rugosa* (long neck turtle). Typically, a wet season in the region delivers an average of 1,290mm, with 125% more than this being classed as a ‘wet year’, with six wet years being recorded between 1980 and 2005 at a frequency of 0.23 (Fordham 2007).

Seasonal patterns (see chapter 6 for Indigenous seasonal calendar) also have a major influence on customary production in the region. During his fieldwork in 1981, Altman noted that the Eastern Kuninjku moved between different seasonal camps according to the time of year. March/April, marked the start of seasonal food quest movements and a gradual move towards the Liverpool River where fish is readily available; in April/May, there was a second seasonal shift to Mimanyar to exploit birdlife and fish resources and later again, around May/June to Bulgai and Gunbatgarri regions for the annual fish harvest on the Tomkinson River. By July, freshwater supplies at Bulgai would begin to dry up and the band dispersed into small household cluster sized units spread about the range (Altman 1987: 23-26). These
seasonal patterns also dictate patterns of mobility which dominate the movement between clan estates and the Maningrida township. This mobility has increased markedly in the last 10 years due primarily to increased access to vehicles. However, the wet season still sees many of the rivers in the region impassable by road due to flooding and in and out migration between clan estates and the community is greatly reduced during these periods.

**Colonial History and the Development of a Township**

While connections to ‘Country’, coupled with the realities of the physical environment, still dominate much of the region’s social parameters, daily life in the region is also very much a result of a relatively recent engagement with non-Indigenous people and the state. In the next section of this chapter, I provide a brief history of Maningrida’s contact history, followed by an overview of the region’s current economic features.

People from coastal clan estates in the Maningrida region have been trading with trepang fisherman from Macassar from before the early 1600s (Macknight 1976). These trading relations have had a bearing on local social features, including the adoption of linguistic features, with words such as *rupiya* being used for money, the use of some technologies, such as tobacco pipes, and the incorporation of Macassan stories in ceremonies (see Keen 1994). However, despite disparate visits by early explorers in the 1800s, it was not until the advent of cattle stations and missionary visits to the Arnhem Plateau, in the first quarter of last century, that contact with Europeans became more frequent (Armstrong 1967).  

This contact was intensified during World War II when a population drift to Darwin and the now well established missions was precipitated by a need for labour as well as an increase in Indigenous demand for European goods and services. Altman (1982:6) notes that this period was ‘an important catalyst for change’ as it brought

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51 A cattle station was established at Kunbarlanya in 1906 and missions were established at Warriwi, Milingimbi and Oenpelli in the 1920’s. The late 1890s saw some early attempts to establish cattle farms and buffalo shooting business (see Altman 1982:6).

52 In 1623 the coastline was mapped by the Dutch aboard the *Arnhem*. Abel Tasman explored the Arnhem coast in 1644 as did Flinders in 1802. King named the Liverpool River in 1819 and in 1866 Kunividji attacked the Beatrice which was waiting for explorer John Mackinlay, who was conducting an overland expedition. Cadell also spent two months exploring the area in 1867.

53 The ‘opening up’ of the Arnhem region has been previously well described in Berndt and Berndt (1954), while Hiatt (1965) provides a greater focus on the early contact history in the Maningrida region.
large groups of Indigenous people into direct contact with Europeans and work roles outside the cattle industry for the first time. Following the war, however, this demand for labour dissipated and the Native Affairs Branch, who controlled Indigenous people as wards of the state, repatriated large groups of people back to the Maningrida region.

In 1949 a Native Affairs Branch patrol officer, Syd Kyle-Little, and Jack Doolan (Doolan 1989) established Maningrida as a trading post. In 1957 Maningrida was officially established as a government settlement by the Native Affairs Branch. This early period of Maningrida’s establishment as a government settlement was marked by a rapid centralisation of people in the area and coincided with the adoption of assimilation as official policy in 1961. This period also saw a marked increase in the number of non-Indigenous people living in Maningrida. As Borsboom and Dagmar (1984) explain, this culminated in a rapid domination of the local population’s ability to influence the terms of development in the settlement:

the non-Aboriginal population also increased considerably, and where initially there was only a small white staff, ten years after its establishment already some 150 Europeans were living at Maningrida. As the settlement was set up as a European type of community, Europeans gained complete control of it. The housing program, economic projects, the school, the store, the administration and public services were run by Europeans, and in a short time the Aborigines became completely dependent upon them. The result was a system of dominance and patronage in which Europeans did the planning, took the decisions and gave instructions, while Aborigines, for whom the settlement was set up in the first place, were unable to exercise any influence on its development. (Borsboom and Hagar 1984: 39)

In the next decade, the state invested heavily in trying to establish an economic base, began a formal schooling program and slowly began welfare transfers to Indigenous people of the region for the first time. This period saw a great deal of effort go into diverse development activity.

A wide range of enterprises was initiated during this era, including a large forestry project, a cattle and buffalo raising scheme, a dairy project, market gardens, orchards, a fishing venture with three trawlers and a processing plant, a piggery and a chicken raising project (Altman 1982:8).

However, Altman states that none of these enterprises was successful, despite the heavy investment by the state and continued subsidisation, citing distance to markets
and poor transport infrastructure as two major reasons. He also notes that the projects were ‘not economically feasible from the outset’ (Altman 1982:8; see also Altman and Johnson 2000). Fundamentally, however, this period of development allowed for very little inclusion of local people’s own desires in terms of development and was characterized by the authoritarian control of the state. Similarly, non-Indigenous people in Maningrida wielded a great deal of power over the daily running of the town. In the longer term, ongoing tensions in the relationship between Indigenous and non-Indigenous residents, particularly regarding seniority in employment roles and control over resources, could arguably be attributed to this earlier period of state colonisation.

In 1972, a major change in policy under the newly elected Labor government saw the establishment of the ‘self determination’ era (see chapter 2). This period was characterised by a political rejection of assimilation and broad scale recognition of Indigenous land rights, culminating in the NT ALRA 1976 (see chapter 6). Similarly, the conditions for a postcolonial reformation of local governance were instituted, whereby Indigenous people were supposed to be able to dictate the pace and nature of their engagements with the state and the processes of development more generally. Crucially, this involved the ceding of control of governance from the Eurocentric state to local organisations run by Indigenous people. The degree to which this has ever been actualised in Maningrida is open to debate, however the early 1970s saw a distinct shift in power relations between Indigenous people and white administrators and was characterised by major social change.

Most dramatically, this period saw the removal of white forestry workers from the region. It also saw tensions between white ‘progressives’, who were in favour of land rights and self determination, and white ‘conservatives’, who were not, spill over into the town’s governance arrangements. These tensions culminated in the sacking of staff in the local Maningrida council, on both sides of the political divide, by the then Federal Minister for Aboriginal Affairs. The decision was subsequently challenged in the NT Supreme Court and overturned (Altman 2008).

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54 Aboriginal people in the Maningrida region were granted inalienable freehold title to their lands following the passing of the Aboriginal Land Rights (Northern Territory) Act 1976.
Self determination policy also provided the political environment to support a return of people to their clan estates in the wider Maningrida region.\(^{55}\) This return to Country saw a rapid decentralisation occur, with people returning to their clan estates and rejecting centralisation, modernisation and assimilation.\(^{56}\) This movement of people ‘back to Country’ was also motivated by a wish to move away from the alcohol, violence and poor living conditions that characterised the artificially created Maningrida Township of the assimilation era.\(^{57}\) This movement of people is sometimes referred to as the ‘outstations movement’ (Blanchard 1987). At the same time, Indigenous leaders sought to reassert the management and ownership of their land. However, participants in the ‘outstations movement’ did not seek to completely disengage from the state or mainstream Australia. In the early 1970s, the Commonwealth Government provided establishment grants of up to $10,000 for traditional owner groups wishing to return to their Country. This was done on the proviso that both the Commonwealth and Territory governments discharge their duties concerning equitable levels of service provision (Blanchard 1987).

The 1980s saw a continuation of the outstation movement, as well as a slow development of more municipal facilities in the township. There also developed an increasing division and contestation in the distribution of resources between outstations and the town centre. In particular, a chronic shortage of housing and a rapidly growing population in both the township and the outstations, coupled with a paucity of investment in infrastructure and essential services by the state, led to immense pressure on resources. This manifested in a political divide between some outstation groups and groups within the township. This was expressed institutionally in a divide between people being serviced by the Maningrida Council, in town, and...

\(^{55}\) It should be noted that some groups of people in the region had never centralised and had resisted government policy staying on their clan lands throughout the 1960s and 1970s.

\(^{56}\) This period also saw the advent of Outstation schools, or Homeland Learning Centres (HLCs) (see appendix 2 for history of HLC development in Maningrida), which were created as a direct result of Australian Government policy supporting Aboriginal people’s return to Country. Initial infrastructure costs were provided by the Commonwealth and service provision became the responsibility of the Northern Territory Government, along with the provision of education on outstations. Since the genesis of the homeland movement, successive NT Governments have argued that the cost of providing outstation schooling is excessive and that the Australian Government should bear some of the cost. The Australian Government has always maintained that education is a state/territory responsibility and that such costs should be covered by federal-state fiscal arrangements. In reality, this has resulted in a ‘provision and policy gap’ that has ensured HLC’s have never received equitable funding when compared to Community Education Centres in the larger community townships. Consequently, outstations have generally received low levels of service (see Blanchard 1987, House of Representatives Select Committee on Aboriginal Education [HORSCE] 1985).

\(^{57}\) This is still one of the main reasons people want to live on outstations.
people being serviced by the Bawinanga Aboriginal Corporation in the outstations.\textsuperscript{58} However, this was alleviated to some extent with the advent of the Community Development Employment Project (CDEP). CDEP was first introduced to the region in 1989 when outstation residents were paid nominally to maintain their outstations (BAC 2007).

In 1996, BAC began operating and administering the CDEP program in both the town and in the outstations (see Altman and Johnson 2000) and BAC began investing in enterprise development when it took over as the operator of the town’s fuel supply (BAC 2007). Profits from this business provided the organisation with its first discretionary income and were used to further fund the development of new trading enterprises. The late 1990s saw a period of rapid growth in the township of Maningrida. This was precipitated by a large increase in state investment, particularly in health and education, increases in access to welfare transfers providing greater discretionary income in the region, improvements in road infrastructure and the growth of both BAC and the Maningrida Progress Association’s (MPA) enterprises.

**Services and Employment in Maningrida**

At the time of writing, the community of Maningrida has nine employers, of which BAC is the largest. The two largest government service agencies are the health clinic, which has a large facility opened in 2001, and the Maningrida Community Education Centre. There is also a Centrelink office which was opened in 1999, while the Progress Association, BAC and the Maningrida Council all have relatively large, administration offices. BAC employs approximately 600 people, the majority of whom participate in CDEP. The Corporation runs 20 separate business and in 2008/2009 had a turn over of $33.8 million.\textsuperscript{59} Of this figure, 55% was contributed directly from enterprise and trading activities. The most successful of these enterprises, Maningrida Arts and Culture, returned $1.1 million directly to artists in the 2005/2006 financial year and purchased art and craft from over 700 producers (BAC 2006, BAC 2009).\textsuperscript{60} The corporation also runs, among other things, a mud brick factory, a ‘good food’ kitchen, housing, roads and building crews, an outstation


\textsuperscript{59} This figure includes CDEP transfers and other forms of government grants.

\textsuperscript{60} This figure is from Bawinanga Aboriginal Corporation Annual Report 2005/2006. The 2008/2009 report notes that there has been a subsequent downturn.
supply service, a camping and gardening store, a supermarket and a Women’s Centre that produces quality screen-printed fabric. These local initiatives are augmented by a range of human services, including an aged care program, a partnership with the ‘Malabam’ health board, a disabilities service and a program to tackle substance abuse. MPA runs a takeaway, another large supermarket, an airline charter service and a 10 room motel, while the local Maningrida Council provides a range of municipal services. Training for the labour force is also provided locally through the Jobs Education Training centre (JET), which has links to registered training organisations across the Northern Territory. Figure 12 shows the location of services within the town.

Major employers in the community include the Malabam Health Clinic, school, council, BAC, MPA, ANZ banking agency and Traditional Credit Union, Centrelink, Batchelor Institute and JET (Jobs, Education and Training) centre. Over half of the eligible workforce in the Maningrida region is employed through CDEP, with 45% of these positions based in outstations. The importance of CDEP in the current employment structure of the region cannot be underestimated. In attempting to mitigate historical underinvestment by the state, particularly in housing, health and education, local institutions have used a mixed base of transfers from the state in the form of grant programs and Community Development Employment Projects (CDEP), coupled with income generated from local enterprise. This base has allowed local aspirations to be incorporated into a range of enterprises and social programs that are
enabling distinctly intercultural modes of economic growth. However, this growth should be considered as fragile and subject to changes in policy concerning CDEP. For example, there are 71 ‘government positions’ subsidised by CDEP in the human services sector of Maningrida alone.\textsuperscript{62} The immediate cost of transferring cross subsidised areas of employment, such as health and education workers in the community, would be approximately $1.4 million dollars per annum, based on replacing base component of their wages.\textsuperscript{63} This figure excludes the 25\% on cost associated with government wages and the potential costs of housing subsidy and remote area allowances needed to ensure parity between Indigenous and non-Indigenous workers (Fogarty and Paterson 2007).\textsuperscript{64} Figure 13 shows the distribution of CDEP positions between Maningrida, the ‘bush’ or outstations, and government postions subsidised by CDEP.

\textit{Figure 13 Current job breakdown by CDEP}

Despite the success of local Indigenous organisations using CDEP as a development base, it is clear that the Indigenous population of Maningrida is relatively poor compared to the rest of the nation. As shown in Tables 11 and 12, incomes in Maningrida are low. The average mean income in Maningrida is less than half of the average mean income for Australia as a whole.

\textsuperscript{62} The base cost of a CDEP participant is $17,212.

\textsuperscript{63} These positions all support Commonwealth funded programs in the areas of health, education, aged care and MCAPP.

\textsuperscript{64} Non-Indigenous government staff in remote areas of the NT received a raft of remote area incentives. These include freight rebates, airfares to regional centres and free housing and electricity.
Table 11 Income Range

<table>
<thead>
<tr>
<th>Income range/week (persons 15+ yrs)</th>
<th>Persons</th>
<th>Maningrida cohort (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>negative/nil income</td>
<td>196</td>
<td>14.6</td>
</tr>
<tr>
<td>$1-$149</td>
<td>64</td>
<td>4.8</td>
</tr>
<tr>
<td>$150-$249</td>
<td>502</td>
<td>37.3</td>
</tr>
<tr>
<td>$250-$399</td>
<td>286</td>
<td>21.2</td>
</tr>
<tr>
<td>$400-$599</td>
<td>68</td>
<td>5.0</td>
</tr>
<tr>
<td>$600-$799</td>
<td>45</td>
<td>3.3</td>
</tr>
<tr>
<td>$800-$999</td>
<td>26</td>
<td>1.9</td>
</tr>
<tr>
<td>$1,000 or more</td>
<td>68</td>
<td>5.0</td>
</tr>
<tr>
<td>Individual income not stated</td>
<td>92</td>
<td>6.8</td>
</tr>
<tr>
<td>Total</td>
<td>1347</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 12 Median Income

<table>
<thead>
<tr>
<th>Median income (person)</th>
<th>222</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median income (family)</td>
<td>622</td>
</tr>
<tr>
<td>Median income (household)</td>
<td>1522</td>
</tr>
</tbody>
</table>

Original Source (ABS Community Profiles 2006)

Yet it is clear from the history of the township’s engagement with modernity, that ‘mainstream’ development options have generally failed and are unlikely, in the near future, to provide an economic base that is able to raise individual income and standards of living to a standard equivalent to the rest of the nation. It is also clear that the economic future of the community and its surrounding region is going to need a continued heavy investment and subsidisation from the state. Given this, development options that appear to be sustainable since the township’s modern inception fall into three broad categories. The first is in retail trade. Demand for modern goods and services has increased markedly over the last 20 years and is unlikely to dissipate. This demand has increasingly provided employment and is best exemplified through the development of two large supermarkets in the town. However, labour costs are presently subsidised and continued growth is contingent upon a population with discretionary income. As already noted, this income is primarily founded upon continued transfers from the state in the form of welfare and work programs such as CDEP.

The second area of sustainable development appears to be through infrastructure and employment related to the provision of government services, primarily in health
and education. A rapidly growing and very young population means that demand for these services is likely to increase. Again this is contingent upon a continued investment in these services from the state. A final category of development that appears sustainable is what I term local Indigenous development (see chapter 1).

There are a number of local development options in Maningrida that have had a history of sustainability and moderate success in generating income and employment. These include a successful arts centre, a large land and sea management program (see chapter 6), a cultural tourism program, a sustainable wildlife harvest enterprise (discussed in detail in chapter 3) and a number of associated investments in the provision of environmental services, including a carbon abatement scheme. Crucially, these developments depend upon a complex synergy between Indigenous land holdings, the physical features of the Indigenous estate and Indigenous constructs of kin, clan and estate in the Maningrida region. Similarly, these developments are also subject to the relationships with the market, broader Australian policy settings and require, as a prerequisite, engagement with non-Indigenous expertise. As with other areas of development in Maningrida, they are also dependent on state subsidisation.

As I demonstrated through a case study in chapter 3, such developments have specific pedagogic needs pertaining to the local context, as well as needing the provision of more mainstream, or generic education. As this chapter demonstrates, the context in Maningrida is complex and is heavily influenced by Indigenous social structures, a rapid period of modernisation and development history and a very distinctive local environment. This then provides a considerable challenge in terms of the provision of pedagogy that is able to cater for context. As I noted in the start of this chapter, the development of local pedagogies or pedagogies of place have generally been positioned as oppositional to mainstream educational provision, and as such have had difficulties permeating broader educational discourses. However, the analysis of the local context of Maningrida in this chapter allows for the extrapolation of a central theme that may be used to as a pedagogic device to actualise educational strategies with the potential to cater for local need as well as producing mainstream educational outcomes. In the Maningrida region it is clear that a concept of ‘Country’

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65 Poor health and low educational attainment of the population (see chapter 2) are likely to mean a continued need for growth in employment in these sectors.
is informing much of the social action in the region, as well as underpinning forms of development that mix Western and Indigenous knowledge.

This chapter has demonstrated that local social organisation in Maningrida is predicated on a complex interrelationship between language, kinship structures, clan based arrangements and cosmology, all with a basis in connections to, or constructs of, notions of land and ‘Country’. It is these connections, and how individuals are able to negotiate their use of these connections to land that dictate much of the social action by Indigenous people in the Maningrida region. In turn, social action and order is also organised and structured through the physical and ecological realities of the region. While the unique features of Maningrida’s environment can be seen in Western terms as a bastion of bio-diversity and flora and fauna holdings of national interest, the land and its ecological attributes are seen as inseparable from the social order from an Indigenous point of view. These arrangements are overlaid by a rapid development history which has been heavily influenced by government policy and notions of mainstream economic development, which by and large have not been successful. As a consequence, much of Maningrida’s economic base is dependent on subsidisation in the form of transfers from the state. However, the rise of a local Indigenous development sector is showing that both the physical and social importance of land in the region can be used as a base to actualise sustainable development options. In my next chapter, I show that land, or more broadly, a concept of ‘Country’ can also be used as a pedagogic device, enabling educational strategies that link local development and Indigenous knowledge with mainstream educational outcomes.
Chapter 5: Country as a ‘Pedagogic Device’

In previous chapters, I have demonstrated that remote Indigenous communities, such as Maningrida, have a need for pedagogic design that is able to cater for both mainstream educational outcomes and the inclusion of local contexts and knowledge. This pedagogic need is evidenced in the poor outcomes in mainstream education provision and a lack of utility for, and disengagement in, education by remote Indigenous students. I have also shown that remote Indigenous developments have specific pedagogic needs based in a foundation of place, through an analysis of the pedagogic needs of one such development in Maningrida. In chapter 4, I demonstrated that in Maningrida, the importance of land is a central feature of the social, economic and environmental structures of daily life. I ended chapter 4 with a suggestion that a concept of ‘Country’ may provide a pedagogic device enabling a connection between place based pedagogy and mainstream education.

This chapter argues that ‘Country’ can be used as a pedagogic device to link mainstream educational outcomes, specifically in literacy, numeracy and science, with appropriate place based educational strategies. Such an approach has the potential to provide space for Indigenous knowledge, and link education with local development aspiration. To do this, however, I must return to the primary policy dilemma I outlined in the first chapter of this thesis; that is education provision in remote Indigenous communities has oscillated between education founded on cultural difference and education founded on denial of difference.

In this chapter, I show how notions of ‘domain separation’ and, in particular, concepts of ‘biculturalism’ have underpinned and perpetuated this policy dilemma. I begin the chapter by critiquing these positions and argue that remote Indigenous education must instead provide space for pedagogic design based in synergies, complementarities and contestation of knowledge. I then posit ‘Country’, and its associated metaphorical, cosmological and economic constructs, as a pedagogic device enabling this. Finally, I provide an ethnographic example of how this can occur through an examination of an educational program in an outstation in the Maningrida region.
Much has been written in anthropological and educational discourses about the incompatibility of the ‘world views’ or ‘perspectives’ of remote Indigenous people and the Western education system. Beresford calls this ‘culturalism’, a theory which maintains that the cultural differences between Indigenous people and mainstream school are fundamentally at odds (Beresford in Beresford and Partington eds 2003). He goes on to suggest that intergenerational transfer of disadvantage, resistance, alienation and ‘culturalism’ overlap to contribute to poor student outcomes. Citing Cummins (2001), Beresford argues that limited access to economic and educational resources, combined with a history of colonial repression and ‘subordination’ to the dominant group lies at the heart of unresolved problems in Indigenous education in Australia. On the other hand, Noel Pearson resolutely rejects this position as it relates to Indigenous education. In his Quarterly essay *Radical Hope, Education and Equity in Australia* (2009), Pearson outlines the ‘No Excuses’ brand of educational intervention. Pearson dismisses the suggestion that failure in education for Indigenous students has its causalities in structural deficiencies and colonisation. Pearson contends that such arguments have become an excuse for poor educational provision and planning. In many regards this resonates with the theory of the self fulfilling prophesy, where if the student is told they are poor at school, they will then achieve poorly at school (Merton 1968). In redressing this, Pearson posits an educational position that deliberately targets educators whom, he suggests, are ‘susceptible’ to ‘using student background – the dysfunction of circumstances of their lower class students as an alibi for school failure’. The ‘no excuses’ approach, he contends, ensures that structural disadvantage will not be an excuse for substandard educational provision, teaching or outcomes.

Pearson’s position is worth further exploration here, as although he accepts that structural disadvantage has been used as an excuse for poor educational provision, he does not accept that a positive self image of Indigeneity should form the basis for pedagogic intervention. In addressing the work of Dr Chris Sarra (2003), and more specifically the ideological positioning behind the ‘strong and smart’ program, Pearson respectfully condemns such approaches because ‘the promotion of pride in specific racial identities is (not) appropriate for our public life’. 66 He goes on to note

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66 Pearson notes that in many regards he agrees with Sarra’s position and that all students are capable and must be given a good education regardless of background or circumstance.
that ‘just because a problem is perpetuated on the basis of race does not mean that the
solution should be promulgated on the same basis’ (Pearson 2009). Instead Pearson
proposes a ‘radical’ solution that is neither radical nor new. However, it is likely to be
influential in the discourse of Indigenous education into the future, if no other reason
than at the time of writing Pearson’s work carries a great deal of policy influence.

The first proposition by Pearson is that learning is instruction.67 This is a
particularly narrow view of education, although one that Pearson justifies on the basis
that Indigenous students must acquire the literacy and numeracy skills of the
mainstream in order to access their rightful individual place in the mainstream or
‘real’ economy. This position, he says, is an attempt to break away from, and to
critique, the ‘soft left’ principles in pedagogy, which he sees as an over reliance on
ideals of creativity, self esteem and critical analysis at the expense of skills. His
redress is, unfortunately, a very clunky call for a back to basics approach. In so doing,
he invokes a call for the introduction of the Berieter Engelmann learning model called
‘Direct Instruction’. Much has been written about this program’s shortcomings.
Indeed, it has been heavily critiqued since its development in the early 1960s. For
example, in 1978 Steffenson found that:

Throughout their book, Bereiter and Engelmann compare their
"culturally deprived" subjects to deaf children, and more specifically
compare the speech of the former to the writing of the latter. As
Lenneberg’s (1967) work shows, this comparison is a misguided
one… If we are to realistically assess the language of children from
different ethnic backgrounds and develop programs that will support
their transition into a cultural environment rather different from that
of their homes, we must either use naturalistic observation or
structure the test situation to conform with the rules governing the
child’s communicative behavior. Unsubstantiated claims, such as
those made by the proponents of a verbal-deprivation hypothesis,
will only harm the population of children they are intended to help
(Steffenson 1978:10).

Similarly, Crittenden (1970), while acknowledging that some aspects of the Direct
Instruction model had applicability, found in his analysis of the program that:

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67 This is highly contested by educational researchers. For example, Heath (2010) recently noted that:
‘Fluency in … ‘later language’ forms cannot be learned through direct instruction. They must be
absorbed, ‘picked up,’ internalized in one’s own project work and future thinking, and practised both
through self-management talk and, whenever possible, with others. Such learning is highly elusive, for
it is, for the most part, ‘implicit,’ as are the most complex parts of the grammatical systems of all
languages. We do not learn these by being told the rules’ (Heath 2010a:3)
Any attempt to provide an educational remedy for socially and culturally disadvantaged children at a particular age must take account of the relationship between schooling and other aspects of their lives, and between the special educational efforts at one stage and what is happening throughout the whole range of formal education. The Bereiter-Engelmann program fails, I believe, to do this adequately in either case. In relation to the first, it places too much confidence in the power of an isolated educational effort and seems to interpret too narrowly what is distinctively educational. In relation to the second, it accepts the practice and goals of the regular elementary school without question (Crittenden 1970:162).

