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Preliminary statement

I have worked for more than 25 years in a range of Indigenous public sector roles in the Australian Public Service and the Queensland Public Service. I am currently studying for a Master of Applied Linguistics, and also hold a Bachelor of Arts (Honours) in Prehistory and Anthropology (ANU), and a Professional Certificate in the Anthropology of Native Title (University of Adelaide).

Although I am currently employed in a Government policy role with responsibilities for issues associated with *Closing the Gap* in Indigenous disadvantage, the views and comments expressed in this paper are entirely my own and should not be attributed to any other party.

My submission to the inquiry is of a general nature, but with pertinence to the first three terms of reference of the committee. It commences with a discussion of the worldwide phenomenon of language loss and then moves to a more direct assessment of the Yolngu Matha languages of north-eastern Arnhem Land in the context of the Expanded Graded Intergenerational Disruption Scale, developed by Lewis and Simons (2009).

Background

Language shift (or language loss) is a worldwide phenomenon. SIL International's *Ethnologue* (Lewis 2009) estimates that 94 per cent of the world's living languages are spoken by only 6 per cent of the world's people. To state this in other terms, and to illustrate the precarious nature of smaller languages, only 389 of today's 6,909 living languages have more than one million speakers, while more than 1,500 languages have a speakership of less than 1,000. The median number of speakers of all living languages is around 7,500 people (ibid.).

On this basis, Krauss (1992:7) has forecast that, in the absence of wholesale intervention to reverse language shift, 90 per cent of current world languages will die or be close to extinction by the end of the current century (see also Brenzinger et al 2003). While noting the urgency of efforts to retain linguistic diversity, Crystal (2000, 2003) speculates that English will most likely become the global lingua franca by the year 2100.

Both Dorian (1980:85) and Hale (1992) attribute the mechanisms of final language abandonment to overwhelming pressure exerted by another dominant language. Hale (1992:1) observes that, in pre-European times in Arnhem Land, language replacement occurred through grammatical merger of closely related languages, but that in the modern period, "politically dominant languages and cultures simply overwhelm indigenous local languages and cultures".

The likelihood of survival of a language is not based purely on its total number of speakers. For example, Breton (in France) had an estimated speakership of 1.4 million people in 1905, but has declined to less than 300,000 speakers today (Crystal 2000:13, Le Nevez 2006:150-152).

By contrast, Schmidt (1990:2-5) argues that very small languages can be sustained indefinitely under circumstances where a small L1 speakership is reciprocally interlinked with multilingual L2 users. Using the example of Australian Aboriginal languages, she rates languages with an L1 speakership of as few as 200 as 'strong' and capable of healthy transmission between generations.

Despite Schmidt's optimism, the sustainability of small language groups in the presence of a dominant language like English can erode very quickly. Thus, within a decade of her assessment that twenty Aboriginal languages were 'strong', McConvell and Thieberger (2001:3) revised three of them to 'endangered'.

In the face of the crisis faced by the world's minority languages, Fishman (1991) developed the Graded Intergenerational Disruption Scale (GIDS) as a tool for analysing the level of disruption experienced by languages, and for recommending remedial treatments for the reversal of language shift. The GIDS is an eight-point scale, with large numbers representing highly disrupted and endangered languages, and lower numbers representing stable and safe languages.

Although the GIDS is a useful starting point for the analysis of language shift, it lacks precision at the higher end of the disruption scale that usually typifies small-scale hunter-gatherer languages. An alternative framework for assessing the status of endangered languages has been proposed by a UNESCO panel of experts to cover the most endangered end of the GIDS spectrum. The key question posed in classifying languages under this scheme is the degree to which intergenerational transmission is occurring (Brenzinger et al 2003).

