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Learning Communities: International Journal of Learning in Social Contexts

Editorial Overview

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Contents

EDITORIAL

Welcome to the first issue of *Learning Communities: International Journal of Learning in Social Contexts* for 2004.

Since the 2003 issue there have been several name changes that may cause confusion. At that time the host of the journal was the Centre for Teaching & Learning in Diverse Educational Contexts (CTLDEC) at the Northern Territory University. The centre is now known as the Centre for Learning Research (CLR), while NTU has been renamed Charles Darwin University. If nothing else, CLR is certainly far easier to mouth and remember than CTLDEC!

This issue contains four articles concerning aspects of literacy. During 2003 CLR hosted a public forum at CDU on the matter of local literacy. The key note speaker was Professor Mary Hamilton of Lancaster University. The first three papers in this issue, by Michael Christie, Peter Wignell and Jennifer Rennie, are developments of papers they presented to that forum. Michael's considers the complex issue of the role of databases in preserving and transmitting Aboriginal knowledge, while Peter's demonstrates how he went about adapting workplace training materials for use among workers in a remote mining area of Australia and Jennifer's probes important matters that underpin children's oral reading in primary school. The fourth paper, by Ian Falk and Jo Balatti, focuses on 'process' in learning in communities and provides interesting detail concerning a case study. I am confident readers will find these four papers varied and interesting, and that separately and together they make valuable contributions to the field.

Later in 2003 CLR hosted a workshop sponsored by the Academy of the Social Sciences in Australia (ASSA). The theme of the workshop was the role of social capital in alleviating persistent poverty. The report to ASSA can be found at http://www.assa.edu.au/workshop/pw.asp?id=79 . A number of participants have indicated their preparedness to develop their workshop contributions into articles for the next issue of this journal, which is due for publication before the middle of this year. The journal would be pleased to receive contributions from others who are able to add to knowledge in regard to the role of social capital in this or other aspects of public policy.

COMPUTER DATABASES AND ABORIGINAL KNOWLEDGE

Michael Christie

Digital Technology and Growing Up Young Indigenous Children

At a recent workshop on Aboriginal knowledge in Darwin, several women from the local Larrakia aboriginal community talked about putting their elders' knowledge onto a database. One cautious non-indigenous researcher voiced some doubts about the over-enthusiastic embrace of digital technology: 'Indigenous knowledge lives in country, and in doing things together in country – not in computers.' The Larrakia women responded: 'That's all very well, but while our elders are getting very old, the young teenagers today aren't interested in learning anything from them. We need to find good ways of preserving some of the knowledge of the old people before they all pass away.' [1]

Many Aboriginal parents and grandparents, concerned that the younger generation are not growing up with a strong indigenous knowledge/identity, endorse the use of computer databases to store texts, photos, videos, maps, lists etc., to help with their work of teaching. It would be easy to assume that these digital objects actually contain knowledge, but in fact they are simply information: series of ones and zeros. The digital object is a re-presentation or an artefact of an earlier act of knowledge performance/production. Its function in the work of education lies in its incorporation into further episodes of knowledge production as any artefact like a book, a map or a photograph is used when people teach.

Databases are not innocent objects. They carry within them particular culturally and historically contingent assumptions about the nature of the world, and the nature of knowledge; what it is, and how it can be preserved and renewed. This paper aims to investigate the relationship between Aboriginal knowledge and databases which are springing up everywhere in what has been called 'archive fever' (Derrida, 1995) with promises to help with 'knowledge conservation'. How can information stored digitally on a computer (texts, videos, audiofiles, photographs) be used and maintained by the older generation to help young people learn who they are, where they come from, and where they are going?

[1] These discussions have led to an ARC Linkage research project looking into the potential uses of database technology in the intergenerational transmission of Aboriginal knowledge. This paper seeks to open some discussion. Thanks to Juanita Pope, John Greatorex, Ian Falk and Trevor van Weeren for their input.

Literacy and the Production of Aboriginal Knowledge

Databases do not contain knowledge; they contain information (i.e., ones and zeros in particular formation). Education is not the transmission of information from one head to another (Reddy, 1979), it is the negotiated production of knowledge in context (Turnbull, 1997). Sorting out the relation between information on computer and knowledge in practice is neither obvious nor easy. Situating databases specifically in the discourse of indigenous teaching and learning, a good first step may be to look at indigenous epistemology and pedagogy. How is traditional Aboriginal knowledge understood by its owners? How is it transmitted? Can databases help? In this section, I use Gee's (1991) theory of literacy to draw a link between an Aboriginal philosophy of knowledge and the use of database technology in traditional intergenerational education. I use the specific example of the Yolngu Aboriginal people of North East Arnhemland.

Yolngu have a long experience negotiating knowledge production and celebration within and among their various clan groups, and more recently with Macassans and Europeans. Yolngu curriculum developers and philosophers have written extensively on indigenous epistemology and pedagogy (Marika-Mununggiritj, 1991; Yunupingu, 1994; Wunungmurra, Sept 1989). In Yolngu philosophy, identity is contingent upon one's father's and father's father's ancestors, who sang, danced, cried and spoke the particular features of your own land and your own people into existence as they passed through the land and sea, making the world knowable and inhabited. Every Yolngu claims and celebrates their identity through these land-based language and culture complexes. Identities must be preserved and fore grounded in the production of knowledge which depends crucially on identifying, acknowledging, and actively maintaining the differences of language, dance, art, etc., among various contributing totemic groups.

Defining literacy, Gee begins by defining discourse, which can be seen to parallel a Yolngu understanding of identity: 'a socially accepted association among ways of using language, of thinking and of acting that can be used to identify oneself as a member of a socially meaningful group.' (Gee, 1991) While in the balanda (non-Aboriginal) world we may be happy to celebrate a range of discourses, each of which may contribute to the particular subjectivities we adopt in particular contexts, Yolngu are careful and remain within their own patrilinearally acquired discourse which they distinguish from the many other secondary discourses (using Gee's term) with which they must always interact in an ongoing way. There are many Yolngu languages (some very similar to each other) each of which belongs to particular people, particular places, and particular histories, songs and images.

You can only tell your own story; it gives you your identity. It comes from your mulkurr – your head/mind which has a specific name depending on your totemic affiliation. Yolngu languages, like Gee's discourses (1991, p4), are inherently ideological: they provide standpoints to be taken up in relation to other discourses/languages and thus they resist self-scrutiny; they focus on particular themes, concepts, viewpoints etc., at the expense of others; and control over these discourses/languages correlates closely with power (Christie, 1996).