While the application of programs such as the Bereiter–Englemann learning model may have their place in Indigenous Education settings such as Hopevale in Cape York, an all or nothing adoption of such learning models is unlikely to be acceptable or successful in communities such as Maningrida. In his rush to negate what he sees as the left domination of pedagogy, it seems Pearson has missed the true ‘radical hope’, which is a pedagogic approach that allows for skills acquisition without denigrating education, culture and knowledge to a lock step program.

Pearson fails to recognise that pedagogy is a discourse (Bernstein 2000) and that as such it is very much about who is allowed to learn what. Disallowing Indigenous students and communities to have input into what they are taught and what they can learn is to dispossess them of their own opportunities to construct new forms of knowledge and to hold them prisoner to the dominant discourse of the mainstream. The basics of English literacy and numeracy, which underpin Pearson’s approach, are not ideologically free constructs. They come from a tradition that is as much an arbiter of colonisation and repression as it is a creator of liberated thinking and individual freedoms. This is what Freire (1972) was writing about in the Pedagogy of the Oppressed. Pearson tries to tackle this problem by suggesting that a monolingual and ethnocentric form of education, which he says is needed, can be balanced by the provision of a separate cultural program and a policy for a bicultural future. Here he attempts to traverse the educational policy dilemma with which we began. I agree with Pearson when he states:

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68 For example, literacy tests have been used in America to keep African American students out of schools.
What children learn during the most active hours of their receptive years, the languages they speak and write, will shape their cultural identity and outlook. Children may receive informal cultural education in their family and community spheres, but it is hard to see how gradual cultural attenuation can be avoided if Aboriginal students’ formal education in no way contributes to maintaining their culture.

I also agree with Pearson when he argues that:

...political and ideological resistance, accompanied as it is by mainstream indifference to Aboriginal disadvantage, makes it unreasonable to expect Aboriginal Australians to ensure cultural and language transmission is strong without Government support.

However, in proposing a bicultural framework in which ‘domain separation’ (Harris 1990) should dictate a split schooling model, between Western and Indigenous knowledge systems, Pearson has inadvertently returned to an educational position that is that is not at all new. Harris (1990), for example, has done much to theorise the complexities of bicultural schooling and proposes a bicultural educational approach based on the separation of domains of knowledge.

Harris uses a duel concept of biculturalism based upon Fishman (1980) and Paulson (1978 in Harris 1990: 45), to denote a societal concept of biculturalism as well as an individuated one. Like Pearson, Harris’ concept of biculturalism, which he calls ‘two way schooling’, also carries with it the idea of domain separation in education. This is based on the idea that one cultural way or style of learning is different to another cultural style of learning, and that the two ways of education should be kept separate. Hence the term ‘two way schooling’. Harris’s concept of two way education has been extremely influential, especially in the Northern Territory where, in one form or another, it has been a cornerstone of remote Indigenous education policy in the last two decades. Indeed, when speaking to people about educational directions in Maningrida, Mary, a mother of four children I have taught, made the following comment, which is not atypical of the comments made by many of the people I interviewed regarding education in Maningrida.

“We want those yipilipile (children) to know them both ways educations and school. One way they gunna know that balanda way. All them number and word gunna know them all, same like balanda. Other way gunna be yol (Aboriginal)way. Learning for ceremony, learning for all your Country, bush, you know Gammerang, all that yol business.” (M.Y 18th April 2007 pers. comm.)
Undoubtedly the idea or notion of two way education, perhaps more than its fruition in reality, has been an important discourse about education on the ground in much of the remote Indigenous estate in the Northern Territory. However it is not without its critics.

In a scathing burst of writing in ‘Crossed Purposes’, Ralph Folds (2001) attacks the concept of ‘two way’ education as the Pintupi were experiencing it in the mid 1990s in the Western Desert. Folds derides the notion that a schooling in an ‘indigenous settlement’ can create outcomes equal with the mainstream, while simultaneously promoting and supporting the transmission and maintenance of traditional culture (129). He further argues that school cuts across the kinship structure at the heart of the Pintupi’s social organisation and immediately declares itself as foreign to the culture into which it has been implanted. For Folds, schools that attempt to fit the two way agenda often teach Western knowledge and then simply graft reified bits of traditional knowledge onto the mainstream curriculum. In the same vein, he argues that such attempts at two way education emphasise only the traditional aspects of Indigenous culture, denying dynamisms and intercultural change, and in reality end in an endless cycle of ‘bush tucker programs’. Crucially, Folds bases these remarks on two key concepts. The first is that the dichotomy between Pintupi ways of knowledge transmission and the ‘opportunity cost’ of education is too great for the Pintupi to be involved in any real way. The second is that the utility of school in this Western Desert context is limited and that school knowledge must have a contemporary use in the Pintupi society before its transmission to students can be effective.

Here Folds returns us once again to the central dilemma that education in remote Indigenous Australia faces. First, Western education has historically had very little utility in many remote regions in the Northern Territory and second, Western education institutional arrangements may have been diametrically opposed to traditional Indigenous institutional arrangements. The policy redress has then become, either to mandate a particularly virulent form of mainstreaming (a la Pearson), with a separate cultural program, and/or to create a separate realm of or way of learning, (a la Harris). While these two approaches are arguably diametrically opposed ideologically, it is clear that both approaches seek to keep Western knowledge transfer and Indigenous knowledge transfer as separate domains of education.
While such circular and debates dominate the discourse of Indigenous education in Australia, as demonstrated in the recent newspaper extract below, the reality on the ground is that teachers and students can and do find points of alignment where effective learning takes place. My own research herein shows that it is possible to find points of alignment or ‘synergies’ between the interests and knowledge bases of the students and community and the outcomes desired by a school. It is my contention that domains of knowledge are far from conforming to simplistic dichotomies.

**Aboriginal pupils in sharp focus in education plan**

**ANNA PATTY AND DAN HARRISON**

*May 12, 2010*

TEACHERS will need to learn how to teach Aboriginal children as part of their training before they can register to work in public and private schools under national plans to lift the standard of indigenous education. Education ministers have agreed to a revised blueprint on how they will tackle disadvantage in schooling. They aim to halve the gap in the literacy and numeracy performance of indigenous and mainstream students by 2018. It is expected that a formal announcement will be made at the next Council of Australian Governments meeting, which is expected to be scheduled in the next two months.

But leading indigenous educators have criticised the draft Indigenous Education Action Plan, saying it fails to recognise the crucial importance of cultural pride to success at school.

The Indigenous Education Consultative Bodies argued in their submission there was a growing body of evidence that indigenous students need “cultural affirmation” to perform well in school. “Closing the Gap has the danger of being described as a policy of assimilation if it does not explicitly articulate building on the cultural identity/capital of the learner and parents/care-givers as the first educators,” it says.

The Stronger Smarter Institute, headed by the indigenous educator Chris Sarra, argues the plan, “appears to be a subset of an assimilation policy where things are being done TO Aboriginal communities to make them more like mainstream society, not WITH and this is disturbing.' Such assumptions can only result in more of the same.”

The institute argues the draft plan's focus on holding principals accountable for outcomes is “problematic”, and that senior officials should be responsible. “There is limited responsibility and accountability placed on senior officers in the systems to commit to
delivering outcomes … regional and state education directors need to be made more accountable for aggregated outcomes,” it says.

The Australian Institute of Aboriginal and Torres Strait Islander Studies, chaired by the former Australian of the Year Mick Dodson, says the plan places insufficient emphasis on indigenous languages, and needs to stress that mastery of English literacy and numeracy should not come at the expense of the child's “home culture”.

Extract from Sydney Morning Herald May 12 2010.

Like Durkheim’s neat, yet flawed, schism between all that is sacred and all that is profane, the positions between educational assimilation and educational separatism have never been as neat as many conservative commentators would have us believe (see for example Hughes 2007, Cleary 2005, Hughes and Warin 2005). As we saw in chapter 2, much of the policy debate in Indigenous education has been concerned with the cultural appropriateness and the relevance of education (which is cast as progressive) versus a back to basics approach dominated by English literacy and numeracy provision (which is cast as conservative). While such educational polarities may appear irreconcilable, in a school setting they are very often to be found operating hand in hand.

One example of how unclear such supposed juxtapositions can be is a music program I saw in Maningrida. The program had been designed to allow students to direct much of the teaching content and use multimedia to write music and film video clips. This would generally be considered to be a fairly progressive mode of learning. Simultaneously, however, students were learning basic literacy through phonics based, one on one literacy teaching in order to write their songs. In the same vein, the numeracy required in digital track selection and editing had necessitated that the students learn how to divide and subtract quite complex numerical combinations. Hence each day saw some focus specifically on numeracy. Such techniques would sit well with those calling for a back to basics approach in education (see Donnelly 2005).

Underlying these pedagogic debates, however, is a more important debate about the role of education in assimilating, or not assimilating, Indigenous people through the highly modernising process of education. This is hardly a new debate. Foucault’s works are of particular use in delineating the power relations surrounding the role of education in ‘disciplining’ people through what he terms the process of
governmentality. Foucault shows how discourses of power are used through the instrument of government to reproduce the dominant ideological positions of the elites in society. This is particularly relevant when analysing policy debate in remote Indigenous education. As we saw in chapter 2, the influence of the state on pedagogic policy has been immense. However, while Foucault analyses the structural determinants and process that create educational systems, he does not critique the process of pedagogic development. Bernstein’s later work, and in particular his volume ‘Pedagogy, symbolic control and identity’ (2000) argues that positions such as Foucault’s identify the ideological basis of pedagogy, but fail to conceptualise the construction of pedagogy in practice. Consequently, Bernstein argues that it is through the selection and development of pedagogic curriculum, and what is made thinkable and unthinkable in relation to school knowledge, that is the key to examining power relations and the potential subjugation of a student’s identity.

Following Bernstein’s position, I argue that it is what counts as knowledge (curriculum), how learning takes place (transmission) and what counts as a legitimate display of learning (evaluation and assessment) that constitute the redeployment of power in educational practice. If we accept this, then it is the design of pedagogy with the ability to mediate and accept potentially competing discourses of knowledge, and be valued locally as well as globally, that should be the goal in Indigenous education. Such a position has the potential to move beyond domain separation to learning which exploits tensions in knowledge about the past and present to create open and new educational futures.

In order to develop a pedagogic device that has the ability to both accept competing discourses in knowledge, as well as finding synergies of use, one must first accept that all knowledge is contested in education. Rather than trying to create neat boundaries of domain separation in pedagogy, the focus should be on who chooses what is valued as knowledge, and what weight or space such knowledge is given in an educational program. This type of approach allows for a complexity and negotiation of knowledge which is critical because one cannot assume that Indigenous and non-Indigenous world views fall neatly into separate domains when it comes to schooling.

For example, ‘ceremony’ in a remote community such as Maningrida is not necessarily positioned as oppositional to a more Western notion of school. There is evidence that Indigenous people see the process of discipline and learning, as well as
the process of maturation through ceremony and knowledge revelation, as having some correlation with similar processes in Western schooling. At the same time, however, Indigenous people may also see Western schooling as challenging intergenerational and gender based hegemonic structures.

In writing about the process of ‘revelation’ through the transmission of knowledge, Ian Keen (1994) examines the ceremonial knowledge structures as they applied to the Yolngu. In particular he traces the connection between Country, kin and an ancestral body of law and knowledge as it existed in the early 1970s and, apart from adaptation around some ceremonies such as the Kunnippi, had likely been so for some millennia. Central to his thesis is that ‘Country’ was taken as a basic unit for the understanding of group identity and that each group possessed a body of myths, types of songs, designs and sacred objects and programmes for ceremonies, all related to their Country (Keen 1994:145). These knowledges were broken into antonyms that distinguished the different types of knowledge and who could ‘hold’ such knowledge (ibid:194).

Table 13 Knowledge dichotomies of Yolngu

<table>
<thead>
<tr>
<th>Djinga - Inside</th>
<th>Warrangul - Outside</th>
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</thead>
<tbody>
<tr>
<td>Madayin - Sacred</td>
<td>Garma - Public</td>
</tr>
<tr>
<td>Dhuyu - Taboo, sacred</td>
<td>Yarangu - Profane</td>
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</tbody>
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Such a division allowed for the control of knowledge and worked to replicate the social order. It was usually the old men who held the knowledge and secret, or important, knowledge was only revealed to the younger members of a group when the time was right. Keen argues that circumcision ceremonies, together with ‘revelatory rites’ had a profound effect upon initiands and was said to make them quiet. Keen goes on to note that ‘They (the Yolngu) described revelatory rites as a kind of ‘Aboriginal school’.

This description of ceremony as school was a constant theme in my interviews with the Djelk rangers as well as with other community members and, indeed with...
school aged students themselves. When asked what sort of teaching and learning young men in Maningrida needed to become rangers, Victor, a senior ranger said:

We should take them, make them one big ceremony school I reckon. Take them inside, no gunja, no girl, no little boy muck around. Take them Ceremony school learn all about Country, learn all about law. Then bring them little bit outside, next day or next month. Teach all scientist way here. Learning Gps, cybertracker, reading, writing English way then if they need we put 'em back in ceremony. All one big school... mixed together. He’ll be good idea that one I reckon. (V.R 2007 18th September pers. Comm.)

A similar sentiment was expressed by one of the women rangers saying:

Those young men gotta go ceremony. Get schooled on Country. Learning both ways. Some girls they gotta go hunting on Country more then learning all the things. Like me. I gotta coxwain’s ticket and I can walk all around Country. We should school all those young men in ceremony school. That Country gunna teach them. Then same time they learning English words and numbers. All ‘bout that Country. (L.Y 2007 21st July pers.comm)

Yet while ceremony and the gradual revelation of knowledge, particularly during adolescence, has been pivotal in Indigenous traditional knowledge transfer, the hierarchical and male dominated nature of this revelation has been subject to challenge, possibly always, but certainly since contact with non-Indigenous cultures. The traditional learning and development cycle, particularly for young men, is well described in the literature (see for example Keen 1994). The research base is also remarkably replete with descriptions about how this tradition is breaking down, changing form, losing its meaning or under threat. Arguably, much of this temptation to analyse the relationship between ‘traditional’ revelatory rites and their impending demise is somewhat attributable to the beginnings of anthropology in Australia. This is best espoused in Elkin’s introduction under the before its too late recurrent challenge written in 1970. The idea that the demise of Indigenous Australians and their culture was imminent was, as Elkin notes, a driving force in much of the earlier anthropological work.71 Despite this, there can be no mistaking the difficulties that must be confronted when ceremonial obligations meet schooling. Recently, Kral

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71 Elkin cites a number of anthropologists for whom ‘the sure and certain dying out of tribes’ was the catalyst in their work including Taplin, Brough, Smyth, Curr, Howitt, Basedow, A R Brown and Spencer.
(2007) has written about what she terms the ‘altered maturation cycles’ in Ngaanyatjarra society where she notes that:

The production and reproduction of cultural dispositions and norms began altering with the arrival of the Mission and the inception of schooling. Schooling introduced a life-span division between childhood and adulthood that has shaped a new social category - Adolescence (Kral 2007:223).

She goes on to surmise that there is a disjuncture between Ngaanyatjarra expectations of adolescents and schools’ expectations which has led to ‘oppositional demands’ on young men in particular and furthermore, that this is evidenced in low attendance and retention rates in the secondary schooling years.

Evidence of these ‘oppositional demands’ are also demonstrable in Maningrida, both historically and contemporarily. In some instances this manifests as a rejection of schooling and non-Indigenous ways of living as we see in the story of Finity as reported by Peter Williams in the Mirage in 1970:72

During a recent visit … by the Commonwealth film unit, Finity, aged 11, was interviewed and spoke outwardly on his feelings towards education, Europeans and their culture, and his future hopes and desires. It was a depressing half hour for all present. Finity expressed his dislike for the school, the settlement staff and all “white man’s things”. As his confidence rose his bitterness intensified. His face contorted with hatred as he said, “I would like to kill all the school-teachers - no, not hurt them - finish them up for good”.

He wants to go bush and never return … Yet although Finity has spent more than half his time away from school he has stayed at Maningrida.


Peter Williams concludes the article by stating:

Unless you can save him from the choking imprisonment of his own misunderstanding he is destined for a future filled with frustration and overall hopelessness.

It is unclear who ‘you’ is and I have been unable to find out what became of Finity.

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72 The Mirage was a local newspaper in Maningrida that ran from September 1969 until October 1974.
Similarly, we also see evidence around this time of these ‘oppositional forces’ manifesting in a blaming of school for intergenerational change:

Extract From council notes, Maningrida *Mirage* volume 43 31st July 1970:

*The main discussion centred around the problems of changing ways and trouble between old people and young people.*

President: *There is a lot of trouble at the settlement. Old people are fighting with young people. The councillors should explain changing ways to old people.*

Ganjibala: *Young people start the changes, and they can’t help it. The school children are learning a lot of new things at school.*

President: *The children are learning fast. The old people should change a little bit.*

Cr Balaya: *There is trouble all over the world. We old people haven’t been to school and we don’t understand these new customs.*

President: *Let’s have a little less trouble. Maybe the young people are learning new ways and they can’t wait for us.*

Cr Banjurljurl: *I understand the people. The old people are saying we don’t believe in the (European) rules and laws, because we want to see houses and money first.*

Ironically, many of the young people being talked about in 1970 are the ‘older’ people I interviewed in 2007, who made some remarkably similar comments about contemporary youth.

Mathew:

“Lots of these young kids don’t listen to old people anymore. They just run amok or sit around not listening to anyone. Some are ok but lots are just humbug. All day all night prowling around looking for *daluk* (girls).”

Margaret:

“Lots of young people are marrying wrong way, not doing right way. Law way, you know? Sometimes old people can’t control young people anymore. They just go anyway or all round.”

Michaele:

“All these *yipelipele* (children) sitting down here in Maningrida need to come back bush. Not staying round here. They should school there outstation school then come town once, twice, little bit then back bush.”

(M.R, M.R(b) and M.G 2007 26th September pers. comm.)
Yet despite this push pull effect between what might be termed tradition and modernity and between ceremony and school there continues in Maningrida, and many other areas, to be an extremely strong ceremonial life that is intimately connected to Country. Indeed, it is rare in Maningrida to find a young man over the age of around 15 who has not been through ceremony. As such, the association between the ‘Aboriginal school’ or ceremony and ancestral ties to kin and Country still form an integral and highly symbolic part of social production and reproduction cycles. As M described to me, with great excitement, just before he went into ceremony:

“Soon I’m going ceremony. This time *djahpi*, I can come back full man.”

While there has certainly been some cultural attenuation as a result of sedentarising and centralism in Maningrida, there has also been a remarkable consistency in the ability of the local Indigenous community to incorporate trips to Country, schooling on Country and even schooling at ceremony since the inception of Maningrida CEC in 1962.

So, as demonstrated in the examples above, it is possible at once to see both the potential synergies between school and ceremony, while also being cognisant of

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*Dhapi* literally means foreskin (Keen 1994) and is a term used for circumcision ceremony.
school as challenging the hegemonies underpinning Indigenous knowledge and intergenerational or gender based power arrangements. In this way, it becomes clear the discourse surrounding a notion of ‘school’ are not neatly divided into Indigenous and non-Indigenous domains. Rather, the discourse of ‘school’ is characterised by both synergies and tensions.

Next in this chapter I demonstrate that land, as both a geographical and cultural construct, can provide a pedagogic device which enables learning of an intercultural nature to occur and, in so doing, negates some of the more oppositional notions of biculturalism and domain separation outlined in the discussion above. I argue that the tensions and synergies in discourses surrounding school and processes of learning can be mediated and exploited, to actualise learning, by using a theme of ‘Country’ as a pedagogic device.

Throughout this thesis so far I have shown that in Maningrida notions of Country as both a social construct and as a physical reality is a central component of daily life. This is evidenced in much of the socio-economic fabric of the community and in its developmental history. A concept of ‘Country’, therefore can be used as a theme to develop a connection between the community and school. I base this on three basic educational assumptions:

1. For institutionalised learning to occur it should have utility and be valued in the context in which the learning is to occur.
2. Students learn best when they have a reason to learn and want to learn.
3. Students learn best when the learning builds upon prior knowledge; that is the learning moves from the known to the unknown.

These simple assumptions are hardly new to an educator, but they are important as they explicitly inform what should count as knowledge and how that knowledge should be transmitted.

By using ‘Country’ as an underlying theme for pedagogic development, the three key conditions for maximised learning can be met. First, as demonstrated, ‘Country’ is a central feature of social and economic order in remote Indigenous communities. As such learning about, and through, ‘Country’ is highly valued by many Indigenous parents and families. Second, the ability of a land based learning program to engage students in meaningful and interesting education is high. Such learning has the
capacity to combine experiential learning with high level scientific knowledge and classroom based literacy and numeracy. Pedagogic design that uses ‘Country’ as a device to actualise this learning, can also articulate with local Indigenous development aspirations, contribute to ‘real world’ outcomes outside schooling and provide for skill sets that are of use both locally and in the wider jobs market. Finally, by using ‘country’ as a pedagogic device, the existing knowledge of both the students and the community in general are able to inform the learning. This not only provides opportunity for meaningful engagement in education by diverse stakeholders, but enables Western school learning to be ‘scaffolded’, or built upon, the deep knowledge of their land that Indigenous people in remote areas may posses.

In chapter seven, I analyse a number of programs that have used a concept of ‘Country’ for educational development. As a general descriptor I have coined these approaches ‘Learning through Country’. I have done this in order to denote the concept of ‘Country’ as central to Indigenous perspective, as well as using the word ‘through’ to denote a conceptual approach rather than a simply mechanical concept, such as ‘about’. However, in the second half of this chapter, I want to examine in detail how one such program developed in an outstation in Maningrida. I do this to demonstrate how synergies of knowledge and links to development can enhance student engagement as well as provide demonstrable literacy and numeracy outcomes.

This example begins in a small outstation located to the east of the Blyth River named Gamardi. This outstation is home to the Djinang and Wurlaki people, who moved ‘back to Country’ in the early 1970s as part of the outstation movement (see chapter 4). The outstation sits close to the banks of the Blyth River, which in this area is characterised by six meters of tidal movement and is heavily lined with thick, jungle like vegetation. The population of the outstation is variable. During a ceremony in 2003, I counted 224 people in the outstation, while at its lowest ebb, during the wet season, the population may be as few as 20 people. There are six houses in the community, four of which are constructed with locally produced mud bricks and two of which are fabricated from tin. There is a public solar telephone, a large windmill and water tank and a three stall ablution block. A dirt track cut through

74 Many of the buildings in the Maningrida region are constructed form mud bricks which are produced in a small factory in the township.
heavily wooded savannah links the community with another small road linked to the main road between Maningrida and Ramingining.

The school is a relatively modern structure, in comparison to the tin sheds that pass as schools in other outstations. It was built in 1992 and features one large classroom and a small visiting teacher’s accommodation with surrounding verandahs (see photo 7). The school was designed in consultation with Kathleen Barrgitjbar, who was the Indigenous teacher in the outstation for 12 years. Kathleen was an individual with exceptional linguistic and educational skills. Her English proficiency was very high, despite her poor access to education as a child. She had studied at the Batchelor Institute of Indigenous Tertiary Education (BIITE) and completed three years of a four year teaching degree. She had completed numerous certificates in vocational education and was passionate about education. She could read and write competently and accurately in both English and Djinang, and she was instrumental in teaching me, the teacher, how to teach in a remote Indigenous context.

*Photo 7 Gamardi Homeland Learning Centre school 2007*
As an outstation ‘visiting teacher’ my role was to teach school aged students in a number of small outstation schools, while also providing professional support and development to each outstation’s Indigenous teacher. This usually involved teaching a multi aged, multi level group of students who ranged in age from 3 up to 20. The curriculum was targeted specifically to basic numeracy and literacy and was derived from the Northern Territory Curriculum Framework (NTCF). In addition, my duties required that I tutor the outstation Indigenous teachers in teaching methodology and curriculum planning, as well as in their teacher education studies through BIITE. In practice, this would mean ‘team teaching’ the students, with the Indigenous teacher, from 8am until 2.30pm each day and then spending from 3pm until 5pm working one on one with the Indigenous teacher. The first year I did this was 1998 and, as I noted in chapter 1, this was a difficult period as I felt that in my role as a teacher I was failing my students. Previous to this work, I had been a successful high school English teacher in Darwin and I was perplexed by my inability to ‘cut through’ with my teaching and engage my students in learning.

At the end of the first term in 1999, during one of our one-on-one sessions for professional development, I confided in Kathleen.\textsuperscript{76} I explained that I was not teaching the students well and that I was worried that their educational development was suffering as a result. I explained that I could not find a way to connect my teaching with the world the students lived in every day and that I needed her help. She said she understood and that she would think about the situation and talk to me the next day.

The following morning, as I prepared the classroom for the day’s teaching, I looked up to see Kathleen coming down to the school. She was accompanied by the two senior landowners of Gamardi, four parents and a man I had not met before, named C______.\textsuperscript{77} After the usual greetings, Kathleen told me that they had decided to cancel school for the day. I was in shock, and immediately went to remonstrate; however, she stopped me and said that instead, I was to have a meeting with the adults present. This was less of a request and more of a demand, and considering the obvious ambience of importance in the air, I conceded. I was extremely nervous and,

\textsuperscript{76} While much of this section relies on memory as I did not take notes, I have subsequently verified and corroborated the version of events appearing here with two of the key protagonists involved.

\textsuperscript{77} I do not use this man’s name as he has subsequently died and in keeping with Indigenous protocol the use of his name in this thesis is inappropriate. I do this on advice of his widow.
considering my admission to Kathleen the afternoon before, I thought that perhaps I was about to be ‘sacked’ in some way.

As the students turned up, Kathleen sent them home and then she arranged a table and a group of chairs in the middle of the classroom for the adults to sit at. After we all sat down, Michael, one of the landowners, launched into a 10 minute diatribe in Djinang, of which I understood very little. This was followed by some further discussion amongst those present, again in Djinang. I still had no idea what was going on. This was certainly not the sort of teacher parent engagement I was used to, and eventually my nervousness got the better of me. “Don’t you want me to teach the children here anymore?” I asked meekly. This elicited an immediate outburst of laughter. “No, no Gamerang!" Kathleen explained, “we want you for our teacher, but we have been talking and we want to do school about this place and make those yipelipele understand.” Somewhat more relaxed, but still perplexed, I listened and asked questions, as over the next hour or so as the group eventually devised an approach to learning that I had not considered.