Thus, a **Safe** language is spoken by all generations and transmission of the language is uninterrupted; an **Unsafe** language is spoken by some but not all of the child generation; a **Definitely Endangered** language is not being taught to any children; a **Severely Endangered** language is spoken only by the grandparental generation (but may still be understood by the parental generation); a **Critically Endangered** language is only spoken by the great-grandparental generation; and an **Extinct** language is spoken by no-one (Ibid:8).

The UNESCO panel has also significantly refined the tools at hand to evaluate the vitality of a language in a much more rigorous way than is afforded by the GIDS. To do this, they look at a language as a whole within its context, and examine the following factors affecting language survival:

- Intergenerational language transmission;
- Absolute number of speakers;
- Proportion of L1 speakers within the relevant ethnolinguistic population;
- Shifts occurring in the domains of language use;
- Responsiveness of the language to new domains and media;
- Materials available for language education and literacy (Brenzinger, et al 2003:7-17).

Most of the factors used in this methodology are rated on a 6 step scale, but the resulting ratings are not added together. Rather, they are examined alongside each other to create as complete a picture as possible of the strengths and vulnerabilities of a language and to best determine the support needed to maintain, revitalise and document the language.

Table 1 – EGIDS/UNESCO harmonisation (after Lewis and Simons (2009))

EGIDS Category	UNESCO rating	Description
(0) International	Safe	Language is used internationally for a broad range of functions
(1) National	Safe	Language is used in education, work, mass media and government at national level
(2) Regional	Safe	Language is used for local and regional mass media and governmental services
(3) Trade	Safe	Language is used for local and regional work by both insiders and outsiders
(4) Educational	Safe	Literacy in the language is being transmitted through public education
(5) Written	Safe	Language is used orally by all generations and in written form in parts of the community
(6a) Vigorous	Safe	Actively used by all generations as L1
(6b) Threatened	Vulnerable	Used by all generations but some parents are not transmitting it to their children
(7) Shifting	Definitely endangered	Parental generation knows the language but is not transmitting it to children
(8a) Moribund	Severely endangered	Only active speakers are in the grandparental generation or older
(8b) Nearly extinct	Critically endangered	Only users are in the grandparental generation or older and usage is very sparse
(9) Dormant	Extinct	Language only has heritage significance – a few words may be used ceremonially, etc.
(10) Extinct	Extinct	No living person uses or retains identification with the language

Drawing on the UNESCO panel's suggestions for categories of intergenerational transmission, Lewis and Simons (2009) have proposed a model that expands and harmonises the UNESCO model with Fishman's approach – the Expanded GIDS.

A specific example

As an illustration of how the EGIDS methodology works, I have provided a short illustrative assessment of the viability of the Yolngu Matha languages of Arnhem Land.

Intergenerational transmission

The situation of the Yolngu languages and dialects against the UNESCO scale at Table 2 is complex. The Yolngu comprise around 6,300 people distributed across five major settlements (Yirrkala, Gapuwiyak, Ramingining, Galiwin'ku and Milingimbi) and around 20 smaller outstation communities in north-eastern Arnhem Land.

Table 2 – UNESCO intergenerational transmission scale - following Brenzinger et al (2003:8-9)

Endangerment level	Characteristics
(5) Safe	Used by all age groups, including children
(4) Unsafe	Used by some children in all domains, or all children in limited domains
(3) Definitely endangered	Used mostly by parental generation and older
(2) Severely endangered	Used mostly by grandparental generation and upwards
(1) Critically endangered	Known to very few of the oldest speakers
(0) Extinct	No speakers

Almost all Yolngu speak a variety of 'Yolngu Matha' as their first language and most are fluent in many of the ten languages and forty dialects spoken in this area, along with English (Morphy 2008:113-114; Lewis 2009). However, in recent years, two lingua francae – Dhuwaya (a koine used at Yirrkala and its outstations) and Djambarrpuyngu (a clan language used at the remaining settlements and outstations) have developed as dominant languages (Amery 1993; 2007:336).