Marriage in Yolngu society is exogamous, that is, one marries someone from another land/language base. As an adult you will take on your father's language and land, so your mother therefore always speaks a language different from yourself. You may

start speaking your mother's tongue, but as you grow up you change to speak your own (father's) language. As you grow up, your ability to interact with discourses other than your own is a feature of your competence as a strong Yolngu in Yolngu society.

In Gee's analysis, one *acquires* one's primary discourse, and one *learns* all secondary discourses (the latter generally implying both the role of the teacher, and the development of a sort of metalanguage or metadiscourse through which one can begin to critique other discourses (Gee, 1991). Often new discourses bear with them unfamiliar uses of language which need to be learnt. Gee goes on to define literacy as control over these secondary uses of language. In the Yolngu case one's mother's and one's father's discourses are quite different from each other. One acquires one's mother's language first. Boys often stick with their mother's brother (who may well become their father in law). They learn the full depth of their father's (and their own) inheritance as they grow older, and are expected to begin to speak their father's (rather than their mother's) language with confidence as they begin to perform in ceremonial and other religious contexts.

Using Gee's construction, these processes of gaining control over the secondary 'socially accepted ways of using language, thinking and acting' are the core definition of literacy. Yolngu use the Garma ceremonial ground as a metaphor to make clear the function and productivity of a similar literacy. The garma is a publicly recognised site for the negotiated performance of ceremonies. Yolngu from diverse land/language combinations, come together and celebrate their samenesses and differences through collaborative performance (Christie, 1994). Within the garma, individuals work as groups (dancing, singing, painting, talking), to produce a new definition of the here and now, bringing "past into the future" (Yunupingu, 2003) through collaborative representations of ancestral practices and events. They work to produce a collaborative knowledge while preserving (and emphasising) their particular land/history-based individualities (Christie, 1995).

The garma, like the database, does not contain knowledge. It is a site and a resource where new knowledge is produced for the local context from coordinated representations, largely sourced from outside (i.e., from the various estates and histories of the contributors). The best teachers/researchers/learners have the ability to access, and interpret a full range of representations in each new context of meaning making. The skill of the teacher (singer, painter, and dancer) lies in the connections they can make. When Yolngu make knowledge agreements, they search out words which have a rich complex of denotations to enrich their performance. While western scientific knowledge may be valued for its objectivity, Yolngu knowledge is valued for its connectivity and sustainability. This connectedness of Yolngu knowledge needs to be enabled and enhanced by the database. A person's name, for example, is often also a place, or a ceremonial object, or even a state or a process in which they are invested. Discussions as to which connections are productive and which are to be ignored need to be made as the databases are *used*, not as they are *constructed* (see below).

The database itself (like the garma) needs to be read discursively alongside the data it contains: Who does it belong to? Whose interests does it serve? Which structures or concepts does it embrace and which does it marginalise? What possibilities for knowledge-making does it support and prevent? Can databases be developed which

allow for the sorts of selectivity, display, combinations and performance which characterise the garma?

Databases, and the Structure of Aboriginal Knowledge

Typically a database contains a number of digital objects (e.g., texts, photos, videos, and audiofiles) each of which has a text file of metadata linked to it. The metadata ('data about data') is like the library catalogue, through which one can find books by searching for topic, title, author, keywords etc. Normally each 'object' has one metadata file attached to it, although it is possible for one object to have several metadata files (for example generated by different people with different perspectives on the same object) or for one metadata file to relate to several objects (e.g., a video recording, a text transcription and a translation, of the same interview).

When databases are set up, decisions are made as to the structure of the metadata (which 'fields' are to be used and what sorts of data might fill them) as well as the 'pathways' through which users will access the digital objects by searching through the metadata. These search paths are made real and visible through series of interfaces – what you actually see on the computer screen.

In processes of setting up a database, we make decisions about how the data is to be structured. In developing this information architecture, we find pressure in a number of opposing directions. One is pressure towards standardising metadata so that different databases can be read against each other and be searched using standardised mechanisms: "interoperability". So we have for example competing claims for universal metadata protocols, like the 'Dublin Core' (DublinCore). At the same time, there is pressure towards making metadata structures and search methods reflect the special local nature of the content of a particular database, and the uses to which its data are intended to be put. There is also pressure to make the metadata rich, so that many different search approaches can be developed; and there is pressure to make the metadata simple, to enable people who are not highly text literate to upload and find what they want. Whichever way these political and technical decisions go – who makes them and why, and which features are excluded, none of them will remain apparent after the interfaces are developed and put in place. They will be obscured by the illusion of objectivity the interfaces convey.

Not only does the information architecture reflect a particular politics of knowledge but it also somehow enacts it. Every digital object requires some metadata to render it searchable, and the process of writing metadata is a kind of naming. Giving something (a story, a video, a photo) a name makes it locatable materially and conceptually. The name provides a textual link to the object describing it to some extent but never exhausting its content. (It may for example identify a storyteller but not anyone else whose presence shaped the telling). The process of naming objects is the beginning of the structuring of knowledge. In the western scientific tradition, the work of naming often assumes a world already objectively structured, and the possibility of a language which 'cuts nature at its joints'. We too easily assume that the information structures of a database reflect somehow the structures inherent to the social and natural worlds. But they are not. They are both selective and productive.

Bowker (2000) has identified a number of ways this selectivity/productivity happens. Some things are harder to characterise than others. They don't fit easily into any

particular category, so they tend to fall through the cracks. Maybe these things are hard to name, maybe they have fuzzy boundaries so are hard to classify. Some things are contested – there is no agreement as to where they belong. An agreement here might cause an offence somewhere else. Other things are radically singular – they are interesting precisely because they can't be classified, or they transgress accepted taxonomic norms. They may be left out of the database or become lost inside it. Some things are more 'charismatic' than others, receiving more attention from researchers, policy makers and students, leaving others less acknowledged. For example, knowledge produced in the context of painting a body or dancing in ceremony receives more attention than that produced in the course of fireside storytelling. Politically flavoursome issues (environment, art, music) are likely to receive more funding, and therefore more extensive documentation. All of these factors may develop a sort of feedback loop which skews the contents of a database and then our understanding of the world.

As the radical complexity and interconnectedness of the Aboriginal world is reduced or 'grooved' by the structuring and filtering of metadata, we are in danger of falling victim to a 'reverse bootstrapping process' where we produce from the database a scientific model of the world which has its shape not because the world is so, but because this is the nature of our data structures (Bowker, 1999). When non-indigenous programmers make databases for indigenous knowledge owners, information architecture requires careful attention. If Aboriginal knowers and western researchers are to collaborate in knowledge production, there is much work to do in identifying and preserving samenesses and differences (Verran, 2002). Databases need to be able to deal with these interactions.