The essence of the discussion centred around a deep desire by the community that their children learn to be proficient in English literacy and numeracy, and be able to operate in the non-Indigenous world. In the main, this was expressed through the term ‘balanda business’, however, Kathleen was instrumental in probing this concept more deeply and in formulating this concept into pedagogic requirements. Each person took turns in speaking during this time and, while wide ranging, the discussion was punctuated by long silences as people thought about what all this meant in terms of school. Ironically, it became clear to me that, particularly for some members of the group, they were as depressed about their children’s education as it presently stood, as I was about my teaching. I particularly remember Michael, one of the landowners, stating that they understood why school was important but, “Gammerang, we are so sad with this school business, we don’t know how we gunna school those kids. We get tired from trying.”

Michael went on to explain that he knew that the children did not think school was important and, that even though they supported school, the community often struggled to see the point of school as well. He finished by saying that he felt it was the

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78 My skin name.
79 Most of this conversation was in Djinang and relayed to me through Kathleen’s interpretation.
community’s job to teach the children about “all around this Country, yol way” and that “you mob”, meaning me and other non-Indigenous teachers, should teach English. His wife, Maggie, immediately and vehemently, said that it was not just “Gammerang’s job, he is just one man” but everyone’s job, which was agreed to by the rest of the group, however I remember thinking that the look on Michael’s face showed that he was far from convinced.

At this point C____ suggested that he would be willing to help. Unbeknownst to me at the time, C_____ was the head Indigenous Ranger in the Djelk ranger program in Maningrida and had recently moved into one of the houses at Gamardi. He explained that he had a job to do around Gamardi that involved finding and documenting any weeds in the area and that he also wanted to “get stories from old people” about plants around the area. He said maybe the students could help him and that I could help with getting students to write things down. This proved to be a turning point in the discussion, and in retrospect, in my teaching career in the area.

Kathleen then took charge of the meeting. She explained first in Djinang and then in English, that she thought this was a good idea and that the students would both enjoy and learn from the experience. After asking C____ a bit more about what was involved in his job, she got up and walked to the chalkboard. On the board she wrote four things:

‘Old people’
‘Djama’ (work)
‘Gammerang and Muma’ (Me and Kathleen)
‘Kids’

Kathleen sat back down and said ‘what you gunna do’, meaning what would each of the four groupings she had created contribute to the job at hand.

Recovering from his earlier rebuke, and quite obviously reasserting himself, Michael once again gave quite a lengthy speech in Djinang, the upshot of which was that nothing was to happen on his Country until he had shown the students what he knew. This was tacitly agreed to by all present. At this point the meeting was suddenly adjourned and I remember boiling a billy can afterwards and wondering what had actually happened and where this odd little meeting had ended up.
The next morning, before school started, I was greeted by Kathleen and told that Michael was ‘teaching’ school today and that, basically, I should just let it happen. Half an hour later, the whole community was crammed into the small Gamardi classroom with Michael standing up the front. This was the first time everyone at Gamardi had come to the school at once since I had been there and I was amazed. I had previously struggled to get an average of around 70% of the students to attend, which was considered quite a good rate by Maningrida CEC’s standards, yet on this morning not a single student was missing. The mood was expectant and exciting, a far cry from how this little school felt to me normally. Michael began with an impassioned speech in Djinang about what they were going to do. This was met with exclamations of “Yo, maynmuk!” from the gathered throng. Kathleen explained to me that he was saying that this school was their school and that all the kids, teachers and families were one group that had to work together. He then went on to say that he was going to take everyone on a walk and teach them ‘proper way’ about this place Gamardi. This part was delivered in English for my benefit.

Following Michael’s introduction, everyone filed out of the school and, taking Michael’s lead, we headed east along the main track into Gamardi, and then into the bush. After approximately five minutes, we stopped and Michael called everyone in, around what to me appeared to be a small, hardwood shrub with long leaves. In Djinang, he told a story about the shrub, which I am loathe to repeat here as, stupidly, I did not take notes at the time and do not wish to misrepresent his information as I did not get a chance to discuss or record the story with him during my subsequent field work period.

Upon finishing the story, Michael began a *manikay*, or songline, connecting the shrub to other plants, birds and animals. This *manikay*, Kathleen explained to me, placed this plant in relation to another part of Country and provided information for the students about what time of year certain plants could be eaten and what insects and animals were connected to these plants. Kathleen said this knowledge was ‘all open’ and ‘manymuk’ for both *miyalk* and *yol*. When Michael finished, no questions were asked and we moved quickly on. This scenario was repeated a few times, and after about an hour and a half we arrived at a place called *Nenekere*, a large paperbark.

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80 Literally ‘yes, good!’
81 Women and men.
swamp that begins approximately 4.5 kilometres due east of Gamardi. This swamp is a large expanse of floodplain and paperbark that extends from near Gamardi to Gatji Creek, which feeds it, approximately 23 kilometres to the east. Here we sat down and Michael talked about the significance of the place to the Wurlaki and Djinang people, with an emphasis on four main species of fauna hunted in the area. These were *municipal, djakarr, annaparra* and *banda*.82 He explained where and when the best times were to hunt these species and where in the swamp to find them. Following this we slowly made our way back to Gamardi.

After lunch, we reconvened in the school, without most of the adults, although Michael and Maggie, the landowners, were in attendance. Kathleen then took over the class and spent the next hour discussing with the students what they had done, where they had been, what species they had talked about and the names of the places on Country they had visited. This was conducted mostly in Djinang, with some English for my benefit, and Michael and Maggie both made the occasional interjection. This concluded the day and, as they left, I asked some of the older students for their opinions on the day. The general consensus was that they had enjoyed the day and found it interesting and engaging. I particularly recall one young man, Manuel, saying that it was good to be able to understand what was going on at school for once, or words to this effect. I tried not to take this personally.

The next day began much as the last, only this time Kathleen informed me that C______ was teacher today. Once again the whole community was in attendance. C______ began with a short talk about his job as a ranger. Interestingly, he chose to do this mainly in English, with Kathleen, as well as some of the parents, explaining certain things to the students in Djinang. C______ then talked about weeds to the students and why they were a problem. Specifically, he explained how weeds were like rubbish and how it was important that the Country around Gamardi had to be kept ‘clean’. He also talked about how ‘biggy-biggy’83 spread weeds around the Country. We then filed out of the school and roughly traced the same path Michael had taken us on the day before, with C______ finding four weeds along the way, most within a short distance from Gamardi. These were *Andropogon gayanus* (gamba grass), *Pennisetum pedicellatum* (annual mission grass), *da acuta* (sida) and a fourth weed

82 Geese, goanna, buffalo and long necked turtle.
83 Feral pigs.
which I am unsure of.\textsuperscript{84} Upon reaching Nenekere, C\______ spent some time showing us the damage feral pigs and buffalo had caused around the edge of the swamp. He showed the students how the water was disturbed and also where pigs had dug up \textit{banda}. He explained that the pigs were killing the \textit{banda} and also eating their eggs and how this could lead to the \textit{banda} being ‘finished up’ if the pigs were not controlled.\textsuperscript{85}

After returning to Gamardi, the afternoon school session followed a similar pattern as the day before, except that C\______ led the teaching, mainly in English, and engaged the students in a question and answer session, as well as drawing a map on the board of where weeds were to be found on the Djinang and Wurlaki estate. Early primary students were then asked to draw a feral pig and a turtle. They were then taught the words ‘egg’, ‘turtle’, ‘pig’, ‘dig’, ‘digging’, ‘dug’ and ‘eat’. Older students were asked to write a paragraph about weeds and C\______ wrote the name of a few species of weeds on the board. These tasks were completed to varying degrees of success, but the older students, in particular, struggled with the task and many were unable to complete the paragraph.

That afternoon, I reflected upon what had happened in the past two days. I was amazed at the interest and engagement this little exercise had inspired in the students, and in the community more generally, but I was also struggling to see how I could connect this type of activity to a structured learning program. While it was obvious that this mode of learning had potential, I had no pedagogic framework within which to position it. Similarly, I wondered how the last couple of days could relate to the literacy and numeracy outcomes I was expected to meet through the curriculum. In consultation with Kathleen over the next couple of days, we developed a mini program for the following week, the main features of which I detail here.\textsuperscript{86}

\textsuperscript{84} In triangulating these events with Indigenous collaborators, Kathleen noted that she remembered five species of weeds, so I may be mistaken.
\textsuperscript{85} Ironically, Gamardi had four ‘pet’ feral pigs in residence at this time. These were subsequently shot by C\______ four months later.
\textsuperscript{86} This is a highly abridged version of part of the program I sketched out in my teaching diary, 11th May 1999. This has been adapted for brevity. I apologise to practicing educators for paucity of example.
Gamardi Country program

Purpose:
1. To teach the students to understand the concept of a ‘weed’.
2. To teach the students to understand the concept of ‘feral’.
3. To scaffold two different genres of text.
4. To scaffold two different units of measurement - mm and cm (see part 2).

Method: Part One
1. Introduction: C______ to reiterate talk from this week. Kathleen? Language words for weeds? If no language why not?
2. Short field trip to collect weeds.
3. Discuss and describe weeds.
4. Different types of weeds (get photos from Djelk).
5. Begin group negotiated text.

\textbf{NB} pitch at three levels - early childhood - tactile, pictorial, phonetic. Middle and upper primary - vocabulary, phonetics, spelling, sentence structure, understanding. Senior students - conceptual, sentence structure, paragraph structure, oral proficiency.

Key questions:
What is a weed? Model introduction to text.
What types of weeds are found at Gamardi? Use photos – explicit teaching of weed names.
How did the weeds get to Gamardi? Explicit teaching - animals, birds, vehicles etc.
Why are weeds a problem? Damage to Country, taking over land, killing native plants.

\textbf{Scaffold 1. Key word list.}

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Verbs</th>
<th>Adjectives</th>
<th>Nouns</th>
<th>Adverbs and Conjunctions</th>
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</tbody>
</table>
Scaffold 2. Key phrase list.

<table>
<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>Where</th>
<th>When</th>
<th>How</th>
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</table>

**Activity:**

Students engage in a field trip to collect weeds and return to discuss. Explicit teaching by C____, me and Kathleen on types of weeds, where weeds come from, how weeds spread, damage weeds can cause, how to eradicate. Model texts on weeds, create scaffolds jointly, create group negotiated text, independent writing of group negotiated text, focus on structure and spelling. Older students to write independent text.

**Outcomes:**

**NB:** Go to science and society strand, English strand, measurement strand of curriculum framework. Three levels.

**Assessment:**

Mark Text 1 group negotiated - appropriate for level - see outcomes NTCF. Must demonstrate structure, spelling and understanding.

Mark Text 2 independent – appropriate for level - see outcomes from NTCF. Must demonstrate vocabulary, structure, spelling and understanding.

**Notes from Kathleen:**

Should start with old man story, or do as another whole week.

Get Djinang word list.

Go old way (Aboriginal) then move to new way (balanda), get more rangers, ‘test them hard’?

This inauspicious beginning eventually morphed into a term’s teaching program and then into a semester of work. This was done with help of some talented colleagues, as well as a substantial amount of input from different members of the community. In particular, the Djelk rangers became a key teaching aid and I tried to engage them whenever I could. Time for them to be involved was, however, difficult to arrange (see chapter 7). Most notable from my perspective as a teacher at the time was that despite the difficulties I still faced in trying to deliver outcomes in literacy and numeracy, I felt that I had stumbled upon a mechanism to engage my students.

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87 This program eventually translated into an average a 0.5 progression in key learning areas in literacy and numeracy for students involved, as benchmarked against the learning ‘profiles’ assessment measurement tool that was in use at the time. I am unable to provide raw data as this data was gathered...
and I had also been taught a valuable lesson about the power of involving the community in educational design. I also came to realise, slowly, that ‘Country’ could be used as a pedagogic device to enable learning and to bridge some of the gulf that existed between myself and my students.

In retrospect, there is a great deal that I could analyse in the example I have provided. However, what I wish to make explicit here revolves around three main points. Firstly, the eventual success of this program, in my eyes at least, did not come about through consensus regarding a particular approach. Rather, the program’s development was incremental and came about through negotiation between the key stakeholders involved. Secondly, this process of negotiating a program was underpinned by an eventual stipulation that equal opportunity and time must be allowed in the program for what were often competing forms of knowledge. For example, C____, Michael and I all had very different views about what knowledge was to be taught, yet by allowing each perspective an equal amount of time, this disparity was mediated. Thirdly, the learning that this approach eventually generated did not need to be separated into oppositional domains. Rather, each form of knowledge was able to be seen as valid, even if in contestation.

As a final point in this chapter, I want to reiterate that it is the concept of ‘Country’, and a diversity of knowledge about its properties, that can be used to provide what I term a ‘pedagogic device’. This concept of ‘Country’ as a pedagogic device should be seen as a mechanism that can allow for the mediation and synergies of discourses of knowledge to be formulated into a teaching and learning program. Such a concept allows for a more nuanced, and potentially more successful, approach outside the period of this research project and is the intellectual property of the Northern Territory Department of Education.

88 In particular, I wish to note that the role Kathleen played in this program’s eventual development was crucial. Her abilities in pedagogic design, coupled with her high order linguistic prowess, made the program possible. What is further demonstrated through her role is the importance of language in educational development and, indeed, the importance of having bilingual educators in this type of educational context. In the final version of this thesis, I have alluded to the importance of Indigenous language in educational and social development in remote Indigenous contexts, however I have deliberately avoided engaging in an in depth discussion of ‘bilingual education’ as a specific form of education, for three reasons. One, I see Indigenous knowledge as inseparable from Indigenous language and, when I discuss Indigenous knowledge I include the transfer of Indigenous language as fundamental to the concept. Two, bilingual education is a diverse and large field of academic inquiry, and as I am not a linguist, I feel that others are much better positioned to examine this area. Third, in a draft of this thesis I originally intended to have a chapter on bilingual education, however, after nearly 9000 words on the subject, I realised that this was worthy of a thesis on its own if I was to do the subject justice. This culminated in me excluding this work from the thesis.
than the binary oppositions that have underpinned much of contemporary policy design and debate in remote Indigenous education. In order to be successful, however, the pedagogic device must be explicitly mindful of allowing competing discourses equal space within the teaching and learning cycle. Similarly, it must be cognisant of both the ideological structures of education, in a Foucauldian sense, as well as attending to the deep pedagogic structures inherent in pedagogic design, in a Bersteinian sense. In this regard, the questions must remain, who is selecting the knowledge? how is the knowledge transmitted? and what is counted as ‘success’ in evaluating learning?

In keeping with the importance of ‘Country’ as a mediating device in pedagogy, and in returning to the connections between school, community and work, my next chapter examines the role of ‘Country’ in a relatively recent form of remote development. In chapter 6, I analyse Indigenous land and sea management in remote Indigenous Australia and argue that, in the same way as ‘Country’ can be used as a pedagogic device, ‘Country’ is being used to mediate and exploit both synergies and tensions in the interaction between remote Indigenous development aspiration and the neo-liberal state.
Chapter 6: Caring for Country and working on Country

In the last chapter I showed how the development of false binaries based in notions of domain separation, have underpinned and perpetuated policy dilemmas in the provision of remote Indigenous education. In critiquing these positions, I argued that more attention must instead be paid to the way in which knowledge is selected and transferred in the design of pedagogy. I also demonstrated that all knowledge is contested in education, and that rather than separating knowledge into artificial domains, pedagogy must provide the space for discourses of knowledge to compete, and to find points of alignment. As an example, I discussed the complex relationship between Indigenous revelatory rights, ceremony and understandings of ‘school’. I then showed how the important concept of ‘Country’ in a remote community can be used as a pedagogic device to traverse and mediate false binaries in education. I did this through a highly localised example of how ‘Country’ can be used to create an education program that blends a pedagogy of place with mainstream teaching.

In this chapter, I continue with an analysis of the role ‘Country’ plays in remote Indigenous contexts. In so doing, I move from the role ‘Country’ can play as a pedagogic device to an examination of the role concepts of ‘Country’ are playing in a remote Indigenous development. This is done both to demonstrate the importance of connections between learning, local communities and local development, as well as to show how competing discourses and synergies of knowledge are being mediated and contested between Indigenous interests, and a highly modernising, neo-liberal state. To do this, I move from a notion of ‘Learning through Country’ to an exploration of the dual roles of ‘caring for Country’ and ‘working on Country’. In particular, I pay attention to the development of ‘ranger programs’ in northern Australia and the eclectic sets of knowledge they require to function. This examination, however, must first account for the deep seated ideological contestations concepts of land and Country have played in the political and historical actualisation of the Indigenous estate, as well as demonstrating the legislative complexities of Indigenous land holdings. Similarly, I must also account for how the emergence of a dialectic interaction between Indigenous land holdings, and a need for environmental services, has provided the structural conditions for a type of development called ‘Indigenous land and sea management.’ I finish the chapter with an exploration of the role education plays in this type of development and an ethnographic analysis of the
pedagogic needs of a large Indigenous land and sea management program in Maningrida.

While Eurocentric understandings of the term ‘Country’ as a concept have generally failed to encapsulate the depth of connection between Indigenous people and the land and sea,\textsuperscript{89} much of the engagement between ‘black and white’ Australia has, nevertheless, centered very much around notions of ‘Country’. This is particularly true in regard to ownership and tenure. Indeed, a fundamental question that has shaped Indigenous and non-Indigenous relations in Australia since first contact has been ‘whose Country is this’? This question and its associated conflicts, steeped in a deeply held belief in the inferiority of Indigenous Australians by colonial Australia, stains all engagements between Indigenous and non-Indigenous people since the earliest moments of colonisation. As Rowley (1972: 124) notes, colonial development involves the taking of land. In Australia, the basis for a new set of property relations included taking all of the land. In this regard, Rowley suggests ‘that every policy or act, (thereafter) of the conqueror has some relevance for those whose lands have been overrun’.

Patrick Wolfe, in his 1999 book ‘Settler Colonialism and the Transformation of Anthropology’, goes further than Rowley, arguing that Indigenous people, just by being present on their land, present a challenge to colonial power which necessitates their eventual eradication by the state.

In the Indigenous case, it is difficult to speak of an articulation between colonizer (sic) and native since the determinate articulation is not to a society but directly to the land, a precondition of social organization (sic) … Settler colonies were (are) premised on the elimination of native societies (Wolfe 1999:2).

However, Indigenous interests have been far from passive in reasserting their sovereignty. Key Indigenous resisters have permeated Australia’s colonial history. Forms of resistance have ranged from the ‘armed’ by individuals such as Jandamarra (Pederson and Woorunmurra 1995), to the political such as Michael Mansell, and the legal such as Eddie Mabo (Mabo vs Queensland No 2 1993). Truly, it is difficult to find many examples where Indigenous interests have willingly conceded any of their

\textsuperscript{89}Baker, Davies and Young (2001) p xxii note that ‘…sea and land Country, saltwater and freshwater Country (are for) coastal Indigenous people … indivisible (domains), merging into each other. This perception differs markedly from that common to the imported legal and cultural systems that have been imposed on Australia, which see land and sea as fundamentally different’.
Country. Since the mid to late 1960s, Indigenous interests have been exceedingly successful in re-establishing their tenures over Country. Much of this success can be attributed to what has been coined, in political discourse, the ‘land rights movement’.

While Indigenous people had long demanded that their rights in land be recognised, two key events in the NT during the 1960s captured national attention. In 1963, the Yolngu people of Yirrkala in Arnhem Land sent a ‘bark petition’ to the House of Representatives demanding that their rights in land be respected. This petition was in response to a unilateral decision by government to excise a portion of the Yolngu’s land for the purposes of a bauxite mine. This was followed by the 1966 ‘Wave Hill walkout’, when the Gurrinji people working on the Wave Hill cattle station went on strike, demanding better pay and the return of some of their traditional lands. Both these events had the effect of raising the national consciousness regarding rights in land, and garnered a great deal of political support.

The election of the Whitlam Labor government, which came to power in 1972, provided the political will and conditions to enable the recognition of Indigenous rights in land by the state. In late 1973, Prime Minister Whitlam created the Aboriginal Land Rights Commission which culminated in Justice Woodward’s landmark 1974 final report.90 Woodward’s Royal Commission report formed the basis of jurisprudence of particular importance in the granting of inalienable freehold title in the NT. The 1976 Aboriginal Land Rights Act NT (ALRA) was passed through parliament and was enacted on Australia Day in 1977. This Act provides for grants of land to Aboriginal people in the Northern Territory, establishes land councils, sets out the legislation for development, exploration and mining on that land, and includes a mechanism for the disbursement to Aboriginal people and their organisations of mining royalty equivalents (ATSIC 1999: 146-7).

In order to understand Indigenous land holdings, it is necessary to be cognisant of the legal complexities such land is subject to. The Northern Territory, for example, has a landmass of 1,346,200 km² consisting of 12 different types of land tenure (NTDPI 2003). In addition there are a number of miscellaneous holdings under these tenures including parks and conservation areas, defence lands and Commonwealth

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titles. The largest of these tenures is Aboriginal freehold land comprising 593,732 km² (44.10%)\(^1\) granted under the ALRA.\(^2\)

This land has been granted through a variety of different processes within the statutory framework. With the commencement of the Act, land that was formerly gazetted as Aboriginal Reserve was transferred to a series of Aboriginal Land Trusts. This land, which is detailed in Schedule 1 of the Act, accounts for 50% of the current Aboriginal landholdings in the Northern Territory. The Act also established a land claim process by which a Land Commissioner recommends to the Minister for Aboriginal and Torres Strait Islander Affairs as to whether a land claim should be granted. This process has resulted in an area in excess of 300,000 km² being transferred to Aboriginal Land Trusts. Other grants resulted from negotiated settlements of land claims whereby land is scheduled to the ALRA by the Commonwealth parliament, or under Northern Territory title. Finally, more than 35 former stock routes and reserves (2,301 km²) were granted after the signing of a Memorandum of Agreement in 1989.

The ALRA has recently been amended by the Commonwealth government. Amendments to the Act include a provision for the creation of 99 year, 80 year and 40 year leases on townships within the ALRA lands, as well as changes to mining exploration procedures and land council development. Notably, 73 prescribed areas have been ‘compulsorily acquired’ for a period of five years by the Commonwealth under the NTER legislation of 2007. In addition, there remain 81 claims under five different types of tenure to be heard or to be granted,\(^3\) accounting for an area of almost 125,000 km². This equates to 9.3 per cent of the Northern Territory. If assuming most claims are eventually successful, 720,000 km², or approximately 53%

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\(^1\) The next largest tenure type is perpetual pastoral leases which comprise 561,422km² (41.7%).
\(^2\) Eight native title claims had been determined in the Northern Territory to 18 January 2006 resulting in approximately 12,738.1 km² or almost one per cent of the Northern Territory where native title has been recognised (NNTT 2006). The area includes determinations of sea claims and areas seaward of the high water mark. As at 31 December 2005, 234 native title applications had been lodged within the Northern Territory, comprising 224 claimant applications, 4 non-claimant applications and six compensation applications (AITSIS 2006). Native title claims may prove to be slightly more successful in the Northern Territory than in the southern states, but it is yet to be seen whether claims will be lodged on lands held under trust by the provisions of the ALRA. From a property rights viewpoint, a native title claim on ALRA land might prove to be superfluous given the comparatively stronger property rights under the ALRA. Nevertheless, the NTA presents opportunities for Aboriginal people who have not benefited under the ALRA, including those in rural towns and cities. However, recent determinations, such as the failure of the Larrakia claim in Darwin may indicate that establishing ‘connection’ in more urban settings is likely to be difficult, costly and time consuming.
\(^3\) As at 3 March 2005.
of the Northern Territory may be Indigenous land held under inalienable title.

A more recent and increasingly common form of native title arrangement is the Indigenous Land Use Agreement (ILUA). As the name suggests, ILUAs set out an agreement for rights and responsibilities over the use of lands that are under claim. ILUAs are generally considered as a ready alternative to more litigious procedures of full native title determinations in establishing rights to land. However, like most aspects of native title, ILUAs come packaged in a complex framework of legislation which can make it difficult to access the benefits of voluntary agreements (Lane 2000). As at 31 December 2005, there had been 78 Indigenous land use agreements in the Northern Territory (NNTT 2006). These agreements totaled an area of approximately 67,524.68 km\(^2\).\(^{94}\) An ILUA is a voluntary agreement about the use and management of land, made between a native title group and other people (NNTT 2006). While each ILUA is unique in its negotiated outcomes, there are three general types of ILUAs: body corporate agreements,\(^{95}\) area agreements,\(^{96}\) and alternative procedure agreements.\(^{97}\) In the NT there have been 73 area arrangements and five body corporate agreements.

While these land holdings by Indigenous interests in the NT,\(^{98}\) which include, an estimated 85% of the coastline, are significant, these holdings should not be considered as totally secure.\(^{99}\) Recent changes to the ALRA under the NT Emergency Response Legislation (2007), as well as precedents in the native title arena, such as the 1998 Wik Amendments, are testament to the fact that these holdings should be

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\(^{94}\) This is a total of 51 ILUAs as it does not include 12 CLAs (previously counted above) or 12 mining and development ILUAs which data is unavailable for. These mining and development ILUAs could represent significant areas of land.

\(^{95}\) Type of ILUA that can only be made where there is a registered native title body corporate (or bodies corporate) for the entire agreement area. This means that there must be at least one determination of native title in place in relation to the entire agreement area, (refer to ss 24BA-24BI of the Native Title Act 1993).

\(^{96}\) Type of ILUA that can only be made where there is no registered native title body corporate (or bodies corporate) for the entire agreement area (refer to ss 24CA-24CL of the Native Title Act 1993).

\(^{97}\) Type of ILUA that can only be made where there is no registered native title body corporate (or bodies corporate) for the entire agreement area. However, there must be at least one registered native title body corporate or at least one representative Aboriginal/Torres Strait Islander body ('representative body') for part of the agreement area, (refer to ss 24DA-24DM of the Native Title Act 1993).