The Australian Institute of Aboriginal and Torres Strait Islander Studies' AUSTLANG website (<http://austlang.aiatsis.gov.au/main.php>) estimates, on the basis of the 2006 census, that there are 3,044 speakers of Dhuwaya and 2,766 speakers of Djambarrpuyngu. However, L1 speakership of the other eight languages has been estimated (ibid) as 7 for Yan-nhangu, 32 for Ritharrngu, 53 for Djinba, 175 for Dhay'yi, 229 for Djinang, 236 for Gumatj, 251 for Gupapuyngu and 276 for Dhangu.

As Lo Bianco and Rhydwen observe (2001:398-399), the latter Yolngu languages are under greater language shift pressure from the two lingua francae than from English. The development of Dhuwaya as a koine appears to be particularly attributable to the formation of a large settlement at Yirrkala, where related languages and dialects are spoken (Amery 1993).

Using the UNESCO intergenerational transmission scale, all of these languages – with the exception of Yan-nhangu, Ritharrngu and Djinba – can be rated as 'safe', as intergenerational transmission is still occurring. However, the three endangered languages have all become susceptible to the widespread use of Djambarrpuyngu in Milingimbi and Ramingining. In the absence of a detailed survey of the extent of L2

speakership of these three languages by adjoining clans, it is difficult to evaluate their specific prospects for survival.

Absolute number of speakers

Despite the numbers of speakers of each language quoted in the previous section, one of the weaknesses of the Australian census methodology is that it assumes the use of only one language other than English in the home context. Frances Morphy (2002:45-46) discusses some of the difficulties that this question presents to multilingual speakers of Yolngu Matha languages, as they must choose between their general 'regional' language, their 'land-owning' language and their dialect.

Another problem in this dichotomous comparison of English and non-English usage is that there is no measurement at all of the other languages that the person speaks. In Yolngu society, most people fluently speak several other languages or varieties, and so the total speakership of each language in the census statistics will be significantly understated (Walsh 2007:80).

To explain this further, the Yolngu belong to patrilineal clans. Each clan relates to a particular area of country and has its own language that is tied very closely to that country. Traditionally, marriages are exogamous, so the parents of each child speak different languages, as does the mother's mother (and her brothers), who hold a very close reciprocal relationship to the child when he or she grows. People in this latter relationship share custodianship of each other's country (and of each other's language) and, in extreme circumstances, if one of the languages loses all L1 users, the members of the other clan become responsible for the maintenance of both the language and the country to which it belongs (Christie 2007:57-58).

Given the lack of precise data on this measure, it is difficult to grade the total number of speakers for each of the Yolngu Matha languages. However, given the level of Yolngu multilingualism, the strength of each language is certainly greater than the examination of intergenerational transmission above indicates.

Proportion of L1 speakers within the Yolngu population

Due to the number of Yolngu Matha languages and varieties, and the aforementioned imprecision of census records, it is only possible to evaluate this question for the language group as a whole with respect to English. Amery (2007:336) notes that Yolngu Matha usage is 'almost universal', with English generally being introduced when children begin schooling, and steadily increased on a 'step' basis as they progress through the education system (King, et al 2005:ix).

Thus, with reference to Table 3, a rating of very close to the 'safe' level can be given to the Yolngu Matha languages as a whole, while noting that individual varieties may be lower on the scale.

Table 3 – UNESCO proportion of L1 usage within total population scale - following Brenzinger et al (2003:9)

Endangerment Level	Characteristics
(5) Safe	All speak the language
(4) Unsafe	Nearly all speak the language
(3) Definitely endangered	A majority speak the language
(2) Severely endangered	A minority speak the language
(1) Critically endangered	Very few speak the language
(0) Extinct	No speakers

Shifts occurring in the domains of language use

McConvell (1991:150) observes that the Yolngu region is one of only two in Australia where interactions with Europeans are routinely conducted in Aboriginal languages rather than in English, with an expectation that the outsider will try to learn a Yolngu language to communicate.