Despite the generally unexpressed assumption that databases should be theory-neutral, they are never so. As we go about the work of setting them up, we are making both technical and political decisions, and there can never be any a priori attribution of a given question to the technical or the political realms (Bowker, 2000). The work of turning the artefacts of knowledge production into discrete digital packages, and of organising them into searchable collections, turns them into politically and historically invested technologies. While the data can be read discursively and materially, so must the database itself.

Towards an Indigenous Database

An indigenous database must be a lot more than simply a conventional database full of representations of Aboriginal knowledge. For it to be an indigenous database, its architecture and structure, its search processes and interfaces, its ownership and uses must also reflect and support indigenous ways of being and knowing, and their control over their own knowledge (Agrawal, 1995). The coding which makes up the software of the database reflects a theory of knowledge which is well hidden and carries the cultural bias of its designers. Metadata provides a good example.

Western scientists tend to see their work as choosing the right language to describe the already structured world which they have discovered. To them, therefore the pre-emptive structure of metadata is productive – the data are organised in the way of the world. Thus databases are said to bear an ontology within them. Aboriginal scientists, on the other hand, whose work celebrates more the creative use of language to actively produce possible new worlds (rather than simply reflect an immutable one) may be rather hampered by the structuration of metadata. The sorts of connectivities which can be given to a Yolngu word (it may be a place name, a person's name, a

sacred object, a ceremonial procedure, or label for a totemic connection between groups) must not be prevented in the search process by the sequestering of metadata in particular fields. For Yolngu processes of connectedness to be best facilitated, all metadata should be equally available for search, as indeed should be all the text in the digital objects themselves. Here again we can address the issues of the particular ontologies of indigenous databases through paying attention to the indigenous theories of reality and representation which understand the world as being historically and actively (re)constituted through ongoing ceremonial and everyday performances.

Working in another direction, we may also work to avoid the tyranny of text and look for visual ways of structuring, finding and presenting data. Images should be easily searchable through thumbnails. Text should not be a necessary component of a search for graphics, where for example map-based or other graphic user interfaces may be useful. But most of the time, text-based searches seem inevitable, and where literacy levels are low, and vernacular languages are difficult to spell, special features to help produce valid strings for producing search results must be developed. In past database work, we have had success with 'fuzzy' search mechanisms where lists of Aboriginal words are filtered to provide a range of possible options to be picked up by poor spellers (Zorc, 2002). The fuzzy search renders a range of possible correct answers. Clicking one of them initiates the search. Such features (including more ambitious options like voice recognition) require good software for generating searchable lists. A glossariser/lemmatizer which produces a full glossary of all words mentioned in data and metadata files and calculates gernaralized 'lemma' forms to facilitate 'fuzzy' searches, may be useful to facilitate searches by indigenous knowledge owners working with difficult languages with lower levels of literacy.

The common cry for more investment in the training of indigenous people in database use may be more profitably directed to the development of user-friendly interfaces which anyone can use. Train the databases, not the owners.

A Radically Simple Approach to Indigenous Database Construction

Most database development projects begin with discussions on the fields and formats for metadata – conceptualising data structures which predict the range of content to allow for efficient retrieval. But as we have seen, there are problems with starting with metadata distributed into fields: First, it can be difficult and complicated for not-very-computer literate people to input and upload, and second, its structures can reduce (rather than enhance) the possibility for establishing the connections among conceptual objects upon which much of Yolngu knowledge production rests.

In setting up databases for the intergenerational transmission of local knowledges by their owners, we may do best to start with a minimalist approach to metadata and work in the first instance with a single field. Then, working with those who will own and use the database, start the database development process by focusing not on describing the content or nature of the digital objects to be uploaded (one by one) but rather ensuring their retrievability. If you were looking for this object on the computer, how would you want to go about finding it? What words would you use to look for it? What other ways of finding it might be possible? If all metadata on the

database were provided by the indigenous owners/users this may help guarantee both 'ownership' and user-friendliness.

Negotiating user interfaces which combine both the advanced technical solutions which facilitate searches, and the subtle ways in which Aboriginal people use particular (digital) artifacts, (alongside language forms, performances, and contexts) to (re)make knowledge, requires an extensive iterative process of producing a prototype, discussion, use in context evaluation, feedback, redrafting, more consultation, tweaking, and so on.

The best databases for indigenous peoples to use for their own purposes of knowledge transmission may be frustratingly difficult or counter-intuitive for western scientists to use. It might be possible to build a system which accommodates the purposes and mindsets of both indigenous communities and non-indigenous interest groups, but to do justice to the indigenous intellectual property owners and custodians, and the goals of intergenerational transmission of indigenous knowledge, indigenous ownership and facility of use should not be compromised by the perceived needs of non-indigenous partners for easy intuitive access.

There is a problematic disjunction between the structured information to be found on a computer, and the integrated, holistic, lived and performed knowledges of Aboriginal people on country. This disjunction may become more tractable as we focus on the actual and possible ways in which Aboriginal adults may use digital technology to teach aboriginal young people the knowledge they value. Summarising some ideas from this paper, we may do well

- starting with a limited data set, and with the processes of uploading data and creating metadata
- using the educational uses of digital artefacts as the framework for system development. Who will use it, how, and where?
- focusing on the retrieval and use of digital objects from the database as informing the logic of data structures, search engines and interfaces.
- minimising the structuration of metadata to facilitate the preparation and upload of data and metadata and to foster the peculiar connectivities of indigenous knowledge practices.
- exploring the database and its development as politically and culturally invested and thus themselves in need of a discursive reading. Whose world does its structure and function reflect? Whose practices does it support? How could it be modified to suit our purposes?

Conclusion

The digital database may seem an unlikely object of theorisation in an effort of understand how an Aboriginal ontology and epistemology became relevant in contemporary educational contexts. However, using Gee's theory of literacy we can understand the role of both data and database in the enhancement of control over secondary uses of language. In this scenario, literacy for young Aboriginal kids learning traditional knowledge from their elders with the aid of computer technology, involves learning together to 'read' the database materially and discursively, reading the classification itself, 'juggling its formal and informal aspects' (Bowker, 1999) in the work of producing Aboriginal knowledge for the modern world.

User-friendly databases for the primary use of indigenous communities for the control and use of their own digital data are technically possible to create. Making ones which work well for their owners requires long term, deeply negotiated and collaborative processes where questions of the nature, politics and creation of knowledge remain central. Communities learning new literacies associated with digital technologies will learn to read databases profitably for their own purposes as they learn to write them.