\(^{98}\) It is estimated that across Australia approximately 120,000 Indigenous people reside on the Indigenous estate at 1,200 discrete Indigenous communities (Altman et al. 2007).

\(^{99}\) In addition to this 85% The landmark Blue Mud Bay decision of 2008, Northern Territory of Australia v Arnhem Land Aboriginal Land Trust [2008] High Court of Australia 29 (30 July 2008), also provides for a right of exclusion over a column of water between the low and high water mark in north-east Arnhem Land.
viewed as tenuous and subject to periodic change and amendment by the state, depending upon the dominant political view in Indigenous affairs at the time.

So, as shown, it is clear that while the legislative arrangements that underpin a definition of an Indigenous estate are complex and subject to political and legal contestation, it is also clear that Indigenous land holdings, and their tenure arrangements, comprise a significant portion of Australia as a whole. Critically, claims through the legal system have granted Indigenous people a renewed tenure in certain parts of Australia. Under a range of legal and political frameworks, Indigenous Australians have increasingly re-acquired large tracts of Australia. Altman et al. (2007) recently estimated that the Indigenous estate now exceeds 20% of Australia’s land mass (see chapter 2 figure 2). As such, the security, management and development of this land becomes an issue for not just Indigenous interests, but for the broader Australian state.

Yet the Australian state has been slow to realise the extent of Indigenous land holdings and the associated need for its management, particularly in the area of environmental and natural resource management. At the same time as the legal and institutional arrangements in Indigenous land have changed, so too have global understandings of the need to manage land. Environmental impacts, the importance of maintaining bio-diversity and, in Australia, the damage by feral animals to land are increasing issues of concern in public and political debate. As demonstrated in chapter 4, some Indigenous lands are repositories of bio-diversity in an increasingly damaged national landscape. Altman, Buchannan and Larsen (2007) found that the Indigenous estate ‘contains some of the highest conservation priority lands in Australia’. In particular, Indigenous lands represent a rich diversity of habitat across a range of climatic conditions, they have generally been less disturbed by development than other parts of the Country and are ecologically preserved. Primarily this is due to the land’s low or marginal economic value in the past, as well as their remoteness from mainstream markets and population.

While exhibiting a diversity of ecological and environmental wealth, the Indigenous estate faces an increasing problem caused by exotic weeds and introduced animals. These by products of settler Australia’s agrarian expansion and experiments

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100 Much definitional effort has gone into the term ‘Indigenous estate’ (see Altman et al. 2007 for full discussion)
pose a threat to some of the more fragile areas of the Indigenous estate. For example, the ‘Arnhem Coast’ bio-region is recognised as one of the more important ecological zones in Australia.\(^{101}\) As can be seen from the assessment in figure 14, the bio-region, which includes the Maningrida area, is being damaged by feral animals and weeds as well as changed fire regimes.

Figure 14 Bio-region assessment of ecological damage- Arnhem Coastal region


With evidence that much of the Indigenous estate has management needs for the benefit of the nation, comes an argument for state support and the development of an Indigenous natural resource management framework. In this way, the combination of an emergent national pollitick of ecological awareness and the success of Indigenous people in the re-establishment of some of their rights in land, have provided the twin structural conditions for the rise of Indigenous land and sea management as a growing

\(^{101}\) This bioregion comprises ‘a coastal strip extending from just east of Cobourg Peninsula to just north of the mouth of the Rose River in southeastern Arnhem Land, and includes many offshore islands, most notably Groote Eylandt (and its satellites), the English Company and Wessel group, and the Crocodile Islands’ http://www.anra.gov.au/topics/vegetation/assessment/nt/ibra-arnhem-coast.html#intro.
type of remote development. Ironically, however, these twin structures have long been the premise of Indigenous people’s engagement with ‘Country’.

Despite the legal and institutional complexity of Indigenous land holdings in the NT, and regardless of periodic legislative change, there is a firm belief by Indigenous people in remote areas that they are irrefutably the custodians and owners of their land. This belief is important to understand from an Indigenous perspective, as with a notion of ownership and custodianship of Country, comes an obligation to ‘care for’ and ‘look after’ Country. It is this obligation that sits at the heart of a development in the NT’s remote regions that is both relatively new and ages old.

Indigenous land and sea management begins very much in the notion of caring for Country. The notion of the land looking after the people and people looking after the land has long been posited at the core of the Indigenous Australian experience in the anthropological literature. This concept has been explored in depth by anthropologists, such as Stanner (1979), Sutton (1995) and Rose (1996). All these writers have noted the immutable and multi-faceted nature of a concept of ‘Country’ as central to both constructs of Indigenous identity and cosmologies, as well as the daily fabric of local soci-economic order. Rose explains the concept thus:

Country in Aboriginal English is not only a common noun but also a proper noun. People talk about Country in the same way that they would talk about a person: they speak to Country, sing to Country, visit Country, worry about Country, feel sorry for Country, and long for Country. People say that Country knows, hears, smells, takes notice, takes care, is sorry or happy. Country is not a generalised or undifferentiated type of place, such as one might indicate with terms like ‘spending a day in the Country’ or ‘going up the Country’. Rather, Country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will toward life. Because of this richness, Country is home, and peace; nourishment for body, mind, and spirit; heart’s ease (Rose 1996:7)

As such, the term ‘caring for Country’ holds far greater meaning than simply managing the land. Indeed for many Indigenous people ‘Country’ is often personified and may be referred to as a mother or friend and seen as ‘sentient’ or aware (NLC 2006). Baker, Davies and Young (eds 2001) note this in specific regard to Indigenous land and sea management, stating that terms like ‘caring for Country’ or ‘looking after Country’ pertain to an ‘evenly balanced relationship in which people and

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102 And, indeed, in urban and regional areas.
Country play reciprocal and interdependent parts’ (Baker, Davies and Young 2001). Bradley (2001) expands on this theme in discussing the Yanyuwa. According to Bradley, the Yanyuwa see themselves in a state of constant negotiation with their Country. He goes on to note that for the Yanyuwa, Country is the ‘centre for human meaning’ (103).

However, as Sithole et al. (2008) note, the term ‘caring for Country’ invariably means different things to different people. In particular, there is a distinction between what may be termed formal ‘caring for Country programs’ under the auspices of the NLC (see below) and ‘caring for Country’ as an age old Indigenous practice. Sithole et al. go on to note that even this distinction is far from clear cut:

Much of the literature available on indigenous (sic) land management groups makes a clear distinction between groups that fall under the formal Aboriginal land and sea management programs and Traditional Owners that are described as informal and are operating outside the formal program. It is important to note that there are no hard and fast boundaries between the two types of ranger groups. There are many Traditional Owners either living on their outstations or periodically visiting their outstations, who regularly undertake land and sea management activities (Sithole et al. 2008:24).

The NLC’s caring for Country program to which Sithole et al. refer, arguably, has its genesis in a 1991 grant from the Community Employment Program for Aboriginal Natural and Cultural Resource Management and subsequent partnerships with AQIS and ATSIC, to eventually become established as a formalised Indigenous land and sea management program. This culminated in the establishment of the Caring for Country Unit (CFCU) in the Northern Land Council in 1994, after a series of consultations with 17 Aboriginal communities (NLC 2006). The role of the CFCU was to support the Indigenous land owners and groups who had increasingly banded together in remote regions in order to mitigate an increasing damage to Country from feral animals and weeds and who also wanted a regionally based employment strategy (NLC 2006). As such, the caring for Country movement was very much ‘bottom up’, in that it originated in the communities in which it was to run, and was very much an initiative by Aboriginal people, for Aboriginal people. In this regard it stands in stark contrast to many other development initiatives that have been tried and failed in remote areas of the NT (see chapter 4 for failed development initiatives in Maningrida for example). The CFCU has since developed a raft of strategic links with
commonwealth and local government bodies as well as research, business and educators with an aim to furthering community based land and sea management programs.

Since its inception, the Caring for Country program has been remarkably successful if judged by its spread across parts of the Indigenous estate and its increased employment outcomes. From its beginnings in Maningrida and Nhulunbuy/Yirrkala, the CFC program has grown to include 46 separate ranger groups and to employ over 500 people in the NT (Putnis et al. 2007). These groups are shown in figure 15.

Figure 15 Indigenous land and sea management groups in the Top end of the NT

Indigenous land management programs are not limited to the Northern Territory, but are found throughout Australia. However, they are particularly prevalent in areas where Indigenous interests in land are prominent, particularly in remote regions of Western Australia and Queensland.

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103 Indigenous land management programs are not limited to the Northern Territory, but are found throughout Australia. However, they are particularly prevalent in areas where Indigenous interests in land are prominent, particularly in remote regions of Western Australia and Queensland.
In the context of Indigenous employment in the NT, Indigenous land and sea management is a significant industry development. If one were to separate Indigenous land and sea management as an industry of employment from the Census data, it would comprise the fifth largest industry of employment for Indigenous people in the NT. This is demonstrated in table 14 below.

**Table 14 Indigenous employment in the NT by industry**

<table>
<thead>
<tr>
<th>INDUSTRY OF EMPLOYMENT FOR INDIGENOUS PEOPLE - WHOLE OF NT</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry &amp; fishing</td>
<td>140</td>
<td>27</td>
<td>167</td>
</tr>
<tr>
<td>Mining</td>
<td>150</td>
<td>26</td>
<td>176</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>144</td>
<td>37</td>
<td>181</td>
</tr>
<tr>
<td>Electricity, gas, water &amp; waste services</td>
<td>52</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>Construction</td>
<td>327</td>
<td>29</td>
<td>356</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>71</td>
<td>25</td>
<td>96</td>
</tr>
<tr>
<td>Retail trade</td>
<td>208</td>
<td>293</td>
<td>501</td>
</tr>
<tr>
<td>Accommodation &amp; food services</td>
<td>128</td>
<td>250</td>
<td>378</td>
</tr>
<tr>
<td>Transport, postal &amp; warehousing</td>
<td>142</td>
<td>36</td>
<td>178</td>
</tr>
<tr>
<td>Information media &amp; telecommunications</td>
<td>40</td>
<td>37</td>
<td>77</td>
</tr>
<tr>
<td>Financial &amp; insurance services</td>
<td>19</td>
<td>62</td>
<td>81</td>
</tr>
<tr>
<td>Rental, hiring &amp; real estate services</td>
<td>18</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td>Professional, scientific &amp; technical services</td>
<td>71</td>
<td>97</td>
<td>168</td>
</tr>
<tr>
<td>Public administration &amp; safety*</td>
<td>2,397</td>
<td>1,706</td>
<td>4,103</td>
</tr>
<tr>
<td>Education &amp; training</td>
<td>246</td>
<td>716</td>
<td>962</td>
</tr>
<tr>
<td>Health care &amp; social assistance</td>
<td>980</td>
<td>1,105</td>
<td>2,085</td>
</tr>
</tbody>
</table>


Count of employed persons aged 15 years and over

*500 Indigenous land and sea management positions are reported under this category. Importantly, this category also includes CDEP workers, many of whom also operate in Indigenous and sea management programs.

The importance of Indigenous land and sea management becomes even more apparent when analysed in terms of Indigenous employment by industry in very remote areas of the NT, as opposed to the NT as a whole. For example, when compared to sectors such as mining, retail, construction, manufacturing or education, the 500 people employed in Indigenous land and sea management is a significant
number. As figure 16 demonstrates, in very remote regions of the NT, Indigenous land and sea management must be considered as a major sector of the local labour market for remote Indigenous communities.

**Figure 16 Indigenous employment by industry in very remote regions of the NT**

![Pie chart showing employment by industry in very remote regions of the NT](image)

Original source: Australian Bureau of Statistics Cat. No. 2068.0, 2006 Census Tables 2006 Census of Population and Housing NT Very Remote Australia (Remoteness Area), NT INDUSTRY OF EMPLOYMENT(a) BY INDIGENOUS STATUS BY SEX.

**NB** Indigenous land and sea management category excludes people working in this industry on CDEP as I was unable to enumerate. Consequently figure could be much higher.

In May 2007, the ‘success’ of the caring for Country model was more formally recognised by the federal government who created a program called ‘Working on Country’ (Altman and Kerrins 2008). This program has brought stability to funding arrangements for some ranger groups and has also provided an increase in full time employment for Indigenous people in the Indigenous land and sea management sector. There is also a government funded initiative called ‘Working on Country NT’, which is run through the Northern Land Council. The Northern Land Council’s Working on Country (DEWHA 2009) project supports fifteen ranger groups and funds for sixty full time positions. This program works in conjunction with the

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104 Emphasis added.
105 These groups include, the Garngi Rangers, Mardbalk Rangers, Gumurr Marthakal Rangers, Wanga Djakamirr Rangers, Gurrwuilling Rangers, South-east Arafura Catchment Rangers, Mimal Rangers, Numbulwar Numbirindi Amalahgayag Inyung Rangers, Waanyi/Garawa Rangers, Garawa Rangers,
Chapter 6: Caring for Country and working on Country

Learning through Country: Competing knowledge systems and place based pedagogy

W. Fogarty

NLC’s original caring for Country program. These programs are funded through the federal Department of the Environment, Water, Heritage and the Arts (DEWHA).

It is likely that such investment will continue from the Federal government, at least in the foreseeable future. Indigenous land and sea management forms a key component of the overarching Agreement on Indigenous Affairs between the NT government and the federal government at Schedule 2.5 of the NT Government/Federal Government Overarching Agreement on Indigenous Affairs; Healthy People, Healthy Country (COA and NTG 2005). Similarly, in May 2009, the Minister for the Environment, Heritage and the Arts announced a further $69 million in funding for Indigenous land and sea management programs and positions:

The Australian Government has committed over $69 million over five years to create 210 new environmental jobs for Indigenous rangers in remote and regional Australia. Indigenous organisations will be able to secure funding for 100 Indigenous rangers working across a range of land tenures, 60 flexible positions and 50 traineeships with existing ranger groups. Minister Garrett said this commitment builds on the 300 ranger positions (already) created… (Garret 2009).

The Minister also noted that an ‘ongoing commitment to Working on Country is an integral step in the Rudd Government’s approach to closing the gap on Indigenous disadvantage’ (Garret 2009). Additionally, there is considerable potential for further private sector investment in environmental services by Indigenous land and sea management groups through offset arrangements, carbon trading and emission reductions. A successful model of this type of development can be found in the West Arnhem Land Fire Abatement (WALFA) project. In the same vein there is a

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Yugul Mangi Rangers, Malak Malak Land Management, Ngatpuk Land Management, Wagiman Guwardagun Rangers and Werat Land Management.


107 Media release The Hon Peter Garrett MP Minister for the Environment, Heritage and the Arts, 12 May 2009. These positions will be in addition to current employment figures.

108 It should be noted that such statements accompany most announcements on Indigenous Affairs policy and are generic.

growing interest in the sustainable development of wildlife enterprises as an area of remote development (Fordham and Fogarty et al. 2010).

However, the ‘success’ of Indigenous land and sea management programs, and the associated increase of government involvement in these programs, is perceived by some Indigenous people as a risk to the original notion of ‘caring for Country’. For example, one ranger in Maningrida, who has been involved in the Djelk program since its earliest beginnings made the following comment:

“Yes, it’s good now that we get proper pay and proper job, but all the time they are making new rules on us. Should be back to what old people wanted. You know, looking after Country, but staying on Country for more time and everyone working together. Not just ranger but all the peoples. Now we got too much djurra\textsuperscript{110} or too many rule for truck or sometimes always training. Less time Aboriginal way, you know.” (S.N 2008 18\textsuperscript{th} August pers. comm.)

This tension between local Indigenous aspirations and the state was a common theme throughout my time with the Djelk rangers. Crudely, the state saw land and sea management through a highly modernising lens. The goal, under government policy prescription was to reverse the deficit, or ‘close the gap’ in employment rates. It did this by funding full time positions that had previously been CDEP positions. However, May (2010) notes that:

…in 2007 formal Indigenous land and sea management groups used CDEP for 90 per cent of partial wage payments, capital assets and human resource management…The removal of CDEP-subsidised labour will be to the detriment of already vulnerable land and sea management groups that lack the capacity to transform CDEP positions into non-subsidised jobs at award wages. (May 2010:5)

From a state perspective full time positions give Indigenous people a better life and more money. However, for some Indigenous people the flexibility inherent in the CDEP work arrangements had allowed them to gain paid employment, and balance this with customary pursuits on Country. One of the focal points of this tension became the government requirement that rangers work full time in a Working on Country position. There were a number of areas that Djelk rangers found difficult in the change from being on a CDEP position to being full time. In particular, the

\textsuperscript{110} Paper work.
number of hours that rangers were required to work was, for some rangers, an impediment to fulfilling their obligations on Country. These obligations included customary pursuits and ceremony. Similarly, the trade off between full time employment and commitment to family, the lack of autonomy in hours worked and a reduction in leisure time saw full time work become a poor option.

In one instance in 2007, the amount of time a young man had to spend at ceremony led to him losing his position. This was despite the fact that he was widely regarded as a very good worker and a good ranger. Ironically, it was his high regard because of his ceremonial learning that gave him status within the program and, much of his skills in managing Country were a direct result of learning he had gained through ceremonial teachings. In the same vein, the increased involvement of government in the funding of the Djelk program, brought with it ‘instruments of government’ that some workers found difficult to deal with. Occupational health and safety requirements, increased levels of accountability and an increased focus on paper work and documentation were seen by some as detracting form the real work they needed to do on Country. More dramatically, however, some rangers felt that their existing skill sets, based primarily in learnings obtained on Country and through Indigenous knowledge transmission, were no longer sufficient to do the job they had chosen. V________ explained this to me clearly:

“I know all about ranger job, but sometimes now, they want me doing talk to government or writing report. I can’t do him sometimes, you know Gammerang, sometimes my reading is no good or I can’t understand all this djurra. How can I teach them young boys now? I can’t teach them proper way for this job. Used to be I was number one here. Ranger work all around. Soon must be I’m no good anymore.” (V.R. 2007 21st September pers. comm.)

In a Foucauldian sense, it is clear that the ‘governmentality’ associated with state sponsorship of Indigenous land and sea management creates difficulties when it meets the reality of Indigenous obligations in caring for Country. While these tensions permeated all levels of the Djelk ranger program with whom I worked, there were also points of alignment and synergies between Indigenous aspirations and the goals of the state. These synergies were particularly evident in areas of border security and quarantine. In 2007 the Djelk rangers won a contract with customs to provide regular border security patrols along the 180 km long coastline in the area. The contract was a
recognition of years of unpaid work in which the rangers regularly detected and intercepted foreign fishing vessels from Indonesia. In 2006, for example, the rangers were instrumental in the interception of 26 illegal foreign fishing vessels. This provided a point of alignment between the wants of people in the Maningrida region to look after their sea Country and a want by the Federal government to protect the nation’s borders. In the same way partnerships with other agencies include a fee for service arrangement with the Australian Quarantine Inspection Service (AQIS) for reporting and monitoring potential threats from foreign debris and mosquito born disease. Similarly, NT fisheries have a long standing contract with the rangers in which they regularly report on illegal domestic fishing activity, monitor marine pests and provide a surveillance role on the water.

Given the tensions and synergies that exist in Indigenous land and sea management programs between Indigenous interests and the state, it becomes clear that there is a heightened need for the development of pedagogic structures that can account for such complexity. Rangers are in great need of educational programs that will allow them to deal with a rapidly changing work environment and to enable them to maintain a sense of control over the ‘ethos’ of caring for Country that underpins their work. To do this, educational provision must negotiate a balance between the mainstream work and literacy and numeracy skill sets needed, while allowing Indigenous knowledge transmission to both continue and be valued. Equally, government should become cognisant of such need, if its goals within the Indigenous land and sea management industry are to be met. The risk is that without a pedagogic structure to support programs such as the Djelk rangers in remote regions, the ‘heavy hand’ of government will direct programs in a direction which Indigenous people will find untenable and top down training regimes that are destined to fail will proliferate. A form of pedagogy which allows for competing discourses and synergies of knowledge to underpin learning in remote Indigenous land management programs should, therefore be a priority. In the next section of this chapter I examine some previous attempts at providing a pedagogic framework for land and sea management programs with an emphasis on programs in Maningrida.
Chapter 6: Caring for Country and working on Country

Training and Pathways

Given the importance of Indigenous land and sea management as an employment option in very remote areas, and its place in the current government’s overarching policy framework, there has been surprisingly little detailed analysis of the educational needs of this type of development. Some effort has been made in the provision of certificate level training by localised registered training organisations (RTOs) and by CDU. However, this effort has been disparate and generally based on modules of certification imported from mainstream courses in natural resource management. As noted in chapter 2, such arrangements generally do not suit local Indigenous training needs. This is despite a reasonably long history of Indigenous engagement in training in and around land and sea management. For example, Indigenous land management has been connected with natural resource management training in the NT as far back as the early 1970s and, more formally, through the Kakadu National Park management plans from 1978 onwards. These early training efforts became more widespread when the NLC set up the CFCU. This led to ranger groups being able to apply for and access formal training delivery through RTOs. The main provider of the training was the Northern Territory University (NTU), which later became Charles Darwin University (CDU). This training also centered around the provision of certificates in natural resource management. The training was augmented by non-accredited training in a number of different fields, including simple skills based acquisition, such as chainsaw use or basic computer skills, which were usually provided through local RTOs. Often, such training was delivered in short modules. For example, during the late 1990s, BAC in Maningrida used a registered training provider to deliver training to the Djelk rangers. This training consisted of week-long, short courses about five times a year (Fordham et al., 2010).

The training provided by CDU, and the funding through the NLC, led to some rangers gaining qualifications in their field of work for the first time. It also allowed some localised connection with schooling. These connections were the beginnings of a pathway between school, vocational education and employment in Indigenous land and sea management in the Maningrida region. It was at this time, due to an education program I was running in an outstation (see chapter 5), that I became involved in a training program for Indigenous rangers at Maningrida. The outstation

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October 1999.

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schools around Maningrida were staffed by a number of Indigenous Homeland Centre teachers who were training to become fully qualified teachers through the then Batchelor College Remote Area Teacher Education (RATE) program. One of the CDU lecturers delivering training to the rangers, who is sadly deceased, was staying at my house in Maningrida. I happened to mention that we were running a workshop for our teachers aimed at designing some teaching programs for outstation students based around the concept of ‘Country’. She mentioned that she was running a training workshop for the Djelk rangers and that they needed to make some presentations to complete a module. Such serendipity is rare in remote education, so we organised for the rangers to give a lecture to the Indigenous teachers on the work they were doing. The resultant workshop was held at the Djinkarr ranger station and sparked the beginnings of an educational pathway in the region that has waxed and waned over the last decade. As an example of how connections between schooling and Indigenous land and sea management can grow, I provide here a brief recount of the workshop and its eventual enhancement of a school program.

In consultation with the CDU lecturer and the students, we mapped out all the learning outcomes that both the rangers and the teachers had to achieve from their respective training courses. One group was doing a certificate III in Indigenous education work and the other group was doing certificates II and III in natural resource management. Eventually, we decided that each group would teach the other about their work through a series of formal presentations. The students would then be required to both critique the presentations, and to write their own reports on the information they had garnered during the presentation.

The workshop was well attended and I was surprised by the level of engagement shown by both the rangers and the teachers. Subsequently, the outstation education program, particularly through the involvement of the Homeland Centre teachers, became increasingly aware of, and interested in, the Djelk rangers’ work. Similarly, the rangers started to realise that education could be a vehicle to help them with their work. Around this time, the Key Centre for Tropical Wildlife Management from CDU and the Djelk rangers were conducting some research into the wildlife harvest levels of people in the outstations (Altman and Cochrane, 2003). The Maningrida Djelk rangers were partners in the research and were involved in collecting data on customary catch rates of species such as magpie geese, long neck turtles and
barramundi. After the interest shown at the workshop, I invited the rangers to come to the outstation school where I was working and discuss the research with some of the older students. This fitted well with the ‘Learning through Country’ program I had been running at Gamardi (see chapter 5).

What transpired at that meeting between the rangers and the students was an agreement by the students to participate in the recording of the data that the rangers were collecting. Subsequently, knowledge about who caught what and where, and on whose Country, became a key subject of conversation for the students. In order to record the data, the students, with help from me, developed a series of matrices that were filled in every day then converted into extended English texts. Young men and women I had been struggling to engage in school began coming in every morning to check results, and were eager to learn how to convert the data into texts. Older people also had a great interest in the data and would often come in to discuss the information, particularly concerning ownership of Country and its relationship to the students. Many also commented that the interest among young people had led to an increase in hunting activity in the area. Eventually, this small beginning became a detailed literacy and numeracy program, with the Djelk rangers helping in its development and delivery. This was the beginning of a pathway from school into training and work. Unfortunately, the demands of the curriculum and the lack of time for either teachers or rangers to continually coordinate the program led to its demise. New and different versions of these connections have continued until today, but as we shall see in chapter 7, they continue to be disparate and lacking in systemic support.

While these earlier attempts at an Indigenous land and sea management pathway were moderately successful, it was not really until the early 2000s that a more systemic approach was tried in Maningrida. Between 2003 and 2005, training for Indigenous land and sea management in remote regions of the NT was still being delivered by CDU as the RTO. In the case of the Djelk Rangers in Maningrida, this was delivered under funding from the then Commonwealth Department of Employment and Workplace Relations (DEWR). DEWR had instigated an educational program called the Structured Training Employment Program (STEP). The program provided training to people in a number of different employment roles in Maningrida. Fogarty and Paterson (2007) analysed the training program and found that 57 participants went through the program with 22 completing a qualification. Of
these 22, 15 had commenced at the beginning of year 1 (March 2003) which means that of the original cohort there was a 38% retention rate by the program’s completion in 2005.

