# Language support with I.T.: not a high wire act

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## Introduction

For Australia's Indigenous languages - all of which are endangered - the current information technologies (IT) present an opportunity to develop a radical but pragmatic language practice. Multimedia and networked platforms allow us to tap into the best of available resources for language work, and to slice through some of the rhetorical positions that are holding back localised language ownership and use. IT, which is not only the language of our time but also the most powerful language tool other than natural language itself, can be mobilised to enhance the status and motivation of language work, while at the same time producing effective and enduring language resources.

Many factors contribute to the continuing destruction of Australian languages. The main one may be a western ideology of contempt for minority languages and a suspicion of bilingualism (Dorian 1998), an ideology which takes hold even among its victims. Other factors are associated with the relative status of the Indigenous language and the colonial one: they include the socioeconomic status of the language group; the presence or absence of a middle class "with the social self confidence to insist on traditional identity and heritage"; the existence of a body of literature in the language; and an association of the language with religious or other important practices (Dorian 1998:13).

Reversing or combatting these factors is a complex process, and is not guaranteed to maintain endangered languages, let alone revive languages which have been destroyed. We do know at least that perceived status of the language is one important factor. Another important factor for Indigenous Australians is locality. Around Australia, many Aboriginal people emphasise both local ownership of their ancestral language, as well as the strong relationship between langauge and land, or territory (see, for example, Jeanie Bell in Nathan 1996:25). This ideology underlies a crucial success factor for language programs: local community initiation and participation (Amery 1994:147-50; SSABSA 1996:44,52; WA Ministry of Education 1992:9,29).

There is a grave shortage of authentic texts in Indigenous languages. With its origins in the destruction of languages, the shortage also reflects the literacy disadvantage of many Aboriginal people, as well as the dominance of English for institutional and other status forms of communication. On the other hand, language is not literacy and we should beware of making written materials the core resources of language work (a point often made by Aboriginal people; see also McKay 1996: 233).

We are now at a historical time where Indigenous languages have attracted renewed interest from both their communities and the State educations systems, at the same time as we have new opportunities through IT to generate appropriate resources in forms and contexts that are most effective for language maintenance and revival. IT is an ideal tool for local projects for language recording, preservation, and learning; above all, as a catalyst or platform for participatory practice involving multiple, contexts, objectives and skills. IT is a modern, relevant, and, most importantly, highly valued area, with which we can achieve a range of language objectives.

Why is it important not to have a "high wire act?" Firstly, the difficulties involved in language revival are so great that we cannot afford to expend resources and emotions on projects that do not give sufficient return; or, even worse, projects that are born to fail. Secondly, while computers are the best tool we have for assisting language work, as discussed below, they are most effectively used to create modest resources through community participation in localised settings. All the technological pieces have been put in place over the last 10 years; now they wait to be exploited. Thirdly, there is little point using IT simply because it is there. Sometimes we should smile when teachers are too worried about having internet access in their classroom so students can communicate with children in other states, or countries, when they are never offered the use of, say, a *telephone* to call Granny to ask how to say something in lingo! And finally, the primary technology underlying computer applications for language is the *human technology* of natural languages, together with the alphabetic system used to encode them.

## Sleeping beauties?

The process of language revival is often bound up with deep emotions and ideology. This has also been noted by Indigenous linguists in similar colonial settings in other

countries. However, language revival unavoidably has to be something ideological, something that "we do to ourselves", not "done to us", and must be able to embrace all aspects of the social and personal lives of the community.

Nevertheless, there are some statements that seem to dampen progress toward productive language work. For example, I have heard it explained that some endangered or destroyed languages are not dead, but merely "sleeping". Although we might admire the sleeping beauty of these Indigenous languages, the catchcry should not be an excuse for inaction; it can tend to put off developing, within the community, beliefs and processes aiding language revival. It can also be underpinned by a belief that the community has a special talent for learning its own language, leading to disappointment when it is found just how difficult language work can be.

Other similar statements may not be helpful to language revival. For example, claims that language and the culture are inextricably linked, and that the culture can only be expressed through the language, may discourage or disenfranchise the young people who are the primary targets for language revival (Dorian 1998:20).

Drawing on their experience in south-east Alaska, Dauenhauer and Dauenhauer (one of whom is a native speaker of an Tlingit, an Alaskan language), report typical responses to the question: do we want to preserve our Indigenous languages:

> While it is generally politically and emotionally correct to proclaim resoundingly, "Yes!," the underlying and lingering fears, anxieties and insecurities over traditional language and culture suggest that the answer may really be, "No." … We often find that those who vote "Yes" to "save the language and culture" expect someone else to "save" it for the others … [b]ut language and culture do not exist in the abstract, as inalienable "products." They exist as active processes in the here and now.

(Dauenhauer and Dauenhauer 1998:63)

## Computers

Perhaps it doesn't matter what tools we use for language work, as long as they foster active participation in the construction of resources that actually tell something of the community's experience. Friere reports of poor Chileans taking part in literacy

programs who "wrote words with their tools on the dirt roads where they were working" (Friere 1972:43).