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LITERACIES OF ENGAGEMENT BETWEEN CULTURES: THE LOCAL LITERACY OF THE WORKPLACE IN A REMOTE PART OF AUSTRALIA

Peter Wignell

Setting the Scene

This paper addresses the idea of literacies for engagement in the context of workplace literacy by examining what happened at a particular place and time when a group of Indigenous workers were confronted with a set of literate practices which were, for the most part, new to them. The location is a mine site in the remote Kimberley region of Western Australia. The specific context is the development of workplace literacy training materials. The project itself was quite small in the broad scheme of things but involved negotiated engagement in a larger context of cultures and sub-cultures. As will be discussed later, some of the terms of engagement were negotiable, some were not.

The project involved an engagement between multinational capitalism, government bureaucracy, Indigenous culture, the culture of academia and the culture of the workplace. The engagement involved the workers, the mining company, the person developing the materials (the author – who has around 15 years' experience as a researcher and teacher in theoretical and applied linguistics as well as a number of years as a language teacher) and, indirectly, the Commonwealth Government. The issue here is how does everyone go about working out what the job is and then getting it done?

The mine is operated by a multi-national corporation under an agreement with the traditional owners of the land on which the mine is situated. One of the terms of that agreement is that the mine operators provide employment and training for local Indigenous people. The mine is the largest local employer of Indigenous people.

The main method of training at the mine was to use self-directed, self-paced training packages. There were many training packages, more or less one for each job. They had been prepared by people who were skilled at their trades but who did not necessarily have any background in training or in materials development. Many of the

training packages appeared to have been based on photocopies of workshop manuals: texts designed not as training materials but to be used by people who already have the required skills.

This method of training probably suited most of the mine workers, who were flown in from Perth on a two-weeks-on, two-weeks-off rotation. While at the mine they worked twelve hour shifts each day. This does not allow much time for training while at work but does allow time to work through materials when not at work.

Not all the workers worked on a two-on, two-off basis. Some workers, mainly administration staff, flew in each day from a 'nearby' town (a 20 minute flight). The Indigenous workers all came from a community about forty kilometres away. Some drove in each day in a Landcruiser 'Troopie' provided by the employer while some lived at the mine site during the week and went home at weekends.

The company's original intention was for the Indigenous workers to start off in one of two work crews: the Civil Works crew or the Ground Maintenance crew. The Civil Works crew does construction type work such as earthmoving, road building and building structures such as worksheds, while the Grounds Maintenance crew does general maintenance type work such as gardening and rehabilitation of the site. By working through training packages the Indigenous workers had the opportunity to move on to other jobs at the mine.

After several years the predicted movement of workers had not happened. Two of the younger workers had taken up apprenticeships but the rest had stayed in the work crews they started in.

The 'problem' was perceived to be one of literacy (or lack of it). In order to change jobs the workers had to work through the written training package for the job they wanted to move to. They found the training packages extremely difficult, in some cases impossible, to use.

The company thought that an appropriate strategy was to 'improve' the literacy levels of the workers. The company had applied for and received funding from the Department of Education Employment and Youth Affairs (then just DEET) under the Workplace English Language and Literacy (WELL) program. The company then negotiated with a consultant to prepare and deliver literacy training. After some time and after doing some preliminary work that consultant decided not to follow through with the project. I was then contacted. After negotiations and discussions with company staff my role came to be that of developing a set of literacy training materials for the Indigenous workers and advising on training in general.

There were a number of constraints which were not negotiable. There was a fixed budget (accountable to DEET and to the company). The general model of training through self-directed, self-paced packages was to be preserved. After reading through a number of training packages, suggesting that they were inappropriate for training purposes, and suggesting that they be rewritten, I was told that there were too many and there was not enough money for them to be rewritten.

The workers

The workers in the study were around 20 local Aboriginal people employed at the mine. They were predominantly male, ranging in age from late teens to middle fifties, with one female, aged in her early twenties.

The workers all had broadly similar life history backgrounds and work histories. For some this was their first job. Those who had worked before, generally the older ones, had typically worked in the pastoral industry.

All of the Aboriginal workers had had some Western school education, generally to around upper primary school level. All spoke English. They were all also multi-lingual: speaking a selection from English, Aboriginal English, Kriol and one or more other Indigenous languages. When they spoke to co-workers or supervisors of European descent they spoke English. When they spoke with each other they tended to code-shift among English, Aboriginal English and Kriol. I did not hear anyone speaking in a traditional Indigenous language and I do not know what they spoke most at home.

Initial employment in either the Civil Works crew or the Grounds Maintenance crew is intended as a starting point for those who wish to train for other jobs and a start/finish point for those who do not. If workers want to move elsewhere they can do so either through apprenticeship or by moving to other jobs at the mine. The older workers, who also tended to have the least formal western education, tended to be in the Ground Maintenance crew. The majority of these workers said that they liked the work they were doing and wanted to stay where they were. A minority said that they wanted to move, not because they did not like the work, but because of opportunities to earn more money and learn new skills. The younger workers, who in general had more western education (upper primary level on average), tended to be in the Civil Works crew. These workers tended to be more interested in moving to the main mine or taking up apprenticeships.

Moving, however, depended on learning how to do new jobs, which depended on training. The company actively encouraged training. Incentives were given (more pay) for employees who became more skilled (eg had more 'tickets') whether those skills were used or not.

The training context and the Indigenous workers

In addition to a selection of training packages the two Indigenous work crews had a supervisor/trainer who worked with them. The trainer had recently tendered his resignation and it was unknown how long it would take to find a replacement trainer. The trainer's role was both on–the-job training and helping workers with the training packages. At the main mine, however, training was entirely self-directed through written training packages.

It was in using the written packages that 'literacy problems' were encountered. The Indigenous workers were comfortable working in an oral mode and mostly comfortable using the written packages with assistance but floundered when using the written packages on their own. This proved to be the main obstacle to them moving on to better-paying positions. In order to learn new skills a worker had to be able to use a training package to learn the skills required to do a job even if actually doing that job required little or no use of written language.

Brief Outline of the Theoretical Model Used

Before discussing the development of the literacy training materials I will outline the theoretical model that lies behind them. The principal points at issue here are the relationship between reader and text and the relationship between language and its contexts of use. The position on the relationship between reader and text that informs this paper is drawn from Freebody and Luke (1990). The model of literacy training used in this project assumed that literacy is a question of degree, not a question of literate *v* not literate. We all reach the limits of our literacy at some point.