However, Fogarty and Paterson also found that realistic expectations, time frames, outcomes and definitions of employment were not always understood by DEWR or RTOs and that this led to a number of severe problems in the delivery of the training. These included training participants not being paid and RTOs who were unable, or unwilling, to provide the quarterly training reports required by the contracts. There were also issues related to the logistics and relevance of the training. This resonates with the more general findings of Sithole et al. (2008) who note that:

The CFCU and the rangers are equally frustrated by the CDU and BIITE as these organizations have perennial problems of maintaining staff skilled in NRM. Often the trainers do not meet training quotas, do not arrange funding, and sometimes do not turn up for training and or award the certificates. Trainers involved in the evaluation often feel overwhelmed by the requests for training, and the distances that need to be travelled to reach groups makes their task more challenging (Sithole et al. 2008:105).

Many of these issues are addressed in chapter 2. However, some additional problems Fogarty and Paterson found in the delivery of this training regime were literacy and numeracy barriers and the high mobility of the population. As a vehicle into full time employment which was the goal of the STEP program, its achievements were poor, as figure 18 shows. The combined results of the two STEP programs analysed also show significantly low completion rates with 66% failing to gain a qualification.

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112 The propensity for frequent mobility over the short-term is one characteristic of the Indigenous population which is widely acknowledged as having implications for the delivery of health, housing, employment, education and training services (Memmott, Long & Thomson 2006; Taylor 1998; Taylor & Bell 2004 cited in Taylor 2006).
Figure 17 Maningrida STEP results

NB DEWR did not consider exiting to CDEP based work as exiting to employment. (Original source: (Fogarty and Paterson 2007).

However, while the overall results of the STEP model of training were very poor, the relative success of the rangers in engaging in the training was quite high (see figure 18)

Figure 18 Retention of training participants by occupation

(Original Source Fogarty and Paterson 2007)

I asked four of rangers involved why they thought this might be and there was agreement that they were desperate to get certificates that recognised the work they had been doing. Mathew, for example explained:

“I’ve been doing this (ranger work) for a long time. But we get no recognition. This certificate was important to us.” (M.R 2006 November 17th pers. comm.)
In 2006, CDU stopped delivering the certificates in Natural Resource Management, citing budgetary constraints. This ended the only systemic training for Indigenous land and sea management programs in the Maningrida region. During the time I spent with the Djelk rangers on fieldwork in 2007 (see chapter 1), there was no coordinated training program in place. Over a period of twelve months in 2007, the Djelks were involved in 11 separate one-off training events, none of which was coordinated or led to qualifications. All of these were delivered by outside agencies, most notably through NT Fisheries, AQIS and Customs. This had its drawbacks. As one Senior Ranger told me on the morning of a two day map training program:

“This is the fourth time I have been taught how to read a map. I’m not fuckin’ stupid!” (V.R. 2007 September 21st pers. comm.)

One of the issues was that the agencies delivering the training were all in fee for service arrangements with the rangers and the training was specifically geared towards the achievement of the tasks that the parent agency wanted them to achieve. While there is nothing wrong with this, and such training is necessary, it was not coordinated in any way, had no literacy and numeracy outcomes attached and lacked any opportunity for the rangers to hone skills that are essential to their daily tasks. Similarly, such a training model immediately positioned outsiders as the technical experts, even though many of the rangers had a great deal of experience in the areas being taught, usually far more than the instructors. Underlying much of this training model was a presumption that the rangers were unskilled and were in need of ‘skilling up’. Such deficit models of education fail to consider the pre-existing knowledge of the students and as such generally achieve poor results. The fractured and disparate training regimes experienced by the Djelk ranger program in Maningirda was not dissimilar to training histories in other remote regions in which I have conducted this research. However, remarkably, even with such fractured histories of training development, Sithole et al. (2008), found in a major review that:

ranger programs had improved adult numeracy and literacy levels in most of the remote communities we visited. Numeracy and literacy training was offered as part of a suite of courses delivered to rangers and becoming literate and numerate had opened new opportunities for many people in the communities, with benefits flowing to families and others (2008:ix).

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113 As noted in chapter 2, this is a common problem in training provision in remote Indigenous communities.
How they arrived at this conclusion, however, is unclear.

In 2008, the Batchelor Institute of Indigenous Tertiary Education (BIITE)\textsuperscript{114} and the NTG signed Schedule 5 Indigenous Land and Sea Management Education Employment and Sustainable Livelihoods. This Schedule aligns closely with Schedule 2.5 of the NT Government/Federal Government Overarching Agreement on Indigenous Affairs. Critically, the schedule concerns:

> the provision of quality education/training that is relevant to Indigenous people engaged in land and sea management in the NT. This includes what training is delivered and how it is to be delivered and also recognises the advantages of “on-Country” delivery to Indigenous groups (BIITE 2008).

The BIITE program is a major step forward in a coordinated, institutional training framework for Indigenous land and sea management and the Certificate III in Conservation and Land Management proposes to:

> provide training for Indigenous people to take a more active role in the management of their natural and cultural resources and to encourage them to maintain, and utilise Aboriginal and Torres Strait Islander cultural and ecological knowledge.

Importantly, it seems the BIITE program will have the ability to be delivered as a Vocational Education and Training (VET) course in schools. How this will work is currently unclear. However, this may be the beginning of a systemic pathway between school and work in Indigenous land and sea management. Regardless, it is critical that BIITE be cognisant of the problems discussed in chapter 2 concerning local educative communities and RTOs disconnecting. One way to do avoid this is through the development of a pedagogy that allows for the local context to become the centre of the training. In particular, the need for Indigenous knowledge to have space in the pedagogic design of the BIITE courses is a considerable challenge. Sithole et al. (2008) make this point plainly, finding that many ranger groups are concerned that there is not enough integration of IK and Western knowledge and that training regimes are too oriented towards non-Indigenous skill sets. They also found that there

\textsuperscript{114} Batchelor Institute began in the mid 1960s on the outskirts of Darwin as a small annex of Kormilda College and in 1982 the institution was named Batchelor College. In 1988 the Commonwealth Government recognised Batchelor College as a higher education institution. A second campus was established in Alice Springs in 1990, reflecting the educational needs of Aboriginal people in Central Australia. Later that year, annexes were opened in Darwin, Nhulunbuy, Katherine and Tennant Creek. On 1 July 1999 the Institute was established, with ownership and governance passing to the Batchelor Institute Council (BIITE 2009) BIITE Handbook.
is little coordination between school, training and work activities which can allow for the transfer of Indigenous knowledge (Sithole et al. 2008:96).

Possibly because the development of training and education programs to support Indigenous land and sea management has been sporadic, there has been very little deeper analysis of what skills a group of rangers may use in their work, nor has there been much explicit research analysing the activities that rangers perform in their positions. In an attempt to address this gap in the current research literature this section quantifies the activities and efforts of the Maningrida Djelk rangers over the period of eight months with a view to:

1. showing the diversity of activity that ranger work involves and
2. analysing the educational ramifications this activity shows.

As noted in the methodology section of chapter 1, during my time with the Djelk rangers I participated in each of the different activities and work details they undertook. At the beginning of my fieldwork there were 21 male rangers and 8 female rangers (See appendix 1 for further information on rangers). These positions were also supported by three non-Indigenous co-ordinators, two of whom left the organisation during the fieldwork period. The Indigenous ranger group was remarkably stable despite some small change in numbers with the move from CDEP to ‘Working on Country’. 115 The Djelk group had a strong representation of people from Buluhkhaduru and Kolibidahdah in the south eastern part of the Maningrida region. The high number of people from this area possibly contributed to the stability the group as work was closely aligned with kinship arrangements. The Djelk program also underwent some organisational restructuring with the move from CDEP to Working on Country funding. Figures 19 and 20 show the governance and organisational structure of the Djelk ranger program as it existed at the end of 2007.

115 Four Indigenous rangers left the program at this time. Two were deemed not able to perform full time work requirements to a satisfactory standard, one left due to ceremonial commitments and one was made redundant after going to Darwin for two weeks without leave being approved by the coordinator.
Figure 19 Governance structure of Djelk rangers

Traditional Aboriginal Landowners
Djelk IPA Management Committee

Djelk Management

Expert Reference Group
Partnership representatives: NAILSMA, NLC, CAEPR, DEWR, NRETA, CDU, Fisheries NT, AQIS, Customs, Bushfires NT etc

Bawinanga Aboriginal Corporation Board
BAC Board Members

Djelk Sea Rangers
Djelk Land Rangers
Djelk Women Rangers
As noted earlier in this chapter, training of rangers in remote communities has generally consisted of courses of work or modules developed for mainstream natural resource management, or adaptations of such programs. During the 35 weeks I spent with the Djelk rangers, I endeavored to quantify the observable work that the rangers were doing. I did this in order to show the breadth of activity rangers engage in and to enable the creation of more targeted training regimes. Understanding where the majority of work effort lies for rangers can be used to balance training provision and to ensure that the training provided is relevant. I present this data in table 15 which is an attempt to quantify the work effort rangers expended on the major observable tasks.
I could enumerate. The data was obtained through observation and through triangulation with the Djelk rangers where possible. However, there are some notable caveats and methodological issues in the data which require explanation.

<table>
<thead>
<tr>
<th>Observable work activity</th>
<th>Tasks</th>
<th>Frequency (6 hrs =1 unit)</th>
<th>Average number personnel</th>
<th>Work effort (frequency x personnel)</th>
<th>% of overall work effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeds</td>
<td>Spraying and removing</td>
<td>21</td>
<td>2</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fencing and monitoring</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>3.6%</td>
</tr>
<tr>
<td>Ferals</td>
<td>Buffalo eradication</td>
<td>4</td>
<td>19</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pig eradication</td>
<td>2</td>
<td>21</td>
<td>4</td>
<td>4.8%</td>
</tr>
<tr>
<td>Fire</td>
<td>Ground burning</td>
<td>10</td>
<td>12</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aerial burning</td>
<td>10</td>
<td>2</td>
<td>20</td>
<td>8.8%</td>
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<tr>
<td>Fauna survey</td>
<td>Trapping and recording data</td>
<td>6</td>
<td>10</td>
<td>60</td>
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<tr>
<td>Crocodile egg collection</td>
<td>Nest marking</td>
<td>5</td>
<td>6</td>
<td>30</td>
<td></td>
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<td></td>
<td>Egg collection</td>
<td>9</td>
<td>5</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Egg monitoring/ selling</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4.8%</td>
</tr>
<tr>
<td>Crocodile management</td>
<td>Trapping problem crocodiles</td>
<td>10</td>
<td>4</td>
<td>40</td>
<td>2.4%</td>
</tr>
<tr>
<td>Training</td>
<td>Customs</td>
<td>3</td>
<td>19</td>
<td>57</td>
<td></td>
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<tr>
<td></td>
<td>AQIS</td>
<td>3</td>
<td>19</td>
<td>57</td>
<td></td>
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<td></td>
<td>Safety</td>
<td>1</td>
<td>19</td>
<td>19</td>
<td>11.8%</td>
</tr>
<tr>
<td>Marine debris</td>
<td>Ghost net removal</td>
<td>6</td>
<td>8</td>
<td>48</td>
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<tr>
<td></td>
<td>Debris clean up</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>3.5%</td>
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<td>5</td>
<td>7.5</td>
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<td>5</td>
<td>12.5</td>
<td>1.25</td>
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<td>Sacred site protection</td>
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<td>2</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td>Signs/fencing</td>
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<td>4</td>
<td>4</td>
<td>0.55</td>
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<td>AQUIS mosquito monitoring</td>
<td>Monitoring of traps</td>
<td>10</td>
<td>4</td>
<td>40</td>
<td></td>
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<td></td>
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<td>4</td>
<td>40</td>
<td>4.7%</td>
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<tr>
<td>Customs patrols</td>
<td>Marine patrols of coastline</td>
<td>48</td>
<td>5.5</td>
<td>264</td>
<td></td>
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<tr>
<td></td>
<td>Custom call outs for issues reporting</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>16.5%</td>
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<tr>
<td>Meetings</td>
<td>Miscellaneous</td>
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<td>8</td>
<td>8</td>
<td>7.5%</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>326</td>
<td>321</td>
<td>1670.5</td>
<td>100%</td>
</tr>
</tbody>
</table>

Firstly, the data is limited to activity in which I could verify the number of people involved and the time spent on the work. In practice, this meant that while I was involved with one group of rangers on a specific activity, I had to rely on informants to tell me what another group was doing, who was involved and how long the activity
took. Whenever possible I tried to verify information which I had not personally observed by correlating it with as many people as possible. However, there is still a margin for error in the information I was supplied. Secondly, I limited my data collation to major activities and work that took at least half of one day (or 0.5 of a unit). This was because small jobs, that took a short period of time, were too numerous to quantify or gain reliable information upon. This means that a significant amount of work activity, consisting of small jobs, may not be represented in the data. Thirdly, as I was not able to spend a full twelve months with the rangers, the work effort represented may be skewed by the seasonal requirements that affect the rangers’ work loads. For example, during the wet season the number of customs patrols in boats tends to be higher as the dry season winds can make these patrols difficult. In rectifying this, however, I provide Table 16 below, which brings together the Gregorian and Indigenous seasonal calendars in order to show what times of the year correlate with which major land and sea management activities.

Table 16 Indigenous land and sea management calendar

<table>
<thead>
<tr>
<th>Gregorian period</th>
<th>Language</th>
<th>Terms</th>
<th>Colloquial term</th>
<th>Weather characteristics</th>
<th>Major customary activity</th>
<th>Major land and sea management activities (Djuk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>November-December</td>
<td>Kunirku</td>
<td>Gununuyang</td>
<td>Budukul</td>
<td>Heat, Humidity</td>
<td>Hunting bird life</td>
<td>Fire management: Customs surveillance &amp; AGIS monitoring</td>
</tr>
<tr>
<td></td>
<td>Burara</td>
<td>Garmanal</td>
<td>Dubudu</td>
<td>Storm build up</td>
<td>Turtle hunting</td>
<td>Turtle animal husbandry</td>
</tr>
<tr>
<td></td>
<td>Nune</td>
<td>Dunyan</td>
<td>Dodgadning</td>
<td>Strong winds</td>
<td>Hunting moray eels</td>
<td>Harvest</td>
</tr>
<tr>
<td></td>
<td>Burara</td>
<td>Gudjuyuy</td>
<td>Jathar</td>
<td>Wet season</td>
<td>Pandanus &amp; bank</td>
<td>Crocodile egg harvesting &amp; husbandry</td>
</tr>
<tr>
<td></td>
<td>Nune</td>
<td>Gadgadning</td>
<td></td>
<td></td>
<td>Harvest</td>
<td>Turkie egg harvesting &amp; husbandry</td>
</tr>
<tr>
<td>April-May</td>
<td>Kunirku</td>
<td>Bangaayuyuy</td>
<td>Crook'em down</td>
<td>Storms in associated flattening of spear grass</td>
<td>Fishing</td>
<td>Burning &amp; weed control</td>
</tr>
<tr>
<td></td>
<td>Burara</td>
<td>Barra</td>
<td>Gamarriyang</td>
<td></td>
<td>Hunting small fish</td>
<td>Customs surveillance &amp; AGIS monitoring</td>
</tr>
<tr>
<td></td>
<td>Nune</td>
<td>Yeere</td>
<td></td>
<td></td>
<td>Crocodile hunting</td>
<td>Turkie egg harvesting &amp; husbandry</td>
</tr>
<tr>
<td>May-June</td>
<td>Kunirku</td>
<td>Yeke</td>
<td>Early dry</td>
<td>Moist, less humidity</td>
<td>Fishing</td>
<td>Burning &amp; weed control</td>
</tr>
<tr>
<td></td>
<td>Burara</td>
<td>Mibawur</td>
<td>Season</td>
<td></td>
<td>Hunting big fish</td>
<td>Customs surveillance &amp; AGIS monitoring</td>
</tr>
<tr>
<td></td>
<td>Nune</td>
<td>Yeray</td>
<td></td>
<td></td>
<td>Hunting &amp; buffalo</td>
<td>Turkie egg harvesting &amp; husbandry</td>
</tr>
<tr>
<td>July-September</td>
<td>Kunirku</td>
<td>Warungung</td>
<td>Dry season</td>
<td>Dry days, cooler temperatures, Cold nights</td>
<td>Fishing</td>
<td>Burning</td>
</tr>
<tr>
<td></td>
<td>Burara</td>
<td>Warunguyuy</td>
<td></td>
<td></td>
<td>Hunting small fish &amp; buffalo</td>
<td>Feral animal control</td>
</tr>
<tr>
<td></td>
<td>Nune</td>
<td>Warungung</td>
<td></td>
<td></td>
<td>Crocodile hunting</td>
<td>Customs surveillance &amp; AGIS monitoring</td>
</tr>
</tbody>
</table>

(Original source: Fordham et al. 2010)

116 I also rounded work activity to the nearest whole number. For example five hours of work would be rounded to equal one unit of work in the table.
By quantifying the Djelks’ work effort, and mapping its seasonality, a number of educational observations are possible. The first is that, even without a coordinated training program in place at the time, training still accounted for a relatively large amount (11.8%) of total work activity. This suggests that the advent of a coordinated training program, such as the BIITE certificates, will combine with more ad hoc and informal training to comprise a significant amount of work for a program such as the Djelk rangers. Given this, the need for both formal and informal training to be coordinated and to avoid duplication of skills is demonstrable. This is an issue that needs to be considered by RTOs, ranger coordinators and agencies, such as Customs, engaging the rangers in fee for service work.

The data also shows that fee for service work, with organisations such as Customs and AQIS, brings with it a heavy training component. While this training is deemed necessary by the fee for service agencies, there is potential that the amount of time spent engaging in this sort of training may have an opportunity cost for rangers in their other duties. In particular, there is potential that training for fee for service work can manifest in less time ‘on Country’, and consequently less time for Indigenous knowledge transfer to occur.

Similarly, the breakdown of the Djelk work activity shows that 53.1% of activity conducted during my research was work directly undertaken ‘on Country’. This means that 46.9% of activity involves rangers being in town. While this balance between work on Country and work in town seems quite even, there is a risk that this balance could easily be upset. Throughout my research, time spent on Country was consistently regarded as one of the key attractions for people to become rangers. Training regimes that insist on heavy classroom based content, therefore, have a potential to upset this town/Country balance, and make employment as a ranger less desirable. This should be a key consideration for training providers. Learning conducted in the field or during ‘on Country’ work activities should be a priority.

Targeting of training to ‘on Country’ activity must also be cognisant of the seasonal requirements of certain major activities within ranger programs. As table 16 shows, certain land and sea management activities are dictated by the time of year.

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117 This includes time on ‘Sea Country’.
For example, training that concerned skills for feral animal control, would best be delivered in situ during July-September, as it would coincide with peak work activity. Conversely, training to be delivered in town would best be targeted in the wet season, when less land and sea management activity ‘on country’ is occurring.

While quantifying the work effort of the Djelk rangers provides a mechanism to analyse training needs, the need for pedagogy to support the IK that underpins a significant proportion of the activities the Djelks undertake is far less easy to demonstrate. Skills learned on Country and through the transmission of IK need to be considered by training providers and fee for service agencies. A failure to recognise their importance, and a tendency to focus on the provision of Western knowledge, can lead to training that is actively detracting from IK transmission by taking rangers off Country for education. Indeed, it is often skills learned on Country that fee for service agencies or government wish to ‘purchase’ in the first place. However, these skills can be subtle as the following extract from my field notes shows:

Sometimes there is a moment during research when you become acutely aware of something that should have been obvious to you all along. One such moment came to me on a Monday morning. It was one of those still, build up mornings when the Arafura Sea is glassy and the sun is relentless. We were bobbing around, 10 kms off shore on a patrol, and about to do a long run over to Junction Bay where illegal Foreign Fishing vessels had previously been harbouring. We were in the Ranger boat, a six point five meter Stebi-Craft and there were four Indigenous Rangers with me, M____, V____, Mi______ and W______. I was drowsily staring at the horizon, when suddenly it seemed it was time to go. In preparing to leave the pleasant lee of a reef we were anchored near, each of the men launched into a flurry of activity. M_____ pulled a large laminated map from the console and wrote out a series of longitudinal and latitudinal way points, which he promptly entered into hand held GPS he was using. Meanwhile V______ was scrolling through a series of maps and previous routes on the depth sounder and correlating them with M_______’s laminated map, plotting a series of way points for the patrol. Separately, W_______ conducted an audit of the engine and fuel system. He pulled the cowling off, checked the telltale line and pump-primed the engine. He then popped the laminated deck open, checked the fuel gauges and secured the battery housings after checking the terminals. Up the front of the boat, Mi______ set about organising the deck. He squared the esky and water carriers against the front of the hull, untied and pulled in the anchor, carefully looping the rope into its cradle, and simultaneously lit five cigarettes which he handed around. With a cough and roar the outboard fired and we were off at break neck speed. Not a word had been said.

The thing that became obvious to me through such a rapid execution of a mundanity of events was not just that each of the men in the boat contributed a different set of skills to the task at hand. Rather, the thing that stuck with me was that the division of labour was dictated by the skills that each of the individuals could best
contribute. While in some ways these skills were dependent on the seniority of the person involved, they were also dependent very much on the knowledge sets that the individual held. M______’s literacy and numeracy skills dictated that he should be the one that decided the place for the patrols while Mi_______’s lack of such knowledge relegated him to pulling the anchor. These positions were also confirmed through their respective positions in the organisation as a whole. However, what happened next reminded me that particular forms of knowledge are especially useful in particular situations.

About halfway through the patrol, Mi_______ pointed to the horizon and said that something was floating out in the distance. We all peered, but saw nothing. Frustrated with our efforts, Mi_______ eventually took over the driving of the boat. It was not until a full five minutes later, at full speed, that we saw a giant fish box that had obviously come adrift from a fishing boat. This later proved to be important in the locating of an illegal fishing boat. Mi_______ was renowned amongst the Djelk Rangers for his exceptionally keen eyesight. This is no mean feat in this company as many of the Rangers I worked with seemed to have the ability to spot things, both in the bush and at sea long before me, and there is nothing wrong with my eyesight. While this is a skill one can practice to some extent, Mi_______ told me that he learned to spot things well as a child from his grandfather. The old man taught him to look for differences in planes on the horizon. He had learned this skill in the (sea)Country in which he was now working and a number of times I saw Mi_______ spot things long before customs officers using binoculars could. It seemed that to some extent this was a talent and skill that was both localised and individuated. It was also a skill that, at certain times, saw Mi_____ elevated to being the one in control.

I outline the example above to demonstrate that Indigenous land and sea management is very much dependent on a matrix of skills and learnings that are transferred in both formal and informal situations and that they rely very much on a mix of Western and Indigenous knowledge. These skills begin in the notion of ‘Country’ and are actualised in the daily machinations of Indigenous land and sea management in practise. The provision of training in such programs must be cognisant of this and, wherever possible, allow time on Country and recognise the skills that Indigenous people bring to educational situations. Similarly, the provision of training in land and sea management must be underpinned by an understanding of the importance that notions of land and Country play in programs like the Djelk rangers.

In this chapter I have traced the structural conditions of an emergent and relatively successful type of remote Indigenous development; Indigenous land and sea management programs. In so doing, I have demonstrated that political and legal

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118 M_____ held the most senior position while Mi____ held the most junior position in the crew.
constructs surrounding Indigenous land holdings combined with a recognition of the ecological and environmental needs in the management of land, have provided the condition for an increasing engagement in Indigenous land and sea management programs by the state. I have also shown that from an Indigenous perspective, engagement and management of their land has long been at the centre of their concerns, and that the increasing role of the state is bringing with it tensions and problems that are continually in need of negotiation within Indigenous land and sea management programs. I have argued that land and sea programs are in desperate need of pedagogic support that would enable these tensions to be mediated. However, in my analysis of training and education supporting these programs, I found that provision has been sporadic, disparate and generally poor. Through an ethnographic analysis of the Djelk ranger program, I have shown that training for Indigenous land and sea management programs must be targeted to the local environment, coordinated and developed with ‘on Country’ provision at its centre. The research herein shows that training that does not do this runs the risk of usurping IK transmission and disengaging Indigenous workers, as well as undermining the long term success of this form of development.

In the next chapter, I examine the provision of educational models that have the potential to support Indigenous land and sea management programs, as well as mediate tensions between the state and Indigenous interests in the provision of education.
Photographic Essay Djelk Rangers
Photo 8 Mischat Rostron collecting crocodile eggs 2007

Photo W Fogarty

Photo 9 Crocodile hatching after incubation

Photo W Fogarty
Photo 10 Djelk rangers preparing crocodile trap for problem crocodiles May 2007

Photo W Fogarty

Photo 11 Djelk rangers retrieving crocodile killed in illegal fishing net April 2007

Photo W Fogarty
Photo 12 Djelk sea rangers freeing turtles from foreign fishing vessel net February 2006

Photo 13 Djelk sea rangers training with Australian Customs September 2007

Courtesy Djelk Rangers
Photo 14 Djelk sea rangers retrieving ghost net October 2007

![Photo 14 Djelk sea rangers retrieving ghost net October 2007](image)

Photo W Fogarty

Photo 15 Djelk sea rangers burning intercepted foreign fishing vessel March 2006

![Photo 15 Djelk sea rangers burning intercepted foreign fishing vessel March 2006](image)

Courtesy Djelk Rangers
Photo 16 Weed management (mimosa) 2006

Courtesy Djelk rangers

Photo 17 Controlled burning 2006

Courtesy Djelk Rangers
Photo 18 Repairing damage to Country August 2007

Photo W Fogarty

Photo 19 Djelk rangers November 2007

Photo W Fogarty
Chapter 7: Learning through Country

In chapter 5, I discussed the role ‘Country’ can play as a pedagogic device in remote Indigenous education. Chapter 6 explored the role ‘Country’ is playing in Indigenous land and sea management. In this chapter I show how learning and work ‘on Country’ are overlapping in an emergent model of education. I begin by discussing four ‘Learning through Country’ education programs that I have researched in remote regions, with particular reference to Maningrida where most of my field work was undertaken. In so doing, it becomes clear that the case studies presented here are localised attempts to overcome the problem I set out in chapter 2, namely the disconnect between school, community and work. It also becomes apparent that in all the programs I researched, the role of Indigenous knowledge is central to the pedagogic design, albeit within the sometimes limited space of the curriculum. While each of the case studies have their own history of development and are diverse in their approaches, they share similar goals and desires. This allows for the generation of a framework that makes explicit the different modes of learning that underpin these programs. They also share a vulnerability to policy change and a fragility in terms of capacity. I finish the chapter by analysing the sustainability of such programs and make some recommendations on their future.