The exception to this rule has been in the domain of education, where there has been a move in recent times from a bilingual/multilingual teaching program to one that employs English as the language of instruction for the first four hours of every day (Northern Territory Department of Education and Training 2009). In view of this, the Yolngu Matha languages are best classified at the ‘multilingual parity’ level.

Table 4 – UNESCO domain usage scale - following Brenzinger et al (2003:9-11)

Endangerment Level	Characteristics
(5) Universal use	Language used in all domains and for all functions
(4) Multilingual parity	Two or more languages used in most social domains and for most functions; ancestral language rarely used in the public domain
(3) Dwindling domains	Ancestral language used in home domains and for many functions; dominant language beginning to penetrate home usage
(2) Limited or formal domains	Language used in limited social domains and for several functions
(1) Highly limited domains	Language only used in very few restricted domains and for a very few functions
(0) Extinct	Language not used in any domain

Responsiveness of the language to new domains and media

Over the past twenty years, the Yolngu languages have made progress into new domains. This has included strong forays into popular music markets by the band *Yothu Yindi* and by singer Geoffrey Gurrumul Yunupingu. The movies *Yolngu Boy* (2001) and *Ten Canoes* (2006), although narrated in English for the broader market, demonstrate the willingness and confidence of the Yolngu to take their culture outside of their own domains. In recent times, the Yothu Yindi Foundation has launched a series of film, music and archival projects under the banner of the 'Mulka Project' to build local skills in the recording, storage and dissemination of traditional and contemporary songs, stories and historical photographs (<http://www.yirrkala.com/mulka/>) in modern media formats.

The Yolngu have also collaborated with Charles Darwin University in the development of undergraduate and graduate courses in Djambarrpuyngu that Amery (2007:336-339) describes as "by far the most extensive program in the study of an Indigenous language" in Australia. The use of Yolngu languages in new domains, using the UNESCO scale at Table 5 is clearly 'dynamic'.

Table 5 – UNESCO responsiveness to new domains scale – following Brenzinger et al (2003:11-12)

Endangerment Level	Characteristics
(5) Dynamic	Language used in all new domains
(4) Robust/active	Language used in most new domains
(3) Receptive	Language used in many domains
(2) Coping	Language used in some new domains
(1) Minimal	Language used in only a few new domains
(0) Inactive	Language not used in any new domains

Materials available for language education and literacy

McKay (1996:118-121), Howard Morphy (2002:10) and (King, et al 2005) note that Yolngu literacy material in schools is extensive. In the 1990s, up to 15 Yolngu Matha varieties were taught at Galiwin'ku and Yirrkala, with emphasis being placed on children learning in their own language. However, the strain that this has placed on resources has led to a reduction in coverage to Gumatj and Dhuwaya at Yirrkala; Djambarrpuyngu at Milingimbi, Galiwin'ku, Gapuwiyak and Ramingining; and Gupapuyngu at Ramingining in recent times.

Several comprehensive dictionaries of Yolngu languages have been compiled, including a listing of more than 4000 Gupapuyngu words, with English definitions (e.g. Lowe 2004) and a Yolngu Matha-English medical dictionary (McLellan 2010). However, as use of Yolngu Matha written materials is primarily limited to the educational context, it is closest to a rating of 3 on the UNESCO scale at Table 6.

Table 6 – UNESCO materials available for language education and literacy scale – following Brenzinger et al (2003:12)

Grade	Accessibility of written materials
(5)	Established orthography and literacy tradition with fiction and non-fiction and everyday media. The language is used in administration and education
(4)	Written material exists and at school children are developing literacy in the language – language is not used in written administration
(3)	Written materials exist and children may be exposed to the written form at school – literacy is not promoted through the print media
(2)	Written materials exist but they may be useful for some members of the community only – literacy education in the language is not part of the school curriculum
(1)	A practical orthography is known to the community and some material is being written
(0)	No orthography is available to the community

Other considerations under the UNESCO Model

In addition to the language endangerment factors discussed above, Brenzinger et al (2009:7) suggest that the attitudes of official and institutional representatives of the dominant language, as well as the ethnolinguistic community itself, can play an important part in the vitality of the language. Lastly, they suggest that the level of documentation of the language is also important in determining actions to protect or revitalise it.