The model used here suggests four roles for a literate person. These roles are defined by how a person approaches written text. The roles describe strategies and orientations, they do not categorise people. These roles are:

- The reader as a code breaker. This refers to a reader's ability to see a connection between marks on a page and language. That is, in order to read, a reader must be able to decode printed symbols, they have to be able to recognise letters and words. This is a minimal condition for reading. For instance a person might, in some circumstances, be able to decode words on a page but have no idea what they are reading. Readers who use only this strategy tend to focus on every word when reading, read for sound rather than sense and tend to stop as soon as they encounter a word they do not know.

- The reader as a text participant. This refers to reading comprehension or making sense of what is read and relates to the background knowledge readers bring to a text. Often, if someone appears to be able to 'read' but not make sense of what they have read what they need is more 'content' information to build up a bank of experience to bring to the written text, rather than just doing more reading.

- The reader as a text user. This refers to the reader's ability to use or do something with a written text. This involves understanding the purpose of a text, what it is for. For example, if we take operating instructions for some machine, someone might be able to 'read' the text but not know what the instructions are for. Different people bring different degrees of background knowledge to a text. In the case of people who have had very limited experience with written language, it cannot be simply assumed that they know what different texts (e.g., instructions) are for. It also cannot be assumed that

they can necessarily find their way around texts by using tables of contents, headings etc., without being shown how to do it.

- The reader as a text analyst. This involves the ability to 'read between the lines', i.e. to read a text critically and to evaluate it, not simply take it at face value.

The main area of concern for this project was the reader as a text user. If a person is operating at least at the level of a text user he or she should be able to use training packages effectively.

Each of the roles described above involves people using different strategies to read and bringing different degrees of knowledge to the text. The strategies used to teach reading/literacy depend to a large extent on how the reader approaches the text.

In teaching reading it is not necessary to go through these roles in sequence. Even though it is a necessary first step to break the code it is possible and desirable to address the whole lot at once. For example, if a person is operating at a minimal code-breaker stage it would be necessary to provide intensive, individual tuition but this could be done in the context of the job and building up the person's background knowledge and knowledge about what the text is for at the same time as teaching what letters and words on a page are.

There is often a spatial relationship between text and context in typical spoken language. In a conversation we can, for instance, refer to physical things (and people) nearby and use other contextual cues that can only be understood by actually being there. In this instance the shared experience makes communication easier.

The idea of a connection between a text and its context can be extended to the broader social context. If we speak within a close community to other members of that community there is a lot of shared knowledge and shared assumptions. We can speak fairly cryptically, knowing that the people we are talking to share more or less the same body of knowledge and experience and can make the connections we intend. We can leave things out and make assumptions knowing that the person or people we are talking to can fill in the gaps or ask for clarification because we are standing there in front of them.

The further we move away from this body of shared experience, either at a personal or community level, the more we have to make what we mean explicit, the more details we have to fill in so that people can understand us. That is, we cannot rely on the shared physical and social context to do a lot of the work. For example, we might write about something that we know a lot about but we cannot necessarily assume that the person we are writing to knows as much about it as we do. If we want to tell somebody about something that they know nothing about, we have to supply much of the context for our reader so that they can make sense of what we are saying. Because we are not there personally to fill in the gaps the text needs to be self-contained.

In general, the further we move from direct face-to-face communication the more abstract, or distanced from its context, the more a text needs to be able to stand alone, to communicate its meaning by itself. Likewise, the more we are talking/writing in general terms rather than about specific, tangible events, the more abstract a text becomes.

The issue of the relationship between texts and context is one of the key issues in literacy. Written language is not just spoken language written down, it involves different ways of meaning which, to a very large extent, are tied to the relationship between text and context. A concise account of the main differences between speaking and writing can be found in Halliday, M 1985, *Spoken and Written Language*. Deakin University Press, Geelong.

As an illustration, if we think about language and context as a kind of scale, we can place different examples of language on that scale.

1 2 3 4 5 6
<---------->
language in action — language as reflection

On the scale above 1 would indicate language at its most context-dependent. In the workplace context this would be something like workers talking about a specific job while they were doing that job. Something like:
'This bearing's stuffed, mate. Chuck us a new one will you.'

Keeping the topic related to bearings, point 6 would represent something, for example, from an engineering journal about a more efficient design for bearings, where such an article was both technical and theoretical.

At point 1 on the scale you have to be there to know what is going on. At point 6 you have to be an engineer to know what the article is about. Points 2, 3, 4 and 5 (any number of points in fact) represent the space between the two extremes.

Placing a training package on the scale

If we consider a self-directed, written training package as a text with a relationship to its context, where would it be placed on the scale? The first thing we need to consider is what is a training package for? What is its reason for being?

First, and most obviously, a self-directed training package has the job of helping someone to learn independently how to do a job that they do not already know how to do. If that job involves making something or operating or maintaining some piece of equipment, then it is clear that the training package should be able to be used in close proximity to the tools and materials needed to do that job. It is, therefore, a text intended to be used in context. If this were the only variable operating it would place the text somewhere down near the 'language in action' end of the scale.

Other variables, however, operate to move the text a little further from the 'action' end of the scale. First, the text is written so, unless there is a trainer present, there is no scope for immediate feedback, and so the text must contain enough information to get the job done. Second, although it is intended to be used in context, it is also a teaching text so it cannot make too many assumptions about what the user already knows. For example, the writer of such a training package cannot assume that the user has anything like the same amount of technical knowledge that they have. The package should not be too technical or abstract but it does need to contain some technical terms. The names of tools and the parts of machines, for instance, are technical names that people working in a trade need to know. The text, again, needs to contain enough technical information to get the job done properly without confusing the user. Here the use of technical terms moves the text away from the action end of the scale but this can be compensated for by adding things like clearly labelled, accurate diagrams or good quality photographs which provide some context and help bring the text back towards action. Even though a package is intended to be used in learning how to do a job it is not tied to any one particular instance. The package should be able to be used for all cases of someone learning to do that job. In this sense it must be somewhat generic, which again moves it a little bit to the right on the scale.

The package would need also to contain other information to get the job done. For example, if the stages of a job need to be done in a particular order, the package needs to say explicitly what that order is, either by using numbers or by saying things like 'first, next, then...'. If a job doesn't need to be done in any set order but all parts of the job need to be done, that needs to be stated too in some way. The more explicit 'how to' information there is, the easier it is to use the package in context.

From the discussion above I would place such a training package somewhere around point 3 on the scale, heading towards the action end.

This theoretical model was used to provide general theoretical principles about the relationships between language and context. These general principles then informed the development of literacy training materials for this particular site. It is hoped that this paper will reconcile the general and the particular by arguing and demonstrating that any broad theoretical model, or policy for that matter, needs to be applied in the context of a fairly detailed knowledge of a particular site. That is, what is relevant and appropriate for the SE corner of the country might not necessarily be relevant to more remote or more different parts of the country.