In Maningrida, the role of ‘Country’ in education has been a feature of Western educational development in the region since its inception in the 1960s (see chapter 5). The most recent incarnation of ‘learning through Country’ has seen Western science and Indigenous knowledge incorporated into a secondary school program aimed at enabling students to qualify for university entrance. Maningrida CEC first began offering secondary articulation to university in 2004. Prior to this there was no local opportunity for students to progress through an accredited year 11 and 12 equivalent.\textsuperscript{119} This began through the identification of Indigenous land and sea management, and associated sustainable wildlife harvesting, as a key employment pathway in the community (Fordham et al. 2010). With this in mind, Maningrida CEC adapted its senior secondary science curriculum to include courses and topics significant to local Indigenous students and which related closely to Djelk ranger activities. Since 2004, these were in either:

\textsuperscript{119} In the NT the terms stage 1 and stage 2 denote the final years of schooling. Courses exist in two distinct streams, one which enables students to gain a Tertiary Entrance Rank (TER) and one which enables students to earn a year 12 certificate. They are termed PES and PAS respectively.
• **Contemporary Issues in Science,** which is TER-oriented,\(^{120}\) or

• **Community Studies (Science),** which does not lead to a TER score.

While both courses have a heavy focus on scientific inquiry, the educational outcomes required allow for a great deal of flexibility in curriculum design and programming. This enables the development of courses that are rigorous in terms of educational standards and requirements, as well as being directly relevant to the context of Maningrida. In analysing what has made the Maningrida courses possible, eight key variables become apparent. In this next section of the chapter I discuss these variables as a recipe for ‘success’ in the development of a pedagogic framework linking Indigenous land and sea management and education in a remote context. However, I also discuss the fragility of the courses and some of the constraints that this type of education currently faces.

1. **The learning is valued and understood by the ‘community’**

The ability of parents and students to engage in the Maningrida courses has undoubtedly been a key ingredient in the courses’ development. As shown in chapters 4, 5 and 6, ‘Country’ is a concept that permeates many aspects of the social and economic reality of Maningrida. Learning connected to ‘Country’ is therefore seen as an important and valued educational pursuit. This is clear within Indigenous ceremonial pursuits, kinship obligations and delineations of identity and relatedness, all of which are inherently connected to ‘Country’. The importance of learning through ‘Country’ is expressed in different ways, but in relation to the Maningrida courses, parents made the following statements:

“My son is in that course (community studies). I know that one and we like because he can be learning *balanda* ways about his own Country. He owns that Country, you know. He a full land owner. Now I say its very good to be learning *Country*, sometime ceremony, sometimes number and science, all that. We say good one, *maynmuk.*” (M.M 2007 October 5th pers.com.)

“Should be lotta school like this one. I bin go school and long time ago we always going Country. Leave em school. Here, sometimes bush, sometimes close up Maningrida. But we can’t learn new *balanda* way. But this young boy. He know. Last year (last week) he bin go look ‘em round *ginga* (crocodile) nest. You know? They bin find ‘em with ranger mob.

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\(^{120}\) Tertiary Entrance Rank.
Learning all that *ginga* story. Then they grow em up (the crocodiles) make *rupiya* (money).” (J.N. 2007 January 6th pers.comm)

“I’m working as an Aboriginal teacher for twenty years now and I think this is a new way. That teacher, he has to listen to Aboriginal people to make that study work. I see these young men and women here at this school for a long time, but this type of learning, we can help the young ones. I think it’s really good.” (R.D 2006 November 5th 2006 pers.comm.)

Similar positive sentiments were also expressed by the students. One student, who had completed the course and was now employed, stated:

“All the learning we did with M___, I felt good about it. It was easy for me because I can always talk to my family about spider and pig or buffalo and they can help me. They could tell me stories in language and then I feel happy because I can understand the school stuff better each time. They (my family) always feel proud when I tell them story about school or story from the scientists and when we went Brisbane and all around talking to *balanda*, my family is really proud for me, they say good one!” (C.C. 2007 January 31st pers. comm.)

While such positive statements can be seen as an endorsement of the courses’ approach to learning, the comments, which were typical of students and parents interviewed, allow for a deeper understanding of the importance of engaging the wider community in the learning process. This is particularly important in the remote Indigenous context where teachers and educators sometimes feel that ‘parents don’t care about school’ or students are considered not to value education. The ability of parents and students to engage in the learning, and for the subject matter to penetrate the boundaries between home and school, is a fundamental ingredient of the Maningrida science courses.

2. **The students bring to the studies a wealth of knowledge regarding the topic enabling them to move from the known to the unknown, or visa-versa**

As I noted in chapter 5, moving from the known to the unknown has long been an educational cliché. However, it a cliché with immense significance. The research base in education has repeatedly shown that a student’s ability to ‘scaffold’ new information on top of an existing knowledge base is a precursor to improved educational attainment (see chapter 2). While this may seem an easy thing for an

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121 Interestingly, during the course of my research I was provided with no negative comments or remarks about the Maningrida CEC science courses. This surprised me and I began specifically asking for negative feedback. The only negative comments I garnered concerned the difficulties in arranging the courses from the perspective of teachers and rangers.
educator to do, in remote Indigenous contexts the barriers to such a simple proposition can be many. Formidable linguistic and cultural divides often exist between the teacher and student. This inhibits basic conceptual communication. However, at a deeper level, the gap between a student’s lived experience and a given educational topic can be immense, particularly in the senior years of school, where the conceptual difficulty of a learning program is dramatically increased. One senior student at Maningrida expressed this difficulty to me by saying that he was having difficulty even knowing what one of his courses was about.

“I never know this teacher before last week. She teaching me all bout this harming (farming). I sometimes see those buligi (cattle) on tv, but I only know bush buligi not this other one.”

I asked the student what he was learning about farming.

“I don’t know. Too hard for me. Must be something else. Not for me. I only know buligi. My father and I always hunt this buligi over other side. You know that Arafura swamp? I know him that buligi. Manymuk wale (good tucker).” (J.J. 2006 October 5th pers. comm.)

Perhaps if the teacher had known that the bush buligi the student regularly hunted had originally escaped from a failed farming enterprise in the Ramingining region, the concept of farming may have had a more contextualised beginning. This would provide a point of alignment with the student’s existing knowledge base, thus enabling a scaffolded program into the broader concepts of rural agricultural production, which she was trying to teach.

While the simple example above demonstrates the value of moving from the known to the unknown, the science courses at Maningrida did not suffer from this problem, as the knowledge base that the students already possessed, to varying degrees of depth, already aligned with the subject matter.

For example, crocodiles hold an important totemic and relational place in the local Indigenous cosmologies of Maningrida. They also constitute a threat to a child’s safety and as such are an integral part of a child’s learning from a very young age. Indeed a popular children’s song in the Maningrida region is ‘Crocodile is Crawling’ (translated from Djinang by Kathleen Barrgitj barr):

Learning through Country: Competing knowledge systems and place based pedagogy
W. Fogarty
Crocodile is crawling
Crocodile is crawling
Sitting in the sun
All along the mud
Crocodile is crawling
Crocodile is crawling
Waiting for a bird
Sliding all around
Crocodile is crawling
Crocodile is crawling
Breathing underwater
Waiting to go bite

Perhaps this can be seen as a localised or Indigenised version of ‘Never Smile at a Crocodile’, although Kathleen was very eager to say that the song would always be accompanied by a story about what a crocodile does and at what time of year, thus warning the child about the dangers of crocodiles, and at the same time imparting important ecological knowledge. So, when students came to study a unit in contemporary issues in science that dealt with crocodiles, the subject matter was far from foreign. Students, in the main, were well versed in the life stages of a crocodile, its habitat, its position within the wider Indigenous cosmology of the region and had first hand experience in understanding the animal’s ecological needs and wants. This particular unit examined crocodile egg harvesting, which provided students with opportunity to understand crocodilian lifecycles and the scientific basis of egg collection, incubation and husbandry, to examine tourism and commercial aspects of crocodile enterprises, and to learn more about the place of saltwater crocodiles in Indigenous culture. Importantly, the unit dealt with a very familiar topic, but used this base to impart complex Western notions regarding marketing, high level science, commercial and ecological concepts of sustainability as well as literacy and numeracy. It also engaged people of importance in the local community to talk to students about IK concerning crocodiles. In this way the unit moved the students from a known knowledge base to the development of cognitive skills eminently transportable to contexts far removed from the local.
3. **Senior Members of the community were able to be involved in the learning**

The place and role of senior community members in Maningrida forms a critical component of the local social structure (see chapter 4) but can also be viewed as in a constant state of transition (see chapter 5). Much is made by older people in the community of the lack of authority they feel they now have over younger members of the community. While this generation gap between different age groups in any society is as old as time, there is a particular acuteness to the ‘worry’ older people feel about a lack of respect or legitimacy they feel is shown them by Maningrida’s youth. In part this is attributable to the rapid transformation of the township and the accompanying transmogrification of social norms (see chapter 5). The role of schooling has an obvious place within this perceived generation gap. English language use, as the dominant mode of instruction, has dictated that school is very much conducted in the discourse of the other. Older people are less well educated in English in the main and many feel ill equipped to fully understand the increasingly stringent requirements of a modern Western education.\(^\text{122}\)

Jacky, a very well respected and important member of the Kune language group expressed this frustration thus:

“Them young people they can’t listen me old man. So school... ahhh.... yeah I want ‘em all the young one learn that school, but no good me Jacky gunna help. I can’t help him. But they gotta learn blackfella way. (angrily) All the balanda teacher they don’t listen me, they always knowing this way that way. No listen. Them young people they go ha! that Jacky he old man now. He don’t know. But ‘im wrong. I know long time I bin learn all around here. He should listen them young one. And that teacher too. He bloody bamapama (idiot/dickhead), I reckon.” J.N. 2007 January 15\(^\text{th}\) pers. comm.)

As I noted in chapter 2, a great deal of the literature concerning remote Indigenous education suggests involving community elders in the educational processes is important. The reality is that engaging older members of the community in schooling is rarely done well. In my experience, much of this engagement has been limited to a particular set of tokenistic formalities. This is usually manifest in a ceremonial opening of a new part of a school, the introduction of an important visitor or occasionally a time when there is a particular dispute within the school and senior community members are engaged to help work out the issue. Very rarely are

\(^{122}\) Despite a local lamenting of older schooling ways by some older members of Maningrida, general literacy levels in adults are less in the older cohort.
community elders directly involved in the pedagogic development of a course or indeed its teaching.\footnote{\textsuperscript{123}}

One of the major differences with Maningrida CEC science course development was that it tapped into the Indigenous land and sea management programs where elders were already an integral part of the daily program. ‘Traditional’ owners and senior community members had been heavily involved in the Maningrida Djelk program since its inception (see chapter 6) and, as such, their imprimatur on a school program which involved land and sea management was a natural progression. Similarly, the need to access ‘Country’ for practical experiments and surveys meant that permission needed to be sought from the custodians of the land and the purpose of the learning had to be explained. This provided an opportunity for senior members of the community to be actively involved in the teaching and learning development from inception. Most importantly, elders were able to see what the students were learning. The content was on topics of which they had intimate knowledge, so they were able to be a resource for the learning program and the fact that at least some of the activity was to occur on their Country imbued them with a sense of responsibility and ownership over the program.

In analysing the role of senior community members in the courses at Maningrida CEC, one of the features that became obvious to me was that their involvement was very much in the realm outside the school. That is, it was rare that senior people would take part in an active teaching role within a classroom format. Rather, critical interactions with the program were more likely to occur during field work or in the informal settings of an outstation or home camp. In these settings, senior people were seen as the experts on some subjects and the development of student knowledge was dependent on the Indigenous knowledge they were able to provide. A good example of this occurred at Djinkarr, an outstation 20kms to the east of Maningrida.

During a unit on spiders within the contemporary issues strand of the Maningrida courses, a new species of tarantula (\textit{Selenotholus sp}) was discovered by the students (see chapter 3). Subsequently, an expert in tarantulas, Dr Robert Raven from the University of Queensland, came to Maningrida to study the spider and to help in the eventual development of the spider as a species for the sustainable wildlife industry in

\footnote{\textsuperscript{123} The one major exception to this is in the bilingual program where, over the years, elders have been continually consulted and their knowledge forms a critical base within the teaching and learning cycle.}
Maningrida (Fordham et al. 2010). One of the first tasks for the scientist, and the students, was to garner any possible information existing in the Indigenous population regarding the spider. Obtaining this information led to a discussion between one of the senior women of the Gorgoni language group and the scientist about the life cycle and habitat of the spider. This interaction occurred with the students on hand at Djinkarr outstation. Despite the old lady’s limited English and the difficulty the scientist had in understanding her, a discussion ensued, with students translating, providing valuable information about the spider. What was important about the interaction between the scientist and the old lady, in an educational sense, was that her knowledge about her Country and the species within it was privileged within this particular exchange, despite the fact that a recognised non-Indigenous expert was there. He was learning from her. This was not lost on the students present with one remarking:

“Old K____ she knows all about that spider. She is teaching that balanda.”

The recognition by students that their elders were able to contribute not only to their study, but were seen as experts by outsiders, can be seen as a positive outcome in itself. However, the wider educational impact of such interactions is equally important. In a related piece of research I conducted on the same species of spider with 39 senior respondents, every single person I interviewed knew that the spider had been ‘discovered’ as part of the Maningrida CEC science course, 22 mentioned specific students by name and 10 of the people interviewed engaged me in a broader discussion about education without any prompting. In this regard, it was obvious that the legitimising of senior people’s knowledge in the educational program, combined with subject matter senior people were not only able to engage, but were in fact experts in, was a key component of the depth of penetration the Maningrida CEC courses were able to have within the community.

4. The learning is seen as important adult business, not just for kids

The Maningrida CEC courses engaged students in learning that had a purpose beyond the immediate goal of certificate attainment. Both courses were developed around topics of study that were of immediate and real concern to the wider Maningrida region. While Indigenous land and sea management is only one form of employment within the community (see chapter 6), topics such as pig disease monitoring, bio-prospecting, wildlife industry development, crocodile harvesting and
associated marketing and business development are of direct importance to many people’s daily lives in the region. Having learning connected to such real activity imbued the learning with an importance that ensured both the wider community and the students did not simply see the courses as being ‘just school business’. In particular, some young students, who were initiated and were adults in the eyes of the community, found that the courses enabled them to engage in the real world as adults and to be enthusiastic about what they were doing as it had real purpose. S________ summed this up succinctly when he told me:

“It’s nice to have school work that is not for little boys.” (S.S. October 5\textsuperscript{th}
2006 pers.comm.)

5. The learning is rigorous and challenging

One of the major difficulties encountered by teachers in remote contexts is being able to provide work at a level that is accessible by students with extremely limited English literacy and numeracy. The challenge is in presenting work that is conceptually appropriate for the age cohort without ‘dumbing down’ outcomes. To some extent, the Maningrida CEC courses have been successful in partially negating this issue through a heavy emphasis on practicals and fieldwork, where a large part of the learning is experiential. This enables modeling and group work within a field setting, defuses some of the classroom based behavioural issues and can accommodate a greater range of ‘teachers’, in the form of scientists, rangers and community members. However, an emphasis on field work in the courses has not been at the cost of rigorous scientific method, properly formulated results and higher level conceptual development (see appendix 3 for example of assessment rubric for the courses). The courses are accredited through the board of studies which mandates certain outcomes and are moderated and peer reviewed. Similarly, the courses demand a high level of performance from the students. Stage one and two courses are difficult, particularly when students have low levels of literacy and numeracy,\textsuperscript{124} and students generally take longer than a year to complete a course.\textsuperscript{125} However, the

\textsuperscript{124} While standardised testing of Indigenous students has been heavily critiqued (see for example Altman and Fogarty 2010), NAPLAN results for Maningrida show that most students are well below national benchmarks in literacy and numeracy.

\textsuperscript{125} Of students completing the stage one and two courses the average time per course has been 18 months.
expectations that they can achieve at this level, and importantly the belief of teaching staff that students can achieve, is an important facet of course design in this case.

6. Students have an option for tertiary entrance

Prior to 2003, Maningrida CEC did not offer stage one and two courses. Indeed, most CECs in the Northern Territory did not offer Indigenous students in remote regions a tertiary entrance option, except for courses through the Northern Territory Open Education Centre. Against a background of no Indigenous student graduating with a tertiary accredited Year 12 Certificate at Maningrida CEC until the introduction of this senior science curriculum, the total of eight students completing Contemporary Issues in Science since 2005 is a measure of its effectiveness. Another four students had graduated from the Community Studies (Science) course over the period since 2004. While very few students from Maningrida have taken up the tertiary option upon leaving school, the potential of students to access a tertiary pathway is integral to providing ‘open ended’ opportunities for students. While the context of the Maningrida CEC courses is very much linked to local development arrangements in land and sea management, critical skill sets acquired by the students are transportable to their areas of study or employment. While there exists an obvious progression into tertiary courses in conservation and land management or environmental science, the Maningrida CEC courses are underpinned by methods of scientific inquiry, which serve as a base for a diverse range of tertiary disciplines. Other learning associated with business and marketing, as well as conceptual understandings of ‘mainstream’ social processes, which are integral to the Maningrida CEC courses, provide opportunity for students to branch out into certificate, diploma or degree level courses at university. However, given the short history of Maningrida’s provision of tertiary linked secondary education, it is likely that take up by students will be slow over the coming years. Regardless of this, the provision of proper tertiary linked courses is an educational priority for the Maningrida school and its students.

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126 These are correspondence courses that use a remote delivery method of instruction. They are still an option for students in remote areas.
127 As 2008 only two students have gone on to tertiary studies.
128 However, students themselves, as noted in chapter 2, are often reluctant to leave their community.
7. Committed enthusiastic teachers

The development of the Maningrida courses has been very much dependent upon the commitment and drive of a particular teacher with an interest in science and the ability to see the connections between learning and Indigenous land and sea management (this is a common theme in other places, which is discussed later in the chapter). The need for teachers with the ability to bridge the divide between school, community and work, in a way that privileges the local, through place based pedagogy, while building links to the global educational community, is critical in remote Indigenous contexts. Fundamental to this is the harnessing of the best practitioners in remote contexts, something which I agree upon with both Sarra (2003) and Pearson (2009). In the Maningrida situation, as is commensurate with other remote learning contexts, teacher turnover is high, teacher experience is low and many teachers see their role as somewhat unconnected to the local context, as the following comment by a teacher in Maningrida demonstrates:

“The main problem is that parents don’t send their kids to school. If they (the parents) were interested and told the kids to go to school, we could teach them, but they don’t. In my class half of the faces are different every day. Sometimes kids turn up that I have never seen. It’s not my job to go around the place and talk to parents or whatever. I’m here to teach.” (Pers.comm. date and identity withheld by request)

While such sentiments are perhaps understandable as a reflection of contemporary policy, the importance of the relationship between the community and the teachers becomes clear when elucidated by people such as G______ , who has four children in the school.

“I used to try hard to get to know those balandas (the teachers) but I gave up. They always tell me that my kids are being cheeky or doing something wrong, then when I get to know them they leave. Sometimes now I can’t care for that school but it’s important for those young ones.” (G.N. 2007 July 16th pers. comm.)

Such sentiments, as expressed by both teachers and community members were a constant theme of my research. There exists in Maningrida a discursive gap between the local community and the school, which is perpetuated by pedagogic frameworks that fail to engage either the teachers or the parents in partnership through the

129 During the field work period two thirds of the non-Indigenous teachers left the school.
130 Over half the teachers during field work had less than three years’ teaching experience.
teaching and learning cycle. However, when teachers such as M_____ link courses to the local context, the pedagogic framework at least has a shared beginning, enabling an educational connection to emerge. The opportunity for new and inexperienced teachers to get know the people and ‘Country’ in which they live and work is critical to teacher retention. My own experience in managing a group of teachers taught me how important it is that teachers feel valued in their work and a part of the educational community in which they reside. Often new teachers feel isolated from the world they find themselves in and find it difficult to make connections with the local community because of fear of ‘doing the wrong thing’, linguistic and cultural separation and pervasive feelings of failure when students do not attend or achieve at the rates they presume to be the norm (see chapter 2). By enabling teachers to connect their work with the developmental realities of remote Indigenous contexts, access to a wide array of people outside the school becomes possible. Similarly, the role and importance of education within the context is enhanced as it is seen to have a real connection to the lived experience of the community.

Connections between teachers and the community currently depend on the willingness of teachers to ‘put themselves out there’ and to ‘drive’ place based pedagogy on their own. Systemic support for external engagement with the community is negligible and tends to be expressed through arrangements at a level beyond classroom activity.\textsuperscript{131} In the case of the Maningrida courses, the disconnect between school, work and community was mediated by an enthusiastic and interested teacher with the commitment to drive the courses’ development over a long period of time. The employment of such teachers cannot be assumed. Rather, the impetus to harness localised learning needs policy support and a willingness of education institutions to vigorously promote local connections between school, community and work. This can then foster an enabling educational environment, particularly for new and inexperienced teachers.

The seven points outlined above can be seen as evidence of the complex mix of social and scholastic milieu needed to provide a real educational pathway for Indigenous students in a remote community. In a forthcoming paper with Dr J. Schwab, I provide further evidence of this pathway. In considering the successful educational and career development of two young men from the Maningrida region,\textsuperscript{131} ‘The remote learning partnerships’ arrangements are an example of this.
Dr Schwab and I note that a mix of experiential and informal knowledge combined with formal scholastic development helped these young men achieve. This was augmented by good teaching and a link to valued work within the local context.

Key to (the student’s) experiential learning was the transmission of Indigenous cosmological and ecological knowledge. This included the acquisition of deep ethno-biological understandings of their local environment as well as socio-cultural understandings of their obligations within that environment, such as their ceremonial obligations. Both young men also had fathers, uncles and brothers working as Rangers who taught them about the applications and importance of such knowledge within the field of Indigenous land and sea management.

We also noted that:

Such horizontal learning was augmented by further vertical learning as the boys got older. Of particular note was the development of a Tertiary entrance ranked year 11 and 12 course in Contemporary Issues in Sciences delivered at Maningrida CEC. Due to an innovative teacher and a willingness to be involved by a group of Indigenous rangers, the science curriculum was adapted to concentrate on an integrated program which correlated with Djelk ranger activities. While this program combined Western scientific knowledge with Indigenous knowledge in a school program, it also allowed the young men to engage in the real and important work being undertaken by the rangers and gain hands on experience in the world of work.

While the stage one and two Maningrida courses can be seen as a best practice model in exploiting the links between learning and the development of Indigenous land and sea management programs, Maningrida CEC is far from being on its own in recognising such links. A number of remote schools and programs across the NT have developed educational programs based around Indigenous land and sea management. This has seen the growth of small and somewhat disparate pedagogic developments, usually named as ‘junior ranger programs’. In this next section of the chapter I examine the development of junior ranger programs as a concept, how they may articulate with formal schooling and explore three examples of what I prefer to call ‘Learning through Country programs’ in the Northern Territory.

The concept of a ‘junior ranger program’ has its inception in a long history growing out the United States, Canada and Australia. In each of these countries the concept of a junior ranger program has ostensibly had a developmental base in the work and occupational role of a ‘park ranger’. In the Northern Territory this role has
been fundamentally connected to the management and development of national parks as a government land holding. As the National Parks and Wildlife commission noted in 1982, national parks are usually places of outstanding natural beauty and interest and sometimes historical, scientific and cultural significance. National parks in the Northern Territory were created under the National Parks and Wildlife Conservation Act 1975. However, joint management arrangements and the complexities of Indigenous land holdings (see chapter 6) have ensured that the concept of a national park is intrinsically linked to Indigenous interests in land in the remoter regions of the NT. With the creation of national parks has come the need to manage and preserve large tracts of land, coupled with a growing awareness by the Northern Territory Government in the importance of ecological sustainability and biodiversity maintenance. This has spawned an increasingly diverse role for the ‘park ranger’. Inherent in the role of the park ranger, and indeed the concept of the national park, has always been the purpose to ‘educate people in the need for the protection and maintenance of the natural environment’ (ibid 1982:18). Given this, a natural connection between schools and rangers has developed over time. It is in this connection that we find the beginnings of junior ranger programs in Australia.

Junior ranger programs have been developed in ‘mainstream’ education throughout the nation. Invariably, such programs have direct links to curriculum outcomes, are structured with a blend of experiential and classroom based tasks and assessment and operate at all levels of schooling from kindergarten through to Year 12. For example, the ‘ranger roo’ program operating in Victoria offers a comprehensive range of educational services including curriculum based experiences at key education centers, detailed programming on environmental and science based learning, as well as integrated staffing and financing through the Victorian Education Department. In the NT, junior ranger programs are run through the Department of Natural Resources, the Environment, Arts and Sport (NRETAS) in Darwin, Alice Springs, Katherine and Tennant Creek. The programs are supported by full time co-coordinators, have developed activity and school work programs and are fully government funded. These junior ranger programs are also supported by an educational website, Enviro-North.

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which was developed by Charles Darwin University’s Tropical Savanna’s CRC. Unlike the NRETAS junior ranger programs, the Enviro-North project concentrates on developing a ‘web based’ environmental studies resource for schools, and is also attempting to integrate Indigenous perspectives and content applicable to remote Indigenous students.

Despite the well resourced and systemic inclusion of the junior ranger concept in major regional centres of the NT, remote Indigenous junior ranger programs have generally been disparate in their development, chronically under resourced and subject to extreme capacity constraints. In part this can attributed to an historical legacy of under funding and resourcing of remote Indigenous education in the NT (see chapter 2). However, more recently, it would seem that bureaucratic structures have been slow to support the concept as an ‘on the ground development’. In this next section of the chapter I analyse more ‘Learning through Country’ programs in remote regions of the NT. Each has different geographical and socio-cultural contexts, but each shares a re-contextualisation of Indigenous and Western scientific knowledge at its base. Similarly, each program must be seen as a localised attempt to mitigate the disparities between school, community and work outlined in chapter 2.