However, the pace and direction of development of the "new media" (multimedia and networked communications) over the past ten years has provided us with two key lessons: what people want is not intelligent computers, but computers that allow us to communicate with other intelligent humans; and secondly, that people prefer messages expressed in "traditional" cultural forms until genuinely effective new genres have been evolved.

Digital platforms *can* help cut through at least some of the problems that hold back language resource development. Computer activities, and their resulting products, are typically given high status. They offer a goal-directed, quick-feedback context that encourages collaboration between people with a range of skills, in particular, encouraging young people to participate.

Because the new media are now challenging the shape and distribution of information, some people now believe that there are opportunities for Aboriginal people to play more leading roles in communication and publishing, both because of the renewed importance of graphic skills, and also because levels of disadvantage are lowered as people bypass or "leapfrog" the paper-based literacies (cf Nathan 1999).

There are many reasons why the new technologies appear to be perfectly suited to creating and delivering language learning resources:

- *language* involves authentic, rich and varied interaction. New technologies provide for this more than ever before

- multimedia offers presentation of sound, the true medium of human language, as well as other pedagogically effective media (such as graphics)

- networks support communication and relationships, the function of human language (cf Knobel et al 1997)

- computers offer a fast, cheap, accessible, and  relatively painless tool for text work such as making dictionaries and grammars, designing writing systems

- hypertext can link texts of all kinds to dictionaries, grammars and other information

- the convergence of media technologies allows linking cultural artefacts to language activities

- **today's computers and software are accessible and powerful enough for small local communities to create and adapt their own texts and resources**

## Methodologies

A full discussion of methodologies for using multimedia effectively for language work is beyond the scope of this paper. In summary, strategies for successfully undertaking small-scale multimedia resource development are:

- emphasise the acquisition or re-presentation of materials that are language *performances*, not merely *data* or evidence for the construction of analyses

- store and present *sound*; make it as accessible as possible, for example, by appropriate selection of interface or enriching the sound data with searchable annotation

- store different categories of information in robust and neutral formats, so they can be used in the future to create a variety of resources, including those not already forseen

- pay attention to the design of presentation interfaces; make them attractive and motivating to the intended audiences

- design for access that is not dependent on written forms

- use a publishing approach; aim to produce concrete resources that are suited to their intended audiences and not overambitious

- start now! There is no set of rules for producing effective interactive multimedia, so the best experience comes from "getting hands dirty." Some useful examples of lessons learnt come from the use of cartoons as an elicitation tool (see below).

Using computers does not, of course, guarantee successful outcomes. It is easy to *under-exploit* their capabilities, for example, by focusing on computers merely as tools to write text-only documents such as dictionaries and grammars. These book products present a literacy barrier to so many Aboriginal students. In addition, this approach fails to foster the participatory, value-adding nature of work with computers, because it channels involvement to outside "experts" who digest, analyse, and re-present the information they receive directly or indirectly from language speakers. Most importantly, we should not ignore the capacity of computers for multimedia presentation; for establishing communication and relationships; and for robust and accessible preservation of important materials. Language is such ideal material for these facilities that to underutilise them in the service of endangered languages is inexcusable.

In a following section I will illustrate a practical application of this framework to the development of useful and authentic resources in the familiar cartoon format.

## Cartoons: a case study

Over the past 3 years at AIATSIS we have developed, in collaboration with language speakers, a simple software shell for presenting cartoons. Because there are so many endangered languages, it is wise to create a kind of template into which various language content can be recorded, rather than concentrate entirely on resources for one or two languages. This project has provided many lessons about the use of computers for language work.

The initial suggestion to use an electronic cartoon format came from a Kamilaroi (Gamilaraay) elder and former teacher, Auntie Rose Fernando, of Collarenebri NSW, a prominent and tireless promoter of language preservation in NSW. Cartoons have been used for Aboriginal education before, notably the Streetwize series aimed at health promotion. However, extending them to a computer platform has opened up several new possibilities.

Language use in cartoons combines formula with performance and be regarded as an extension to the use of songs, which have proved very effective in the Indigenous language classroom (Dauenhauer and Dauenhauer 1998:68, Amery 1994, Hudson 1994).

While the scope for presenting spontaneous language via cartoons is limited, their ability to do so is far superior to most of the other forms used in language teaching or recording. Unlike a dictionary, they present words in context; unlike a grammar they present sentences with social meanings; unlike many stories it shows how language is used in the context of real contemporary relationships. (In the right circumstances, the cartoons can incorporate real characters from the local community.) Being less formal than other text forms, they encourage us to retain idiomatic and informal expressions that are otherwise often unwittingly censored from printed products.