It is evident from the examination of the Yolngu Matha languages as a whole that they continue to show strong resilience and health in the face of strong pressure from the dominant language, English. However, it is also clear that several of the languages and varieties are coming under pressure from another quarter – the locally dominant lingua francae – Dhuwaya at Yirrkala and its outstations, and Djambarrpuyngu in the remaining Yolngu towns and outstations. The exact status of some of these varieties is not clear, given the high level of multilingualism in this area and the lack of census information on the total speakership of each language (including L2 and L2+ speakers).

Using the UNESCO methodology for evaluating language endangerment, it is clear that Dhuwaya and Djambarrpuyngu are both vital and growing. Both enjoy strong intergenerational transmission. Indeed, their speakership among the younger generation is actually greater than among older people. Both show signs of replacing other clan languages as the L1 of their respective communities. The absolute number of speakers of both of these languages is an order of magnitude higher than any of the other clan languages spoken in the region, and much higher than traditional language sizes in Australia.

Dhuwaya and Djambarrpuyngu have coped well with domain shifts and have moved into a range of new domains, including all levels of education, the arts, and dealings with agencies of the dominant culture. They remain under pressure from English in the education sector, but continue to show vitality and dynamism in the context of modern Australian life. Both have moderate literature resources: as an oral culture it is perhaps unsurprising that most elements of domain expansion have been in the areas of the spoken word – particularly film and song.

Examining these languages under the EGIDS, it could be argued that they have attained some elements of stage 3 – the trade language – with use for local and regional work by both insiders and outsiders. The Yolngu have been very strong in asserting a 'Two Way' relationship with the dominant culture, with outsiders being required to deal with Yolngu on their terms. Certainly, all of the elements of EGIDS stages 4, 5 and 6a are evidenced by these two languages – literacy is being transmitted through public education, the languages are being used orally by all generations and in written form by some, and all generations are active speakers.

The situation for the remaining clan languages ranges between EGIDS stages 6b and 8. Their future is far less certain and it is most likely that they will continue in use, but that they will be increasingly subsumed by the dominant lingua francae. Given that all of the languages, including the lingua francae, are closely inter-related and the Yolngu are actively multilingual, the prospects of the smaller languages surviving are much greater than they would be in direct competition with English.

General comment in relation to terms of reference

In my opinion, there is enormous benefit in giving attention and recognition to Indigenous languages. Ideally, instruction in the earliest years of school should be conducted in the first language of students, with gradual introduction of English. The recent policy of the Northern Territory Department of Education and Training for an English-only focus in the first four hours of instruction has the potential to cause irreparable damage to the health and survival of Indigenous languages.

Ellis (2008) notes that there is good evidence that mother tongue maintenance programs result in considerable educational success. They are characterised by positive organisational factors (for example, appropriate cultural content in teaching materials), positive affective factors (e.g. low anxiety, high internal motivation and self-confidence in the learners, success in developing full control of the L1, and a high level of proficiency in the L2 (the language of the broader society).

Mother tongue maintenance provides support for L2 learning in two main ways. First, it ensures that the L2 is an add-on rather than a replacement language and it therefore helps students to develop a positive self-identity. As Spolsky (1986:188) notes, learning an L2 is intimately tied up with one's personality and being compelled to learn an L2 as a replacement for the L1 is a direct assault on identity. Mother tongue maintenance, then, is more likely to result in the positive attitudes needed for successful L2 development.