**The Anindilyakwa Junior Ranger Program**

The Groote Eylandt archipelago is situated on the Western side of the Gulf of Carpentaria, approximately 600km south east of Darwin. The traditional owners of the region are the *Warnindilyakwa*, but are referred to by their language name *Anindilyakwa*. There are three Indigenous communities in the archipelago – Angurugu, Umbakumba and Milyakburra (Bickerton Island) (ALC 2009). Schools at each of these communities are beset by difficulties in sustaining attendance at levels commensurate with achievement in literacy and numeracy. A 2009 review of education in the region found that for Angurugu, with 250 Indigenous students, attendance ranges between 35% and 50%; for Umbakumba, with 110 enrolments, attendance ranges between 55% and 60%; and for Milyakburra, with 30 enrolments, attendance percentages oscillate between 50% and 80% (ALC 2009:59).

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134 At the time of writing this CRC has been defunded and is in the process of moving under a different CRC.
Under the auspices of the Anindilyakwa Land Council, a junior ranger program in the region began in 2006 through the interest of Indigenous rangers in the intergenerational transfer of IK, a recognition by the (then) new ranger co-coordinator of the links between education and Indigenous land and sea management, and a willingness of a number of school personnel to create a new program.\footnote{135} Initially, the program grew out of work with NT fisheries. Students were engaged in a survey of different types of fish that locals regularly caught and ate in the region. In particular, students participated in the collection of data on sharks and stingrays. This work was integrated into the school curriculum and became the catalyst for a junior ranger program.\footnote{136} Subsequently, a locally driven interagency group was formed which included the ALC land and sea management organisation, NT Schools, the Department of Fisheries, Gemydu youth development unit and the Police Indigenous Liaison Unit. The group’s aim was to develop the concept of the junior ranger program and to create linkages between the Indigenous communities, the schools and the environmental learning and work roles associated with land and sea management. The group also wanted the program to have a strong focus on pastoral care and alcohol and drug awareness. In 2009 a full time junior ranger coordinator has been appointed under the ALC, and runs a junior ranger program two days a week, as well as engaging senior students in certificates I and II in land and sea management.

During field work in August 2008, I interviewed eight of the Indigenous rangers as well as meeting with staff from the school, ALC staff and land and sea management coordinators. Consistent with other programs I have researched, the ALC junior ranger program was dependent upon the inspiration and drive of key individuals, especially in its early stages. Also consistent with other programs I have analysed, the ALC junior ranger program developed from the ground up, or organically. In this regard, the program drew very little from experiences in other places, although one of the key individuals had previously been involved in Maningrida’s program to a limited extent. Such a localised beginning can be seen as a strength in the program, as this allowed for learning suited to the context and the development of natural synergies between the ranger group, the school and the students. However, the absence of any institutional support from outside the region placed a heavy strain on

\footnote{135} Schools saw the program as a way to engage students in learning and to increase student attendance. \footnote{136} This example of ‘ad hoc’ and locally driven beginnings is typical of junior ranger programs in remote regions of the NT.
the both staff members of the school and ranger personnel. This is because the program development, and its associated work, was being undertaken in addition to duties already being performed in demanding work roles.

Despite the extra work involved for the Anindilyakwa rangers during the initial stages, the formation of a cross-sectoral group involved in running the junior rangers has enabled the program to draw on support from across the archipelago. One of the major benefits of this has been that the program has been able to mobilise resources and finance from sources outside just the school and the ranger program. In particular the existence of the Gemco mine was an obvious source of funding. In addition to the mine, the involvement of the police and the Gemyu youth development group has meant that the junior rangers have a heavy focus on issues such as social responsibility, drug and alcohol awareness and personal safety.

From an Indigenous perspective, the junior ranger concept has provided an opportunity for the transmission of language and knowledge on Country. All the Anindilyakwa rangers interviewed alluded to this being the key reason for their involvement and their willingness to work with students. N_______, when asked why he became involved in the program, gave the following explanation:

“This is time when we can take these kids to bush or out on sea Country. In other times this was a thing that happened all the time, you know every day. Now, people are too busy for Country. Kids don’t really learn. Some, they know all the stories but they never spent any time at that place. Other ones, they have no story or their family didn’t teach them properly. Some families were drinking all day from that mine (royalties). Rangers like us are on that Country and on that water so we see. We can show those kids. Teach them what we know from our own way of knowledge. We talk to them in language and give them opportunities. It makes us proud to do this for the school. And, same way, same way, kids see that old peoples’ knowledge – very important those stories. He can take them in his heart.”
(N.D 2008 August 15th pers.comm.)

Fundamentally however, most of the Indigenous rangers were concerned far less with the formal schooling outcomes of the program. N.D’s perspective below was typical:

“Yeah, its good kids have school paper (work sheets) and that they can learn, but really first from my way is they gotta learn about that Country”
(ibid).
This, perhaps rather predictably, can be seen in stark contrast to the perspectives of teaching personnel involved in the program. Primarily, teaching staff involved in the program saw the junior ranger concept as a vehicle to achieving outcomes in literacy and numeracy and increasing school attendance. For example the Principal of Angurugu was focused on the junior ranger concept’s ability to provide learning content in context to produce outcomes against the NTCF curriculum requirements.

“For us this (linking school to land and sea management) is one of the really big options. We have enormous problems with attendance at school and we are also constantly battling to find real options to motivate students. Time on Country removes students from the problems they face in their everyday lives, their environment. It removes them from the things that drag them down. What we are trying to do is work on the required literacy and numeracy skill they need to acquire, we do that in the classroom and then move onto Country to give those skills a reason. We are working on VET\textsuperscript{137} courses and integrated science programs through the … you know … community studies at stage one and two that’s a goal for us … a long term goal. But at the end of the day, what we hope to build is a real end point. A pathway as they say. Kids don’t have to stay here, but if we can place them in a job at the end it gives them a goal and something to aim for. The good thing about working with the ALC rangers is that we can build transportable skills. Still, literacy and numeracy are the first stepping stone and these types of programs are gold for this.”

(\text{T.H. 2008 August 16\textsuperscript{th} pers.comm.})

The Anindilyakwa program is an example of how a pedagogic space can be created to mitigate potential dichotomies in Indigenous education. As demonstrated, the different perspectives of education staff and Indigenous community members are able to come together to create a learning program in which the objectives of each can be fulfilled. However, balancing these different wants in terms of knowledge transmission requires that each perspective is attended to equally in the framing of a pedagogic program.

\textbf{Tangentyere Land & Learning Project}

Another model of education that links land and learning as a pedagogic strategy is the Tangentyere Land Council program operating out of Alice Springs. Tangentyere Council was formed in 1974. The Council provides services, including housing, financial advice, training, employment, aged care and landcare, to people living in Aboriginal town leases around Alice Springs. Tangentyere Landcare's Land &

\textsuperscript{137} Vocational Education and Training.
Learning project is an environmental education program for Indigenous students in schools in Alice Springs and Indigenous communities of the southern desert regions of the NT. The program began as a nursery in 1984, and during the 1990s began developing community based education programs. In 2001, the program employed two biologists, who worked with remote community schools at Nyirripi, Papunya and M'Bunghara. Since then, the program has expanded and work has been conducted with Mutitjulu, Titjikala, Ltyentye Apurte (Santa Teresa), Areyonga, Yuendumu and Yarrenty-Arltere Learning Centre (NT DET 2010). The Land & Learning program teaches ‘traditional’ Indigenous knowledge and ‘Western’ science, and links to the NT Curriculum Framework.

The Tangentyere model is somewhat different to others I have researched, in that there are no formal links to ranger programs per se, however, the focus of the program has a heavy emphasis on land management issues. The Tangentyere land and learning model is delivered to schools in the region by two biologists, who developed the ‘Tangentyere land and learning booklet’ as a school resource. The booklet proposes a number of topics for study including animals, plants and fire regimes and links the thematic content to the relevant parts of the Northern Territory Curriculum Framework. The work of the Tangentyere model is important because it is one of the few programs that formally involves scientists as a core part of the teaching learning cycle. Similarly, the program is a strong example of how linkages between land management and schools can be integrated in units of work to provide rigorous, assessable outcomes from the curriculum.

As with the Maningrida and Anindilyakwa programs, much of the Tangentyere ‘Land and learning program’ has a heavy emphasis on involving community members in the teaching, draws on experience from local land care groups and delivers education on country as much as possible.

For example, the ‘Fire book’ (Tangentyere 2005) is a learning module designed for use by primary school students. It was developed in conjunction with Indigenous people from the Warlpiri and Eastern Arrernte language groups, as well as the Central Land Council Land Management Unit, Bushfires Council NT, the Desert Knowledge CRC Desert Fire Project, NT Parks & Wildlife, the Centralian Land Management

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Association and Greening Australia. Experiential learning is integral to the pedagogic design. Through trips to country that has been recently burned, students are able to study the effects of fire regimes on the local environment. The ‘Fire Book’ gives an example of how this is done:

To help Papunya schoolchildren learn about the effects of traditional burning, community elders and staff from Tangentyere Landcare’s Land & Learning program visited country with the children. The group visited three places along the Yuendumu road. One place was freshly burnt, one was growing back and the other had really thick spinifex. The elders pointed out tracks to the children and told traditional stories about plants and animals and fire (Tangentyere 2005:17).

Students then use this experience as a basis for a series of worksheets and tasks related to what they learned on Country. This is augmented by an approach that integrates Indigenous language terms related to fire, ‘Dreaming’ stories about burning by elders and scientific data about the intensity and frequency of burns in the region.

However, the Tangentyere land and learning program, like many other programs linking land and learning for Indigenous students in remote regions of the NT, has struggled to attract ongoing funding. Instead, the program has relied on annual grants from a variety of government sources since its inception. It is currently supported through funding from NT DET and the Commonwealth. In the same vein, the program exists in isolation from other models of education engaged in providing similar pedagogy and the program relies very much on the long term dedication and enthusiasm of two key staff members.

**The Kakadu National Park School Based Junior Ranger Program**

Kakadu National Park (KNP) is located within the Western Arnhem Region of the Northern Territory of Australia. It covers an area of 1,980,400 hectares and was declared under the National Parks and Wildlife Conservation Act 1975 (NPWC Act) in three stages between 1979 and 1991. All of KNP is jointly managed by Aboriginal traditional owners and the Australian Government’s Department of the Environment and Water Resources through a division known as Parks Australia. Park Management is directed by the Kakadu Board of Management. The Kakadu Board of Management, representing the Aboriginal traditional owners of land in the Park, was established in

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139 The region is adjacent to the Maningrida region and the people of the area share some customary and linguistic ties as well as networks of kin.
1989. The Board determines policy for managing the Park and is responsible plans of management for the Park. The Plan of Management is the main policy document for the Park and sets out both short and long term operational goals. It is through this plan that the KJRP has been established.

The Kakadu Junior Ranger Program (KJRP) has its origins in the 2005 Fifth Annual Management Plan for Kakadu National Park (KNP) and was a direct response to a request from the management board for a teaching and learning program that both provided a pathway into employment and valued and taught IK of the local Indigenous population. The program was developed in partnership between KNP staff, Indigenous land owners and the Jabiru Area School (unpublished 2007) and aligned with a school-to-work plan endorsed by the Kakadu board of management (ibid). Figure 21 shows that the KJPR has a specific focus on providing a pathway between school and work.

The board’s explicit focus on jobs and literacy and numeracy is not, however, seen as separate to the inclusion of Indigenous knowledge learning within the KJPR. Rather, Indigenous knowledge is seen by the program as an integral part of the teaching and learning cycle.

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The KJRP is coordinated by the Natural and Cultural Programs section of the KNP and targets students at the year 6 level. Lessons in the program are dictated by student learning outcomes for the NTCF and all lessons are delivered by park staff and/or Bininj\textsuperscript{141} presenters who have knowledge and expertise in the relevant areas (ibid). Classroom teachers from the Jabiru Area School are responsible for duty of care of students and for arranging transport and timetabling. The program explicitly makes space for Indigenous knowledge to be imparted to students:

Cultural activities presented by Bininj will be a regular feature of the Kakadu Junior Rangers Program. A series of Living Culture in Kakadu lessons which focus on different aspects of Bininj culture are designed to facilitate the involvement of Bininj presenters and enable a range of cultural learning activities to be conducted (ibid).

\textsuperscript{141} A generic term for Indigenous people of the region.
The KJRP consists of a series of 34 lesson plans on a range of topics including weeds, fire and feral animal management and cultural resource management. Each of these lessons provides for targeted literacy and numeracy outcomes, as well as ‘essential learning’ outcomes from the NTCF. Appendices 4 and 5 provide examples of tasks for students from the KJRP ‘weed lesson plan’.

The KJRP has a number of qualities that set it apart from the other ‘learning through Country’ models I have researched. First, the joint management arrangement over KNP, and the consequential involvement of the Commonwealth Government through the National Parks Office, means that the KJRP is able to access institutional support beyond its local region. Secondly, the KJRP is integrated into the school curriculum of the Jabiru Area School in a way that ensures a continuity of delivery. It is not ‘bolted on’ as an extra curricular activity, nor is the program’s continuation subject to timetabling constraints that can affect stand alone learning modules. Thirdly, the KJRP is connected to the KNP board of management that provides for an overarching governance body and has specifically detailed a set of roles and responsibilities for all stakeholders involved in the program.

Towards a Model of Pedagogic Design for ‘Learning through Country’

In analysing the examples I have provided here it becomes apparent that there are major differences in how these programs have developed and are conceived. In fact, I chose these particular programs in order to reflect the diversity of circumstance and range of approaches that ‘Learning through Country programs can encapsulate. However, in pedagogic terms, it is possible to extract some commonalities to create a framework that reflects the way different modes of learning come together in each of the case studies (see Figure 22). In addition to the case studies I have analysed in this chapter, Figure 22 is also informed by data gathered on established and emergent ‘Learning through Country’ programs in Ramingining, Gapuwiyak, Nhulunbuy, Alyangula, Yirrkala, Ngukurr and Borroloola in the NT. In each of these programs there exists four main learning modalities that combine to create a pedagogic framework which underpins the learning. These modes of learning can be described as ‘experiential’, ‘instructional’, ‘context specific’ and ‘generic’. Each of these modes of learning requires a different approach to knowledge transmission and requires a

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142 The ‘essential learnings’ strand of the Northern Territory curriculum are mandatory outcomes to be taught to all students.
different ‘loci of control’ in the teaching and learning cycle. I have attempted to represent a pedagogic framework underpinning these ‘Learning through Country’ programs in figure 22.

*Figure 22 Pedagogic framework for Learning through Country programs*

Each of the quadrants within this model (Q1,Q2,Q3 and Q4) informs and directs the ‘pedagogic space’ where teaching and learning happens. However, these four quadrants should not be viewed as static. The Quadrants can overlap in the pedagogic space and complement or challenge of another mode of learning. In this way, these learning modalities should be seen as in dynamic tension and fluid. To put it another
way, the pedagogic space can be seen as a point where Indigenous and Western knowledges complement and contest each other. As an example of how the framework may work, if one were planning a unit of work on fire, the framework would allow for planning in four parts. One part would be experiential and require that Indigenous people select what was to be taught and how. This would most likely need to occur on Country and would be underpinned by IK. This may be taught by Indigenous elders, land owners, or people recognised by the community as skilled in the use and management of fire. A second part of the unit would be context specific and may involve Indigenous rangers as ‘teachers’, perhaps through a junior ranger program, and would be targeted at the skill sets used in a ranger’s work with fire. A third part of the unit would be generic and consist, for example, of the literacy and numeracy outcomes required by the curriculum, appropriate to the level of the students. This part of the program may be teacher directed and classroom based and would build on the other two parts of the program. A final part of the program would be instructional and may be delivered by all involved in the unit or by a classroom teacher. This part of the unit of work would be specifically linked to the overarching educational requirement, such as a certificate in conservation and land management or a year 12 qualification.

One of the keys for enabling such a pedagogic framework is the ability of these ‘Learning through Country’ programs to provide a space for each of these quadrants to inform the teaching and learning cycle. This is done through using ‘Country’ as a pedagogic device (see chapter 5) that acts as a mediating theme between the different modalities of learning. In this way, the knowledge that is transmitted to students is not separated into different domains, but is rather selected to inform the particular needs of the program.

However, in terms of providing ‘Learning through Country’ programs on a large scale there is a risk that unless such programs are informed by a pedagogic framework that explicitly recognises different learning modalities, and the inherent discourses they represent (see chapter 3), that one of the modes will dominate all the others. For example, if the locus of control becomes overtly non-Indigenous, and concentrates too heavily on instructional modalities of learning, this will dominate the learning program and subvert the other modes of learning. So, in order to avoid this, the selection of what knowledge is to be transmitted to students, how it is delivered and
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W. Fogarty

how it is to be assessed must strike a balance between the different modes of learning to allow them equal space in the teaching and learning cycle. This is why a model such as Figure 22 is needed to inform curriculum planning and course development.

What becomes obvious in a pedagogic framework such as Figure 22 is that the teaching is not done just by the teacher, but requires the involvement of community members and other specialists. In the case of a program aimed at linking education with Indigenous land and sea management, the actual teaching may involve four different groups. These could, for example, be Indigenous land owners, Indigenous rangers, researchers or scientists and classroom based teachers. While each of these groups of ‘teachers’ would take the lead for a specific segment of a teaching and learning program, the responsibility in terms of linking the programming to the curriculum would ultimately and necessarily remain with the recognised classroom teacher.

In order to further demonstrate how this pedagogic framework may be used to inform a teaching and learning program, I have also attempted to provide an outline of the steps to take for a workshop based approach to curriculum development. This can be found in appendix 6.

While it is possible to create a pedagogic framework, such as Figure 22, to inform the educational development of ‘Learning through Country’ programs, this type of learning does not exist independent of a larger policy framework. Just as the case studies presented here have common educational goals, they are also subject to common constraints.

Policy and Resourcing Issues

The research I have conducted on ‘Learning through Country’ programs in remote Indigenous communities in the Northern Territory elucidates a number of common problems. In the main these issues are pragmatic, not pedagogic, however they should be seen as constituting a threat to sustaining and developing these types of educational programs. In the final section of this chapter I make some brief comment on the implications of policy and resourcing for ‘Learning through Country’ programs. As noted in chapter 1, the second stage of my field work involved an analysis of ‘Learning through Country’ programs in which Dr Jerry Schwab, Mathew Ryan and I visited eight different programs in different locations in the NT. This work culminated
in a report back to stakeholders (Schwab and Fogarty unpublished) in which we identified a series of issues and constraints that many of these programs had in common.

We found that securing funding for ‘learning through Country’ programs was a difficulty and that these programs often survived on annual grants, such as the Tangentyere program, or relied upon untied mixed modes of support, such as the Anindilyakwa Junior Ranger Program. In other cases, ranger groups had secured funding from NGOs and other organisations to support ‘Learning through Country’ activities, and built links with schools. There was consensus, however, that securing funding placed increased work on all people involved in the programs and was seen as a major hurdle in sustaining the programs. Conversely, there was also consensus that these programs were worth pursuing and seen as important to both the future of land and sea management programs and the engagement of Indigenous youth.

Similarly, we found that even the simplest activity requires some level of resourcing and that the level of support organisations were able to marshal in this regard was highly variable across the communities we visited. Sending a ranger into the school to give a presentation, developing a new approach for incorporating Indigenous knowledge into secondary science curriculum or taking students out ‘on Country’, for example, all have significant resource implications. All of the stakeholders we interviewed recognised that finding the resources to support activities and programs is a complex and difficult challenge. Even where resources have been forthcoming, people noted they are too often subject to ad hoc arrangements and/or competing demands for use. Simple things like access to vehicles, physical space for offices, administration and storage problems were just some of the examples that made provision difficult according to program.

Our research also found tremendous variation in local contexts as we travelled from community to community. In some communities Indigenous Protected Areas (IPAs) are in place; in others IPAs do not exist or are under application. Some communities have large mines on local lands; others have extremely limited industrial development in their regions. The result of these contextual variations is that communities operate in quite different political, social and economic situations. IPAs provide some clear opportunities relevant to land and resource management through funding and demand for land and sea management skills, while mining agreements in
some locations have enabled access to resources or activities that can support youth and land initiatives. Some communities have neither of these and so cannot draw on potential benefits IPAs or mines might provide. The issue as we observed it is that any model of engagement involving young people and land and resources will be shaped (and perhaps facilitated or inhibited) by the local context. Consequently, development activity will need to work carefully to accommodate that context. This is an integral issue to the future sustainability of linkages between education and land and sea management. Localised, ground up and consultative development of models are clearly imperative. Conversely, the need for systemic, coordinated support and policy is palpable.

More positively, our research found there were many examples of ways in which connection to land and sea was seen to have great potential for young people and their future that go far beyond ranger programs. Some examples involved a variety of possible career paths (eg tourism; see also chapter 3), others were more fundamentally about how Indigenous knowledge of land needs to be protected and passed on to young people. Similarly the role of formal education in intergenerational transfer is just one part of the broader opportunities to ensure knowledge and connections to land and sea and, indeed, employment are maintained. However, there was no feedback suggesting that formal education did not have a role in these areas. This is important in a policy context where localised forms of learning are increasingly subject to ‘nationalised’ and standardised educational formats (see chapter 2).

**Policy Context**

At any time there are multiple policy agendas that can affect ‘Learning through Country’ programs. Most prominent in the NT policy context during my research has been the NTER, or ‘Intervention’ as it has become known. The impact of the Intervention upon the different communities researched has not been uniform. Some communities reported dramatic positive and negative effects; others suggested there had been little noticeable impact on the ground. Similarly, the continuing threat to dismantle or change CDEP arrangements has created for Indigenous organistaions in remote communities a sense of uncertainty. In the same vein, there are also multiple Territory-level policies overlapping with multiple national policies related to health, education, employment and myriad other aspects of community life that can affect
program provision. While this creates numerous opportunities for strategic engagement, it also creates a ground that is constantly shifting. Again, the need for overarching policy for ‘Learning through Country’ education provision is important. Without this strategic development, the overwhelming administrative and coordinative burden on people ‘on the ground’ may prove to be an ongoing threat to the sustained success of this area of remote education.

In this chapter I have demonstrated how the two components of learning and work ‘on Country’ overlap in the pedagogic realm. In presenting different models of educational development that I have researched in remote regions, it is clear that the case studies presented here are localised attempts to overcome the problematic I set out in chapter 2, namely the disconnect between work, school and community. It also becomes apparent that in all the programs I researched, the role of Indigenous knowledge becomes central to the pedagogic design, albeit within the pedagogic space of the curriculum. While each of the models of education presented has developed organically, they share a common goals. By extracting and representing the pedagogic commonalities of these programs I have created a typology of learning modalities that underpin the provision of competing and complementary discourses of knowledge that make this form of education possible. In so doing, I have shown that there is a need for a pedagogic framework that can be applied in sustaining, developing and extending these programs. Similarly, I have also demonstrated that ‘Learning through Country’ programs are subject to a commonality of constraints and are vulnerable to national and localised policy settings. They also share a fragility in terms of capacity.
Conclusion: The Potential of ‘Learning through Country’

At the start of this thesis, I described the position I found myself in as teacher in a small remote school and the difficulties I was having connecting learning to the world my students and I found ourselves in. It was obvious to me then that standard teaching and learning approaches were not working and that there was a gap between the intended purpose of education and its application in the ‘bush’. While this was obvious to me in the small part I was playing in remote Indigenous education at the time, the research I have undertaken since has demonstrated that the problems my students and I were facing were not unique. In fact the ‘bigger picture’ of remote Indigenous education provision has been dominated by binary oppositions and dilemmas that seem intractable if judged by the research and reports that outline systemic ‘failure’ in this area. The complexities inherent in these dilemmas cannot be underestimated. They can be seen to range from oppositional constructs of knowledge and their place in social reproduction to the dialectic interaction between rapidly evolving policy positions and deep pedagogic structures. The field of remote Indigenous education is also simultaneously dealing with notions of justice and social mobility. This is further complicated by tensions between concepts of personal freedom and the struggle for cultural maintenance, self determined futures and education that is not simply a mechanism of assimilation. In the end, however, remote Indigenous educational provision will always come down to a set of formative pedagogic moments where a student either learns or does not. It is because of this, that the design and nature of the pedagogy that creates and supports these moments must remain a paramount consideration.

My findings in this thesis are based on my experience of six years teaching in remote Indigenous communities as well as a subsequent period of field work which concentrated solely on the concerns of this thesis. This has been augmented by both qualitative and quantitative research across a range of academic disciplines and policy concerns. While I have been inclusive of disparate positions within this work, I have privileged the voices and understandings of the Indigenous people I have worked with during the course of my research.

In this thesis I have demonstrated that there exists, in the provision of remote Indigenous education, a fundamental disconnect between the lived experience and aspirations of Indigenous students, their communities, and schooling and work. This
disconnect has a number of causalities which I have analysed in chapter 2, however, the primary redress, which is clearly articulated in the research literature, should be the inclusion of IK in pedagogic design and a connection between this knowledge and Indigenous development realities in remote communities. In order to achieve this there is a great need to provide a pedagogic framework that can enable this. Current policy debate and its resultant pedagogic approaches have been heavily influenced by notions of biculturalism and domain separation in pedagogic design. This has manifested in perpetuating polarised positions in remote Indigenous education. What such positions fail to recognise is that in education, one form of knowledge must compete with another for its place in the transmission process and is reformed or recontextualised through the pedagogic process. So while education is subject to the structural discourses of the dominant society, the design of pedagogy is also influenced by competing and complementary discourses in its transmission and delivery. In other words, the ‘inside’ of pedagogic design should be analysed as its own discursive space. In order to be successful in the long run, pedagogic strategies need to be cognisant of this, which in turn will allow a reconnection of school, community and work in remote Indigenous contexts. Similarly, if pedagogy is going to be able to meet the requirements of Indigenous development aspirations it must be able to both include IK and provide mainstream Western education.