Developing the Literacy Training Materials

The day I arrived at the mine I had a meeting with the Indigenous workers. They had heard that some 'university bloke' was coming out. I was confronted by a small sea of apprehensive faces. I did not know at the time that the previous consultant had intended to give the workers a pre-test. It turned out that some of them were very worried: they thought they were going to be tested and lose their jobs if they failed.

People who have been measured countless times and have inferred from this that somehow they do not measure up are not usually keen on being tested.

The whole atmosphere lightened when they found out there would be no testing and the whole program was voluntary. It was made explicit that they had to be able to read training packages to get more training and that my job was to develop materials to make reading easier for them. Some wanted to stay where they were but a majority wanted to be involved. Some were quite enthusiastic: they saw it both as a chance to make more money and to learn skills which would be useful in their community.

The day after the initial meeting, I had a good look around and talked to as many people as possible, first in fairly formal situations and then in informal ones like 'smoko', where you find out how people really think and how things really work. After talking with the workers and the trainer it turned out that all of the workers who wanted to be trained further could in fact read. They just could not make sense of the material the way it was presented to them.

On that visit to the mine and on a subsequent visit I collected the existing training packages for the Civil Works crew and a sample of training packages for other jobs at the mine. I took these packages away for analysis. I found that existing training packages were not always appropriate for the job they were supposed to be doing. The samples below illustrate this point. The examples show original and rewritten versions in ‘plain English’.

(Original)
Improper jump procedures can cause an explosion resulting in personal injury.

(New)
You have to jump start properly or you might blow up the battery and get hurt.

(Original)
Make initial determination as to the failure of the machine to crank.

(New)
First try to work out why the dozer didn’t crank.

The main difference between the two versions is that, in the rewritten versions most of the ‘doing’ information has been put back into verbs, the ‘natural’ place for it to be in spoken English. For example, *make an initial determination* means more or less the same as *first try to work out*.

Another difference is that information about cause and effect has been moved into conjunctions, where it is most often found in spoken English. For example, *improper jump procedures can cause an explosion resulting in personal injury* can just as easily be said as *you have to jump start properly because, if you don’t, you might blow up the battery and get hurt.*

The main rationale behind the new versions as they are is that, if people are familiar with and regularly use spoken English but do not regularly use written English, the typical patterns of spoken English are going to be easier for them to understand. In addition, important information is made more accessible through the changes to a more 'spoken' form.

Writing the new training packages

Given these constraints, and with the resources available I decided on a four-part strategy. In summary this strategy was:

- To rewrite the existing training packages for the Civil Works crew, since this crew was seen as the key point of transition to working in other jobs at the mine.

- To write a set of literacy training materials to accompany the rewritten training packages. The purpose of these materials was to develop and enhance skills which could be transferred to the training packages used at the mine site.

- To write a set of trainer's notes to accompany the literacy training materials. These notes were for the yet-to-be appointed new trainer would help workers who were having trouble with the self directed materials.

- To develop a set of literacy competencies. This was part of the contract between the company and DEET(YA). (For a discussion of the competencies see Wignell, 1999.)

There were a number of background considerations behind the first two of these strategies. First, since the materials were intended to be used for the working life of the mine, I had no way of knowing which particular individuals would be using the materials. Therefore I decided to try to write them so that the workers with the least amount of formal Western education could use them with the assistance of a workplace trainer. I wrote the literacy materials in modules so that a worker could pick up a module and, if they found they already knew how to do what was in it, they could move on to another one.

The training packages needed to be written so that they could be used in conjunction with doing a job rather than learned beforehand and then applied. This involved decisions about both content and presentation. In terms of content I needed to preserve the technical information necessary to do the job but at the same time remove any obvious obstacles to communication. I did this by trying to be clear and explicit in using instruction and direction words and in making sure that if all the parts of a job had to be done in a particular order, that order was made clear.

In terms of presentation, all of the materials were presented in 14 Palatino font. My rationale was the slightly larger than usual font size and the use of a type face with

serifs made the print a little easier to read, especially if the materials were being used in the open air in conjunction with doing a job. I wanted them to be readable at around arms' length distance by people with good eyesight and readable at closer range by people with poorer eyesight.

The training packages

Seven training packages were developed for the Civil Works crew. The packages dealt with the use and maintenance of heavy vehicles and earthmoving machinery and how to operate the cement mixing plant. The packages were called 'Tipper Package', 'Loader Package', 'OKA Package' (an OKA is a heavy four wheel drive vehicle), 'Grader Package', 'Dozer Package', 'Backhoe Package' and 'Batch Plant Package' (the batch plant is the cement mixing facility). In naming the packages I used the names that the workers used to refer to the equipment rather than the manufacturers' names.

Each package starts with information on what the package is for and how to use it. The following examples come from the Tipper package.

Read this before you start the package.

What this package is for

This package tells you how to look after and use different parts of the Mitsubishi 12 Tonne Tipper.

How to read this package

The package is in sections and each section is about a different part of the tipper or about how to do a different job. Some sections have pictures. Use the pictures and the writing and the real tipper to help you work out what you have to do.

The package is not like a story. You don't have to start at the beginning. You can start anywhere. It depends on what you want to know about.

The list below tells you how to use the package:

1 Work out which part of the tipper you want to know about or which job you need to do.
2 Look at the list on the next page. This list tells you what page to go to.
3 Turn to the section you want.
4 Look at the heading. The heading tells you if you've got the right part.
5 Look at the picture if there is one.
6 Read the writing. If you don't know a word don't just stop reading, keep going. Look back to the picture to help you work it out.
7 If you can, find the part on the tipper.

The following, also from the Tipper package, are typical examples of the 'content' of a package.

Section 1

TYRES AND WHEELS

The wheels have detachable rims type and are fitted with 11R 22.5 tyres.

The tyre pressure for the front and back wheels should be 825 kpa/120 PSI.

You check the tyre pressure with the air hose you use to pump up the tyres.

Words

detachable: means that you can take it off

tyre pressure: means how much air is in the tyres

kpa and PSI: these are different ways to measure how much air is in the tyres

The air hose you use when you pump up the tyres will show you how much pressure is in the tyre.

Section 6

BRAKE TANKS

There are three brake tanks.

Two of them are under the driver's side chassis rail.

The other one is under the battery box.

You need to drain the condensate out of the tanks every day.

You drain them by pulling on the drain cock ring pulls.