Secondly, Swain and Lapkin (1991) note the importance of L1 academic skills as a basis for successful development of L2 cognitive academic language proficiency. They show that literacy in a community language benefits the learning of a second L2 as a result of the transfer of knowledge and learning processes.

Australian Indigenous languages are precariously placed at present. Even short-term deviation from the goal of maintaining them in the classroom context – in areas where they are still spoken as first languages – has the potential to interrupt transmission to children.

So, the reinforcement of active languages should be regarded as the highest priority within any Indigenous language policy. Secondly, attention should be given to support for active languages at other levels – particularly through innovative use of media, community language centres, and multi-media documentation of those languages. Thirdly, rescue efforts should be launched for those languages that are not being transmitted to the younger generations.

References

Amery, R., 1993. An Australian koine: Dhuwaya, a variety of Yolngu Matha spoken at Yirrkala in North East Arnhemland. *International Journal of the Sociology of Language*, 99:45-64.

Amery, R., 2007. Aboriginal language habitat in research and tertiary education. In Leitner, G. and Malcolm, I.G. (eds.), *Trends in Linguistics, Studies and Monographs: The Habitat of Australia's Aboriginal Languages: Past, Present and Future* (pp.327-353). Walter de Gruyter & Co., Berlin.

Australian Institute of Aboriginal and Torres Strait Islander Studies, 2010. AUSTLANG Australian Indigenous Languages Database. Accessed October 6, 2010 at <http://austlang.aiatsis.gov.au/main.php> .

Brenzinger, M., Yamamoto A., Aikawa N., Koundioubu D., Minasyan A., Dwyer A., Grinevald C., Krauss M., Miyaoka O., Sakiyama O., Smeets R. and Zepeda O. (2003). *Language vitality and endangerment - UNESCO Ad Hoc Expert Group Meeting on Endangered Languages*. Retrieved September 26, 2010 from <http://www.unesco.org/culture/en/endangeredlanguages> .

Christie, M., 2007. Yolngu language habitat: Ecology, identity and law in an Aboriginal society. In Leitner, G. and Malcolm, I.G. (eds.), *Trends in Linguistics, Studies and Monographs: The Habitat of Australia's Aboriginal Languages: Past, Present and Future* (pp.57-78). Walter de Gruyter & Co., Berlin.

Crystal, D., 2000. *Language Death*. Cambridge University Press.

- Crystal, D., 2003. *English as a Global Language* (Second edition). Cambridge University Press.
- Dorian, N.C., 1980. Language shift in community and individual: the phenomenon of the laggard semi-speaker. *International Journal of the Sociology of Language*, 25:85-94.
- Ellis, R., 2008. *The Study of Second Language Acquisition* (Second edition). Oxford University Press.
- Fishman, J., 1991. *Reversing Language Shift: Theoretical and Empirical Foundations of Assistance to Threatened Languages*. (Multilingual Matters 76), Clevedon, United Kingdom.
- Hale, K., 1992. On endangered languages and the safeguarding of diversity. *Language* 68:1-3.
- King, A., Balsamo, F. and Friend, W., 2005. *Indigenous Languages and Culture in Northern Territory Schools Report 2004-2005*. Department of Employment, Education and Training, Northern Territory.
- Krauss, M., 1992. The world's languages in crisis. *Language*, 68(1):4-10.
- Le Nevez, A., 2006. *Language diversity and linguistic identity in Brittany: a critical analysis of the changing practice of Breton*. (Doctoral dissertation, University of Technology, Sydney). Retrieved September 14, 2010 from <http://epress.lib.uts.edu.au/dspace/bitstream/handle/2100/312/01front.pdf?sequence=1> .
- Lewis, M.P. (ed.), 2009. *Ethnologue: Languages of the World* (Sixteenth edition). Dallas, Texas, SIL International. Online version: <http://www.ethnologue.com/>.
- Lewis, M.P. and Simons, G.F., 2009. *Assessing Endangerment: Expanding Fishman's GIDS*. Dallas, Texas, SIL International (unpublished paper submitted to the *Revue Roumaine de Linguistique*). Retrieved September 26, 2010 from <http://www.sil.org/~simonsg/preprint/EGIDS.pdf> .