In chapter 3, I demonstrated how Indigenous and Western forms of knowledge are far from dichotomised when they are actualised in a local enterprise. Through an analysis of a remote Indigenous development in Maningrida, the research clearly showed that the sustainability of this development was dependent on both Western and Indigenous knowledge. The research also demonstrated that the continued viability and success of such a development has specific pedagogic needs. These needs cannot be neatly separated into Indigenous knowledge transmission and Western knowledge transmission. Rather, the educational needs of this development require a pedagogic design that is able to capitalise on synergies between knowledge systems and to also allow the space for different discourses of knowledge to compete in the teaching and learning cycle. In order to achieve this, chapter three argues that a key element in achieving this is the need for education that has the ability to cater for context specific or ‘place based’ pedagogy, as well as providing for generic educational provision.
In chapter 4, I found that while the theoretical and historical development of place based pedagogy has potential in remote Indigenous education, its use should be premised on an understanding of the complexity of local social, economic and physical realities as they exist in a remote community. In chapter 4, I detailed this complexity through an analysis of the Maningrida region in Western Arnhem Land. In so doing, it becomes clear that concepts of ‘Country’ are a prevailing and underlying precursor of organisation in the region. Such concepts permeate all levels of the social and as such must be prominent in any pedagogic strategy that is aimed at being inclusive of place.

In chapter 5, I found that ‘Country’ can be used as a pedagogic device to link mainstream educational outcomes, specifically in literacy, numeracy and science, with appropriate place based educational strategies. Such an approach has the potential to provide space for Indigenous knowledge, and link education with local development aspiration. Through a critique of the positions that have dominated remote Indigenous education provision, I demonstrated that clear delineations between knowledge systems and understandings of education are false. In accepting this it becomes possible to allow that pedagogy can be premised on differing discourses. However, to enable such pedagogy to be actualised, one must find a pedagogic device that creates the space for such learning to occur. In chapter 5 I showed that programs that build upon knowledge of, and connections to, ‘Country’ have the ability to transcend the dichotomies remote Indigenous education has suffered from. Through an ethnographic example of a highly localised education program, I showed how ‘Country’ can be used as pedagogic device and how it can work to mediate competing discourses in education, as well as capitalising on synergies of knowledge to create a learning program.

In keeping with the importance ‘Country’ can play in remote Indigenous contexts, chapter 6 moved from the role land can play as a pedagogic device to an examination of the role concepts of land are playing in a specific form of remote Indigenous development and work. In this chapter I demonstrated the importance of connections between learning and local labour markets, as well as showing how competing discourses and synergies of knowledge are being mediated and contested between Indigenous interests, and a post industrial, neo-liberal state. These tensions and synergies are being played out through legal as well as environmental interests in the
Indigenous estate. In particular, chapter 6 shows that in very remote regions of the NT, Indigenous land and sea management programs are a significant employer and a crucial component of limited local labour markets. However, the research clearly shows that the provision of education and training to support Indigenous land and sea management programs has been disparate and, in general, unable to cater for the particular needs of the industry. Through an ethnographic quantification of a large land and sea management program in Maningrida, I demonstrated that training and education must be cognisant of the delicate balance that such a program has between work in town and on Country. Indeed, this analysis found that the continued transfer of Indigenous knowledge that underpins Indigenous land and sea management could be threatened if training provision fails to account for a specific need for learning to occur ‘on Country’.

In chapter 7, I provided a detailed analysis of a number of different models of educational provision that explicitly seek to combine Indigenous and Western knowledge. These programs have used land as a pedagogic device and are localised attempts to actualise a connection between schooling, community and work. The research in chapter 7 shows that despite some major differences in these models and how they have developed, they share a commonality of pedagogic goals and need. By extrapolating these commonalities, chapter 7 provides a typology of the learning modalities that underpin these programs which can be used to form the basis of an applied pedagogic framework. The analysis of these learning programs also uncovered a lack of coordination and policy to support these programs. The research demonstrated that the need for overarching policy for ‘Learning through Country’ education provision is important. Without this strategic development, the overwhelming administrative and coordinative burden on people ‘on the ground’ will prove to be an ongoing threat to the sustained success of this area of remote Indigenous education.

The research herein has deliberately been targeted at three distinct but interrelated levels. At a theoretical level, the research has shown that by repositioning oppositional constructs between Western and Indigenous knowledge, it is possible to see that knowledge is contested and evolving, and certainly does not subscribe to neat dichotomies. This theoretical understanding allows for the creation of methodologies that are able to cater for both contestation and complementarity in knowledge
transmission. This in turn, allows for an understanding of a remote Indigenous development’s knowledge foundations to be revealed. In so doing, it becomes clear that remote Indigenous developments have specific needs in terms of pedagogic provision that go beyond mainstream educational provision.

At a policy level, the research has shown that ideological tensions and the competing discourses inherent in Indigenous affairs have resulted in policy settings that have compromised pedagogic development at the classroom level. This has resulted in poor educational provision and seen the establishment of a binary opposition between policy approaches. On the one hand, policy settings have been based in ‘culturalism’; while on the other, they have been based in a fundamental denial of difference for Indigenous students. For over 50 years policy has oscillated between these positions leading to pedagogy penetrated by ideological concerns that compromise learning.

At an applied level, I have analysed the linkages between school, community and work in a large Indigenous community in Arnhem Land. This analysis has been augmented by detailed research on Indigenous land and sea management’s development as an important field of local employment, as well as a study on the training and pedagogic need of the Djelk ranger program in Maningrida. In the same vein, I have researched a number of educational models in the Northern Territory that are concerned with connecting school with the local community and work in the land and sea management arena.

The culmination of these approaches in the thesis has allowed me to formulate two models that can inform pedagogic development. The first, which can be found in chapter 3, can be used as a framework to assess the pedagogic needs of a remote Indigenous development. This model was developed directly through an exploration of the knowledge foundations that underpinned the Djelk wildlife enterprise.

The second model, which can be found in chapter 7, provides a pedagogic framework needed to formulate an educational program connecting school with the local community and work in Indigenous land and sea management developments. This model was developed through analysis of a range of ‘Learning through Country’ programs that are currently operating in remote communities in the NT.
Most importantly, the pedagogic framework that has been derived from the research in this thesis has the potential to reconnect school with remote communities and work in a way that current approaches to education are unable to achieve. It does this through providing a recognition that knowledge is contested in pedagogy and that there are no clear domains in learning that can be neatly packaged. Rather, this model of learning allows that different discourses must be given space in the teaching and learning cycle, that different types of knowledge can be both complementary and in opposition, and that the process of selecting this knowledge for teaching is paramount. When this is recognised in pedagogic design, the binary oppositions that characterise so much of remote Indigenous education have the potential to be mediated.

A Final Note

While I hope the research in this thesis is able to inform the development of educational programs for remote Indigenous students that values their existing knowledge and provides open ended opportunities for their futures, my research has also filled me with grave doubts about this possibility. At the time of writing, literacy and numeracy outcomes have increasingly come to represent the whole of education, instead of just one part, and the function and form of education in remote areas has stagnated. In the main, this seems to be increasingly driven by a regime of testing and ranking against nationally bench marked statistics, such as the NAPLAN. While such measures of accountability and performance are important, in the long run they are simply a measure of the effectiveness of pedagogy. The consistently poor achievements by remote Indigenous students against these scores is telling us that current pedagogic approaches are not having the desired results. Paradoxically, the national policy remedy seems to be a concerted effort to supply more of the same prescriptive pedagogic solutions that history tells us have failed. Meanwhile, the need for educational programs geared to the intercultural, multilingual and complex realities of daily life in a remote township are being ignored by educationalists, policy makers and bureaucrats. In part, this is attributable to the larger discourses that are at play in the greater field of Indigenous affairs, but there is also a pervading sense in contemporary policy settings that increasing external mechanisms of discipline and accountability will somehow produce better educational results. My own experience and research, as well as a large research base in Indigenous education, certainly tells us otherwise. So, I finish this thesis with a call to educationalists, researchers and
policy makers to re-invigorate the study of pedagogy in remote Indigenous education and to continue the search for pedagogic approaches that can transcend the seemingly intractable dilemmas of Indigenous educational provision. Ultimately, it will be through such efforts that remote education will allow Indigenous students to succeed without denying or prescribing the essence of who they are, or who they should be.
References


ATSIC (1999) Submission to the HREOC Inquiry into Rural and Remote Education in Australia, Aboriginal and Torres Straight Islander Commission, Canberra.

Australian Bureau of Statistics (2004), National Aboriginal and Torres Strait Islander Social Survey, 2002 (ABS Cat. no. 4714.0), Australian Bureau of Statistics, Canberra.


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Batten, M, Frigo, T, Hughes, P & McNamara, N (1998) Enhancing English literacy skills in Aboriginal and Torres Strait Islander students: A review of the literature and cases studies in primary schools, ACER Press, Melbourne.


Beresford, Q & Partington, G (eds) (2003) Reform and resistance in Aboriginal Education, University of Western Australia Press, WA.


Brocklehurst, P S, Clark, M J, Dickinson, K J M & Wilson, B A (1990) *Vegetation survey of the Northern Territory, Australia: Explanatory notes to accompany 1:1,000,000 map sheets*, Conservation Commission of the Northern Territory, Palmerston, N.T.


Buchanan, M & Egg, M (1996) *Culture matters: Community report Reporting on a research project to explore factors affecting the outcomes of vocational education and training for Aboriginal and Torres Straits Islander people*, University of Technology, Sydney, Research Centre for Vocational Education and Training Broadway, NSW.


Evans, N (2010) *Dying words: Endangered languages and what they have to tell us*, Blackwell, Oxford.


Heath, S Brice (2010) ‘Family Literacy or Community Learning?: Some critical questions on perspective’: In KailLonne Dunsmore and Douglas Fisher (eds), Bringing Literacy Home, the International Reading Association, Newark, DE.


High Court of Australia (1992) Mabo and others v. Queensland (No. 2) (1992) 175 CLR 1 F.C. 92/014, High Court Registry, Canberra.


Hughes, H & Warin, J (2005) ‘A new deal for Aborigines and Torres Strait Islanders in remote communities’, Issue Analysis 54, Centre for Independent Studies, St Leonards, NSW.

Hughes, H (2007) Lands of shame: Aboriginal and Torres Strait Islander ‘homelands’ in transition, Centre for Independent Studies, St Leonards, NSW.


Malinowski, B (1922) (1944), *A scientific theory of culture and other essays*, The University of North Carolina press, Chapel Hill.


NBEET (1992) ‘Aboriginal and Torres Strait Islander Education in the early years’, *Project Paper No. 4*, National Board of Employment, Education and Training (NBEET), AGPS, Australia.


Teasdale, R & Teasdale, J (1996) Pathways to where? Aboriginal and Torres Strait Islander participation in vocational education and training, NCVER, Adelaide.


### APPENDIX 1

**Djelk Rangers Personal Information as at October 2007**

#### Male Rangers

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<th>Clan</th>
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<td>Gochan</td>
<td>Gorgoni</td>
<td>Yirrtja</td>
<td>Gornmalarni</td>
<td>Djinkarr</td>
</tr>
<tr>
<td>J Rostron</td>
<td>Belingjan</td>
<td>Gorgoni</td>
<td>Yirrtja</td>
<td>Gornmalarni</td>
<td>Djinkarr</td>
</tr>
<tr>
<td>H Rostron</td>
<td>Belingjan</td>
<td>Gorgoni</td>
<td>Yirrtja</td>
<td>Gornmalarni</td>
<td>Djinkarr</td>
</tr>
</tbody>
</table>
APPENDIX 2

A BRIEF HISTORY OF THE MANINGRIDA HLCS:


BOLKDJAM ...................................................................................................................................... Mainly Mayali and some Kune speakers. Shelter school started 1976, open-sided school shelter built 1983, no visiting teacher accommodation, no toilet, shower, water, power or cooking facilities.


JIMARDI ........................................................................................................................................... Bararra speakers. Shelter school started 1976, open-sided school shelter built 1985, no visiting teacher accommodation, no shower, no toilet, shower, no water, no power.

KORLOBIDAHDAH ............................................................................................................................ Kune speakers. Shelter school started 1977, open-sided school shelter built 1987, no visiting teacher accommodation, no toilet, no shower, no water, no power or cooking facilities.
MALNJANGARNAK
Mainly Rembaranga speakers.
Solid structure built 1993. Maningrida CEC administrative control assumed late 2001, no visiting teacher accommodation, no toilet, no shower, no water, no power or cooking facilities.

MARRKOLIJIBAN
Kuninjku speakers.

MUMEKA
Kuninjku speakers.
Shelter school started 1978, open-sided school built 1987, new school building opened with detached visiting teacher accommodation, power, gas stove, gas fridge, shower, pit toilet 1996.

NGANGKOLOD
Kuninjku speakers.
Shelter school started 1977, open-sided school shelter built 1987, new school building opened with detached visiting teacher accommodation, power, gas fridge, gas stove, shower, pit toilet 1997.

WURDEJA
Bararra speakers.

YIKARRAKKAL
Kuninjku speakers.

YILAN
Bararra speakers.
Shelter school started 1978, open-sided school shelter built 1995, no visiting teacher accommodation, no power, community toilet and shower.
### APPENDIX 3
Example of Assessment Criteria for Practical experiments

<table>
<thead>
<tr>
<th>Does the student formulate the hypothesis correctly?</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis contains either the independent or dependent variable.</td>
<td>Hypothesis is testable and links the independent and dependent variables.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does the student correctly identify the independent variable and the dependent variable?</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Either the independent or dependent variable is identified correctly.</td>
<td>The independent and dependent variable are identified correctly.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does the student identify and hold other factors constant?</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>One factor is identified and held constant.</td>
<td>Two factors are identified and held constant.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To what extent does the student describe the method clearly and sequentially?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method has one of the four required elements.</td>
<td>Method has two of the four required elements.</td>
<td>Method has three of the four required elements.</td>
<td>Method is clear, sequential, quantifies materials, and includes repetition of the measurement of each value.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How appropriate is the student’s choice of format for the presentation of data?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables and/or graphs missing five or more required elements.</td>
<td>Tables and/or graphs missing four required elements.</td>
<td>Tables and/or graphs missing three required elements.</td>
<td>Tables and/or graphs missing two required elements.</td>
<td>Tables and/or graphs missing one required element.</td>
<td>Tables: Summary table included, headings independent variable on left, and units. Graphs: Summary graph included, line (or curve) of best fit for continuous data; bar graph for discrete data. Independent variable on x-axis, uniform scale axes labelled, and accurate plot.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How effectively does the student critically analyse the data?</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited analysis of data.</td>
<td>Data has been analysed with some omissions and inaccuracies.</td>
<td>Throughout, sophisticated and correct analysis of data with trends and relationships identified.</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX 3 continued

<table>
<thead>
<tr>
<th>How clearly does the student draw a valid conclusion?</th>
<th>1-2</th>
<th>3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited attempt to draw a conclusion, or conclusion bears no relationship to the data.</td>
<td>A clear and concise statement based on the data: supports or refutes the hypothesis.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To what extent does the student present the information clearly, logically, sequentially, and with the correct use of scientific terms?</th>
<th>1-2</th>
<th>3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information is confusing and difficult to follow. Scientific terms are not used correctly.</td>
<td>Information is clear, logical and sequential. Scientific terms are used correctly, and explained, where appropriate.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How effectively does the student identify sources of error?</th>
<th>1-2</th>
<th>3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some significant errors not identified; explanations not clear.</td>
<td>All significant sources of error (at least two) are correctly identified as random or systematic, and clearly explained.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How effectively does the student discuss the accuracy of measurements made?</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited attempt made to discuss measurement accuracy.</td>
<td>Measurement accuracy discussed with reference to instrument and method used.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How effectively does the student identify and justify possible improvements to the practical investigation?</th>
<th>1-2</th>
<th>3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvements not correctly or not clearly justified.</td>
<td>Two or more possible improvements are correctly identified, and clearly justified.</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL /40**

**Stage 2: practical investigation assessment rubric - total mark: 40**

Source: Maningrida CEC
APPENDIX 4
Extract from KJRP Lesson Plan

LEARNING OUTCOMES
Participation in this lesson will enable Kakadu Junior Rangers (KJR) to:

• Understand what a ‘weed’ is and consider the reasons why it is important to control weeds in national parks.
• Identify two of the most invasive weeds in Kakadu National Park.
• Learn about the different features of, and problems caused by, *Mimosa pigra* and *Salvinia molesta*.
• Learn some basic points about weed control methods used in KNP in preparation for next lesson.
• Complete a ‘Weed Profile’ note sheet on *Mimosa pigra* and *Salvinia molesta* for future reference.

LESSON REQUIREMENTS

• It would be very useful to have available a variety of resources to contribute to student learning about weeds in KNP, including live plant samples, posters, pamphlets, slides or powerpoint display about both *Mimosa pigra* and *Salvinia molesta*.

• An open space area for the KJR group to listen and work as a group, complete plant examinations and a written activity.

• Class set of photocopies of attached activity sheet ‘*Weed Profile: Mimosa and Salvinia*’ (digital copy also available on the KJR Program CD of lesson materials).

TEACHING POINTS

1. Introduce the topic by asking students “What is a weed?” Encourage as many suggested answers as possible, then clarify the meaning by writing the following very simple definition on a whiteboard “Weed: Any unwanted plant introduced into an area that grows by itself”. Briefly explain this definition by discussing:

   • the significance of ‘unwanted’ plants as opposed to naturally occurring or cultivated ones.
   • the different ways that weeds are introduced into areas like KNP.
   • the fact that some weeds grow really efficiently by themselves, without being cultivated by people (eg *Salvinia molesta* can double in size every 2-3 days). Explain the term ‘infestation’.

Informally check student understanding of the term ‘weed’ by asking the group if various random plants fall into this category in KNP eg eucalypt trees, waterlilies, green plum trees, pandanus, lawn, mimosa, speargrass etc.
APPENDIX 4 continued

2. Ask KJR the question “Why do you think it is important to control weeds in National Parks?” Encourage as many answers as possible and ensure the following basic teaching points are covered:

- Need to preserve and maintain the natural environment and beauty of these special areas.
- Need to protect native plants from being taken over and/or food sources for native animals from being destroyed by introduced, invasive plants.
- Need to preserve the biodiversity of native plants, natural food supplies of Aboriginal people and fragile ecosystems such as wetlands.

Explain to KJR that KNP Management spends many hundreds of thousands of dollars every year on weed control, which is part of the core business of the park and that a number of staff work on weed control.

3. Now list and/or display various samples of weeds found in KNP, providing basic information of name, general description, where found in KNP, problems caused by them etc. Then focus specifically on the examples of *Mimosa pigra* and *Salvinia molesta* in turn and provide in-depth details about these problem weeds including:

- Physical examination of features, structure and adaptations for survival.
- Place of origin and requirements for growth. (Consider the question ‘Would these plants be considered weeds in South America?’)
- How these weeds are spread so efficiently in wetland areas.
- Problems caused in the natural and social environment when infestations of these weeds occur.
- Reasons why the plants are ‘Weeds of National Significance’ and controlling the spread of these weeds is a park and national priority.
- Basic methods used to control these weeds (this will be discussed more fully in next lesson).

**QUESTION TIME**

Encourage Kakadu Junior Rangers to ask questions about *Mimosa* and *Salvinia* at this point to enable further teaching and explanation as required.

**LINKS WITH OTHER KAKADU JUNIOR RANGER LESSONS**

Lesson EL10: Weed Control in Kakadu.

**STUDENT REQUIREMENTS**

- Kakadu Junior Ranger cap if going outdoors.
- Clipboards and biros to complete written activity while away from the classroom.

## APPENDIX 5

**Activity sheet from KJRP**

### WEED PROFILE

<table>
<thead>
<tr>
<th>MIMOSA</th>
<th>SALVINIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Mimosa Image]</td>
<td>![Salvinia Image]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Scientific Name</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>General Description of Mimosa</th>
<th>General Description of Salvinia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problems caused by Mimosa</th>
<th>Problems caused by Salvinia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Where Mimosa Grows in Kakadu</th>
<th>Where Salvinia Grows in Kakadu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main Control Methods for Mimosa</th>
<th>Main Control Methods for Salvinia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
</tbody>
</table>

APPENDIX 6
A workshop based approach to using the ‘Learning through Country’ pedagogy Framework

Using Figure 23 as a base, it is possible to extract a set of steps that are required to develop a teaching program. The first step is to select a theme as a pedagogic device. In this thesis I have demonstrated that concept of ‘Country’ can be used as a pedagogic device to enable teaching and learning. However, it may be possible to use other themes as a pedagogic device, such as art or music or even numerical systems. This, however, requires further research. Once a theme or pedagogic device is selected, a teaching and learning program can be developed using the framework as a guide. This is done by deciding what is to be taught, how it is to be taught and how it is to be evaluated. To do this, each of the quadrants in the framework should be seen as a pedagogic discourse. So, each quadrant should equally inform the program. Three underlying questions need to be asked of each quadrant. These are:

1. What knowledge is to be selected?
2. How is the knowledge to be transmitted?
3. How is the learning to be evaluated and assessed?

The pedagogic framework will inform the first two of these questions if it is followed. The third question, concerning evaluation, will be dictated by factors outside the framework, which I will make further comment on later. As an example of how the framework may work, if one were planning a unit of work on fire, the framework would dictate that the unit consist of four distinct parts. One part would be experiential and require that Indigenous people select what was to be taught and how. This would most likely need to occur on Country and would be underpinned by IK. This may be taught by Indigenous elders, land owners, or people recognised by the community as skilled in the use and management of fire. A second part of the unit would be context specific and may involve Indigenous rangers as ‘teachers’, perhaps through a junior ranger program, and would be targeted at the skill sets used in a ranger’s work with fire. A third part of the unit would be generic and consist, for example, of the literacy and numeracy outcomes required by the curriculum, appropriate to the level of the students. This part of the program may be teacher directed and classroom based and would build on the other two parts of the program.
APPENDIX 6 continued

A final part of the program would be instructional and may be delivered by all involved in the unit or by a classroom teacher. This part of the unit of work would be specifically linked to the overarching educational requirement, such as, for example, a certificate 1 in conservation and land management.

Planning Workshop

Step 1

Depending on the length and complexity of the unit of work being developed this step may take only a couple of hours, for a small unit, through to a full day or two for a semester or year’s work. The four groups who are to be involved in teaching the program would need to be at the workshop where a topic for learning would be chosen through negotiation. Depending on the level of the students, the students may also be involved at this stage. Once this is achieved, each group would decide what they considered was the necessary knowledge that needed to be taught. This then generates a series of educational outcomes that need to be achieved. The teacher would then need to link these outcomes to the appropriate sections of the curriculum and over-arching course. This process is not atypical of how a normal teaching and learning program is developed, however it is crucial that a balance be struck between the intended outcomes of the unit and the requirements of the curriculum, without compromising the knowledge each group wishes to teach.

Step 2

Once a set of learning outcomes has been developed, each group is to decide how the learning outcomes will be taught. The method of teaching, in keeping with the pedagogic framework, should provide a mix of generic and context based approaches as well as allowing for both experiential and instructional modalities of delivery. These modalities can be either kept separate or integrated, depending on the wishes of the group.
APPENDIX 6 continued

Step 3

The process of deciding how the learning outcomes will be taught will then generate a set of activities or lessons that need to occur in order to achieve the learning. Each group of ‘teachers’ will then be able to decide what resources, be they pedagogic or functional (eg work sheets or transport), will be required in order to deliver the required lessons.

Step 4

The lessons that have been generated then need to be sequenced into a number of lessons over the period of the unit. This will require that time frames and pacing of lessons is commensurate with the abilities of the students and is able to fit the timetable of the school and other institutions involved.

Step 5

The preceding steps are then combined to create a teaching and learning program that details what is to be taught and by whom, as well as how it will be taught and when and where. This program should also explicitly state the learning outcomes that are to be achieved and the time frames that the learning will occur within. The program will also detail the resources and personnel required for each sequence of the teaching and learning cycle.

Step 6

Once the programming is complete, the workshop should develop an assessment and evaluation framework. This will be informed initially by the question ‘how will we know if the students have learned what we said they would learn?’ The length and duration of the program will dictate how many assessment or evaluation tasks are set, however the workshop should ensure that each of the learning modalities from the framework has an equal number of assessments or evaluative tasks ascribed to the learning.
As a specific point here, I wish to note that a current emphasis on testing and reporting against literacy and numeracy outcomes in current policy settings should not preclude the use of qualitative frameworks for assessment and evaluation. In particular, a failure to evaluate learning that has been conducted by Indigenous people in the program could devalue their input, or lead students to believe that what is learnt in the classroom is the only knowledge that is important. Indigenous people in remote communities are best placed to evaluate and assess the learning that they have been in control of and, as such, frameworks for assessment should be decided in consultation with them. Teaching that has occurred in the program under the non-Indigenous locus of control will generally be subject to more quantitative types of evaluation. Teachers need to be cognisant that linking the assessment and evaluation of students to testing regimes, while perhaps a necessary requirement in demonstrating student progression, should not comprise the totality of assessment approaches.

**Step 7**

The program should be checked against the pedagogic framework to ensure that each of the learning modalities is given equal attention in the program. Similarly the program should be checked to balance the transmission of Indigenous and Western knowledge, even if the conceptual understandings of such knowledge is contested. Finally, the locus of control of the delivery of the program should be equally shared between Indigenous and non-Indigenous members of the teaching team.

The pedagogic framework that I have developed here, and the examples I have given in using it to create a teaching and learning program, are generative only. I have also tried to keep this simple so as to enable broad application. However, each teaching and learning environment will have its own needs and constraints, be they in resourcing or the abilities of the personnel involved in a program’s delivery. With this in mind the model may need to be adapted to cater for the local context. However, in principal, the approach I have outlined should provide a framework that has the capacity to inform school based programs, land and learning programs outside of school and the provision of training for remote Indigenous developments such as land and sea management programs, cultural tourism programs, bush food production enterprises, Indigenous owned and run recreational fishing ventures, remote nursery and propagation programs (such as in the sale of cycads for domestic markets), Indigenous carbon abatement programs, such as the West Arnhem Land Fire
Abatement program (WALFA) and the larger field of bio-prospecting using Indigenous knowledge.