Words

condensate: means the liquid that collects in the tanks

My aim in rewriting the packages was to get them to a point where the technical terms needed to operate in the workplace were preserved, and explained in localised

glossaries if necessary, but at the same time to make the instruction and direction words as ‘spoken’ and as ‘everyday’ as I could. The reason behind this was that if people know clearly what they are being asked to do they will have less trouble in doing it. Judging from the anecdotal feedback I have received the ‘plain English’ versions of the training packages made using them a lot easier.

The literacy training materials

After rewriting the training packages I then wrote a set of literacy training materials. These materials consisted of four units (modules) and a set of trainer’s notes. The materials focused on developing reading skills, since very little, if any, writing was involved in the jobs the workers were doing or were likely to be doing.

The four units were called:

1. What training packages are for, what information is in them and how to find it

2. Different kinds of writing in training packages

3. Making it easier to read training packages

4. Working out what words mean

In designing the modules I took a top-down approach. The purpose of the first module was to help trainees find the information they needed and negotiate their way around a written text. The second module focused on the purpose of particular texts, for example whether they were giving information about something or whether they were giving directions about how to do a job. My rationale for this was that if trainees could recognise the purpose of a text fairly easily then they would better understand how to use it. The third module moved down into the specifics of the language of the different types of texts the trainees would encounter. The final module moved right down to word level, focusing on things like derivational morphology.
The examples below give a snapshot of the packages.

What is in this unit.

Use this unit if you want to find out:

- What training packages are for.
- What kind of information is in training packages.
- How to find information in training packages.

This unit is divided into **sections**. The **Contents** shows you what is in each **section** and what page it starts on.

Contents

The following are examples of the types of exercises I used.

Example 3

Sub-section a) Dozing

Straight dozing

If the blade digs in and the back of the dozer lifts up, raise the blade so it will keep cutting evenly.

When you are moving a heavy load and the speed drops, shift to a slow down and/or lift the blade a little bit.

When you are doing finishing or levelling work it's better if the blade is full.

Slot dozing

When you do this you can have larger loads at the front of the blade. You do this for stockpiling and when you want to move a lot of stuff in a hurry.

Exercise 3

This example is:

a) showing you how to work some machine
b) showing you how to look after some machine
c) showing you how to do some job with or on a machine

Section 3 How to find information in training packages

Training packages aren't like a story. You don't have to start at the start and go right to the end. It's easier for you and saves time if you can just go straight to the part you are looking for.

You have to:

- Know that you've got the right package
- Be able to find the right part of a package

Knowing you've got the right package

This is pretty easy. The title of the package should tell you if you've got the right one or not. For example, if you're looking for the Batch Plant package and the front page says "Training Package for Batch Plant", then you know you've got the right one. All training packages will have some kind of title that tells you what the package is about.

Finding the right part of a package

Not all packages are the same. Some packages have a Contents page. This page will tell you the headings of the main bits of information in the package and what page to go to. For example,

Contents

Section	What it's about	Page
1	Pre-start checks	2
2	Start up	5
3	After start checks	6
4	Shut down procedures	7

Exercise 4

What page would you go to if you wanted to find out about:

pre-start checks? ___

shut down procedures? ___

In the exercises I used multiple choice and very short answer type questions because I thought they were less threatening than asking people to write longer answers. Answers were provided both to give feedback and to remove any thoughts that the unit was a test. I also tried to write as close to spoken language as I could get while still getting the points across.

The following examples are from *Module Three: Making it easier to read training packages*.

Some tips on how to read better
From Units 1 and 2 you already know how to find information in training packages. You also know about different kinds of writing and the different jobs different kinds of writing do.

When you are working with a training package **remember** that you already know something about what you are learning about. Use the package to add to what you already know. Use what you already know to help you with the package.

Don't just read one word at a time and **don't** stop when you get to a word you don't know. Go backwards and forwards to try to work it out.

It's **more important** to get a good idea of what a piece of writing is about than to understand every word in it.

Use things that you already know to help you work out things you don't know.

Below are some short bits of writing with some blank spaces where words have been left out. Underneath you will see a list of words.

Put the right word in each space.

When you do this you have to read backwards and forwards to work out what the right word is.

Try the next one now.

Exercise 1

Section 6 How to use the grader better

a) Set the blade when the _____ is still so you can get the best position, angle and _____ action.

b) When you can, start your next pass on ____ ground.

c) Make small _____ on the move.

d) If you don't have to, never run over _____.

e) ____ the windrow flowing _____ of the wheel.

f) It's better to do two _____ cuts than one heavy cut.

g) Use the lean _____ and articulation.

h) ___ the windrow where you can reach it.

Words to pick from

adjustments, flat, windrows, Keep, cutting, Put, wheel, light, grader, clear

I used cloze exercises for two reasons. They help a reader to learn how to use the surrounding text to search for clues and, because the workers liked doing clozes.

Exercise 4

Look at the bits of writing below. They both tell you about the same thing but they do it differently. In the first bit there are some parts in dark print. In the second bit see if you can find the part that means the same thing as the writing in dark print in the first bit.

This machine must be operated with the floor plate **securely in place** at all times. There are lines and components located below **the operator station** which contain fluids under high pressure.

Moving the lever forwards results in a left turn when moving forward and a right turn when moving in reverse.

Moving the lever towards the operator results in a right turn when moving forward and a left turn **when moving in reverse**.

With the transmission in neutral, **moving the lever results in machine rotation** in the same direction as in forward gear.

When you use this machine, you have to make sure the floor plate is in the right place and tight all the time. This is because there are lines and parts that are full of fluids under a lot of pressure. These are right under where you sit.

When you are going forwards and you move the lever forwards the dozer turns left. When you are going backwards and you move the lever forwards the dozer turns right.

When you move the lever towards you the dozer turns right when you are going forwards and it turns left when you are going backwards.

When the transmission is in neutral and you move the lever the dozer turns around the same way as if you were going forwards.

In the exercise above, the top piece of text is in its original and the second piece is in the rewritten form. The purpose of the exercise was to help the workers identify what had been changed between the two versions and, in conjunction with follow-up exercises, to help them to shift between more and less abstract styles of text. The answers are in the back of the package.

The trainer’s notes

The trainer’s notes are intended as a guide to a trainer in assisting workers to use the materials. The following is a sample from the trainer’s notes.

Introduction
This booklet contains notes for the trainer using these literacy materials. As well as giving specific guidelines about how to use the materials it also provides other more general information and notes on developing additional materials.

These materials are intended to provide enough help to get most people going in reading and using training packages independently. They should be enough for most employees. Some employees, however, might need additional practice. In this regard these materials are intended to provide the trainer with models for developing more materials from existing training packages.