Lo Bianco, J. and Rhydwen, M., 2001. Is the Extinction of Australia's Indigenous Languages Inevitable? In Fishman, J. (ed.), *Can Threatened Languages Be Saved? Reversing Language Shift Revisited: A 21st Century Perspective* (pp.391-422). (Multilingual Matters 116), Clevedon, United Kingdom.

Lowe, B., 2004. *YoIngu-English Dictionary*. Aboriginal Resource and Development Services Inc. Retrieved September 21, 2010 from <http://www.ards.com.au/langdict.htm>.

McConvell, P., 1991. Understanding language shift: a step towards language maintenance. In Romaine, S. (ed.), *Language in Australia* (pp.143-156). Cambridge University Press, United Kingdom.

McConvell, P. and Thieberger, N., 2001. *State of Indigenous Languages in Australia – 2001*. (Australia: State of the Environment Second Technical paper Series No. 2 (Natural and Cultural Heritage), Department of the Environment and Heritage, Canberra.

McKay, G., 1996. *The Land Still Speaks – Review of Aboriginal and Torres Strait Islander Language Maintenance and Development Needs and Activities*. (National Board of Employment, Education and Training: Commissioned Report No.44). Australian Government Publishing Service, Canberra.

McLellan, M., 2010. *Dictionary of Anatomy - Dhäruk Mala ga Mayali' Rumbalpu*y. Aboriginal Resource and Development Services Inc. Retrieved October 10, 2010 from <http://www.ards.com.au/healthdictionary/lexicon/main.htm>

Morphy, F., 2002. When systems collide: the 2001 Census at a Northern Territory outstation. In Martin, D.F., Morphy, F., Sanders, W.G. and Taylor, J. (eds.), *Making Sense of the Census: Observations of the 2001 Enumeration in Remote Aboriginal Australia* (pp. 29-75). Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Morphy, F., 2008. Whose governance, for whose good? The Laynhapuy Homelands Association and the neo-assimilationist turn in Indigenous policy. In Hunt, J., Smith, D., Garling, S. and Sanders, W. (eds.), *Contested Governance: Culture, power and*

institutions in Indigenous Australia (pp.113-151). Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Morphy, H., 2002. *Cross-cultural categories: Yolngu science and local discourses*. Unpublished paper, retrieved October 9, 2010 from http://livingknowledge.anu.edu.au/html/background/discussions/morphy_yolnguscience.pdf

Mulka Project (2010). Retrieved September 23, 2010 from <http://www.yirrkala.com/mulka/>

Northern Territory Department of Education and Training, 2009. *Policy – Compulsory Teaching in English for the first four hours of each school day*. Retrieved September 23, 2010 from http://www.det.nt.gov.au/_data/assets/pdf_file/0016/628/CompulsoryEnglishFourHoursEachDay.pdf

Schmidt, A., 1990. *The Loss of Australia's Aboriginal Language Heritage*. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Spolsky, B., 1986. *Overcoming language barriers to education in a multilingual world*. In Spolsky, B. (ed.), *Language and Education in Multilingual Settings*. Clevedon, Multilingual Matters.

Swain, M. and Lapkin, S., 1991. *Heritage language children in an English-French bilingual program*. *Canadian Modern Language Review* 47:635-641.

Walsh, M., 2007. Indigenous languages: Transitions from the past to the present. In Leitner, G. and Malcolm, I.G. (eds.), *Trends in Linguistics, Studies and Monographs: The Habitat of Australia's Aboriginal Languages: Past, Present and Future* (pp.79-99). Walter de Gruyter & Co., Berlin.