Most importantly, of course, cartoons allow us to use sound, and to provide access to the sound of language without intermediation by written forms. The cartoon's graphic form, with speech bubbles that objectify text, serves as an transparent interface or screen device for presenting language. Users know  more-or-less what to do and what to expect as they interact with it.
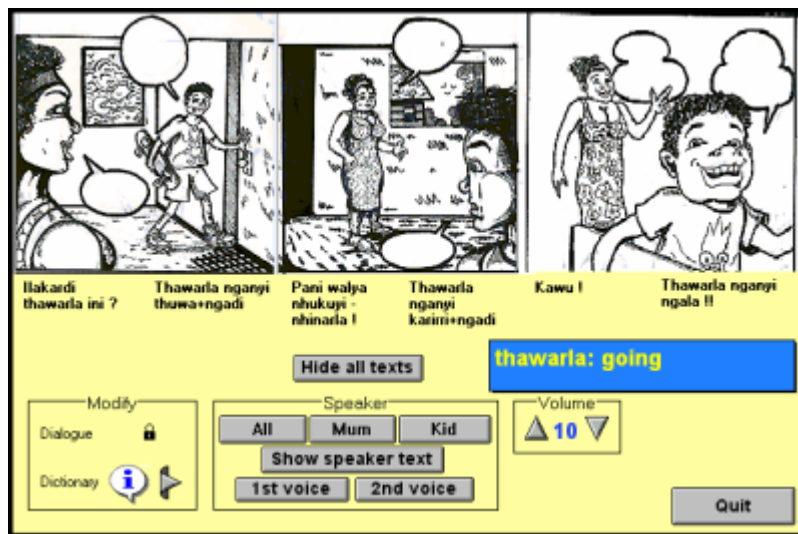


**Yandrruwanda cartoon. Produced with Greg McKellar and Muda Aboriginal Corporation**

Cartoon format is a wonderful aid to elicitation of language. The most difficult task of all is to elicit naturalistic spoken language from the few elders who speak the endangered languages in our areas. What cartoons do is allow the objectification of an utterance, without fixing its form. This can allow partial speakers, or "rememberers" to respond to the visual cartoon as an elicitation tool: "what does she say here?"

Cartoons allow the elicitation and presentation of the *kind of language* that speakers are likely to remember if they are about familiar contexts and activities. If we

continue to use computers only for producing dictionaries, grammars etc., we can fail to capture everyday, idiomatic expressions, the very expressions that are crucial in creating and maintaining relationships and identity. Such expressions often continue to be used by the older generation, and, if highlighted and taught to younger people, are useful in reviving aspects of identity through their use. For example, an expression corresponding to English "poor bugger me", or "I've had enough", or "ouch" can be used 5 or 10 times a day. These expressions can generally be elicited from rememberers, and they "make sense" within multimedia content such as cartoons. On the other hand, learners will only on rare or artificial occasions use obscure words looked up in dictionaries or words that have been constructed for "new" objects.

An example of the strength of cartoons as an elicitation tool arose during fieldwork designing and recording materials for a CD-ROM. I worked with an elder on the story for a cartoon. We were assisted by a teacher/linguist, who jotted down the planned dialogue. The next day, as we began recording, the teacher returned with a neatly typed up script, based on the previous day's jottings, but with grammatical aspects of the utterances enhanced or corrected. The elder attempted to read the corrected text; however she soon stumbled and stopped, proclaiming in shame, "I'm not literate in my own language!" The advantage of using cartoons had been countered by the quest for technical or archival accuracy, and the replacement of a semi-spontaneous production by the reading of a prepared written text.

The best strategy is to deliver the skills required to make multimedia materials to community members, so that the construction of language support materials can be ongoing, locally-determined, and lead to spin-offs in other areas of application of the computer skills. Such computer-based projects can become a link between younger people, who are typically more attracted to the new technologies, and their elders, who can be consulted to supply the all-important language knowledge.

## Underexploited resources

The main resource shortfall for developing computer based resources is not computer equipment! The greatest needs are language knowledge, computer skills, and a practical, locally-based implementation framework.

However, when it comes to physical resources, there are two areas that stand out as underexploited. First, educational institutions can play a greater role in providing resources of varying types. Of course many Indigenous people and some linguists believe that language is too important to be entrusted to schools (Fishman, quoted in Dauenhaur and Dauenhaur 1998:97) because in Australia, as elsewhere, schools have played a prominent role in discouraging the use of Indigenous languages. People continue to wonder why the schools which beat language out of them now want to teach it (cf. Dauenhauer and Dauenhauer 1998:65-66).

Unfortunately, however, this alienation can also cut off access to important resources for language activity. Nowhere else can we have access to the scale of resources represented by teacher salaries, system support, curriculum development, and infrastucture that schools offer. And at least today, schools in several Australian states recognise and offer the study of students' own Indigenous languages. The balance between institutional involvement and community control needs to be determined locally; but it will be somewhat easier where negotiation can be focused around particular resources, projects, and products.

The other outstanding opportunity for effective use of computer resources is the Internet. The number of Australian Indigenous-related web sites has grown from about 10 sites in 1994, to 60 in 1996, to over 200 today. However, although the proportion of sites that are under Indigenous control is also increasing, language remains somewhat neglected: for example the Virtual Library for Australian languages (http://www.dnathan.com/vl/) links to around 100 resources for Indigenous languages, but with a tiny number of exceptions, such as the venerable Yothu Yindi site (http://www.yothuyindi.com), Indigenous languages are not used as a medium of communication. Perhaps one day, language will be restored to its rightful place as the first and most powerful technology of all, and we will find Indigenous languages on the web, networking their communities, and bootstrapping a new era of language revival.

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