What the materials are for
The literacy training materials have been written so that they can be used by trainees either by themselves, in pairs or small groups or with assistance from a trainer. It is probably best to begin with some assistance. The general idea is for trainees to develop literacy skills up to the stage where they can use most training packages by themselves with minimal instruction.

Training packages are not intended to be used as substitutes for hands on training. They should be used as an aid to training, in conjunction with hands on training, not as the whole of training.

Model of training and learning
The general model of teaching is pretty simple and goes in four stages:

- I'll show you how to do it
- Now we'll do it together
- Now you do it and I'll watch
- Now you have a go on your own

Not everyone will have to go through the whole process. Some trainees might start at the stage where they can do it themselves. Others might start at the beginning and take a while to move on. The document on Competencies explains how this works.

The units
The following section has some more specific information about each unit.

1 What training packages are for, what information is in them and how to find it
This unit develops skills in understanding the purpose of a document and in finding your way around a document. The exercises are designed to give trainees practice in using things like tables of contents and headings to find information. It also leads them into the second unit.

2 Different kinds of writing in training packages
One important skill in reading effectively is recognising what a piece of writing is for. This unit starts off by helping trainees to recognise when a piece of writing is either giving information (for example describing a piece of equipment) or when a piece of writing is giving instructions on how to do something or on what to do.
The focus here is on how the whole piece of language is put together. For example trainees need to be able to recognise when a set of instructions needs to be carried out in the right order. In this case things to go on are 1) numbers and 2) the instruction words at the beginning of the sentences.

3 Making it easier to read training packages
It is important for effective reading to be able to use other information present in a text to work out what words mean. If people read using a 'one word at a time' approach they tend to stop whenever they reach a word they don't know. This is a very inefficient reading strategy. This unit is aimed at developing a more 'global' approach to reading. The exercises where some words are left out (called Cloze exercises) are designed to get trainees to read forwards and backwards to work out what word from the list is the right word. They have to use the surrounding text to work out the answer.

4 Working out what words mean
It helps in reading if you can break a large word into parts. many words can be broken down. For example, an ending like *-er* tells you that you are dealing with something that does something (eg load-*er* -- something that loads), an ending like -*ate* tells you that you are doing something (eg excav-*ate*), an ending like -*ion* tells you that you are looking for some thing (eg excavat-*ion*), a beginning like de- tells you to stop doing something (eg *de*-activate). Hopefully trainees will be able to break up words like *de*-activ-*ate* and make a guess as to the meaning from the parts. Where possible it is best to offer a simpler word that means more or less the same thing in explaining difficult words (eg *excavation = hole* more or less).

Developing your own materials
A trainer using these materials with trainees will get a good idea of individual strengths and weaknesses. The materials contain a variety of exercises designed to address specific things. If someone shows a weakness in a particular area it is fairly simple to use another training package to develop exercises similar to those in these materials.

Conclusion

This paper has discussed what a number of people in a given set of circumstances, operating within a set of constraints did. The project involved an engagement of private industry, government, Indigenous workers and applied linguistic theory. While it arose in one particular context I hope that has wider applications. I also hope that it has been and will continue to be of some benefit to those involved.

Working within constraints is not always easy but that is the 'real world'. There is often a sizable gap between what you would do if you were involved from the beginning and what you can do; given that what you are doing often has a fairly low priority in an organisation's scheme of things. Unfortunately there is not a lot you can do about that. It is difficult to change systems that are already in place in an organisation. Often the best available option is to play with the cards that have been dealt and play the hand as well as you can.

There has been no follow-up study at the site but anecdotal evidence suggests that the materials are in use and that feedback is positive. One story that came back to me is that some of the workers were not all on the illustrations I had used in the packages so they went out with a digital camera and took photographs. They then scanned the photographs on to a computer and, using the disk masters of the materials, replaced the original illustrations with the photographs, thus ‘fixing up’ the materials. I was impressed with this and concluded that if they were skilled and literate enough to manipulate text in that way then the materials had probably outlived their usefulness for those particular workers.

A second point alluded to earlier, is that designing materials in response to specific local needs, and with at least some degree of local knowledge, particularly in remote areas, is likely to be more productive than trying to introduce a more standardised, generic approach developed in and for totally different circumstances. I don’t think there is a one-size-fits-all solution and local solutions require negotiated engagement.

A final point is that I found the integration of theory and practice to be useful, productive and time-saving. That is, having a principled, coherent theoretical model to use as a tool and as an aid to decision-making made my job a lot easier and, I think, led to a good and useful product.

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ORAL READING:

CONSTRUCTING SCHOOL READERS

Jennifer Rennie

Work conducted on the construction of literacy events through talk and interaction around texts has shown how pedagogical, institutional and sociological work can be unveiled through discourse analysis of talk in early literacy events (Baker, 1991, 1997, 2000; Baker & Freebody, 1989). Through the various events, teachers and students construct what it means to be literate. Teachers and students construct norms, expectations, rules, roles and responsibilities in relation to how they interact in the classroom (Green et al., 1992). This paper reports on findings from a study that examined the relationship between the activity of oral reading and learning to read in the primary school. It discusses how the oral reading activities investigated helped to construct a reader's identity and how the nature of these activities afforded some students the opportunity to learn whilst others were denied this opportunity.

Reading: A Sociocultural View

In recent times, sociologists and linguists have referred to reading as 'variable forms of social practice' that are constructed in various sites (Freebody et al., 1991; Heap, 1991; Luke & Freebody, 1997b; McHoul, 1996). It is argued that there is not one universal 'thing' or 'practice' that counts always and only as reading (Barton, 1994; McHoul, 1996). School reading is a particular type of reading, constructed in schools by parents, teachers and students (Freebody et al., 1991; McHoul, 1996). Students learn about what constitutes and counts as school reading by participating in various events, conversations and activities with others in school (Heap, 1991).

Work conducted by those who espouse critical social theories of literacy claim that literacy is not only 'socially constructed' but also 'institutionally located' (Luke & Freebody, 1997a). Further, literacy events in the classroom are not 'neutral' and unavoidably connect to issues of 'discipline and power' (Luke & Freebody, 1997a). The pedagogies valued; the texts that are used; the rules and procedures followed either give access to or deny access to particular 'literate markets' (Luke & Freebody, 1997a). If we favour one particular literacy program or pedagogy in the classroom there is an assumption that the classroom is 'generic' where educators know this is not the case (Luke & Freebody, 1997a). As Luke and Freebody (1997) claimed, classrooms are not 'level playing fields'.

A sociocultural view of reading acknowledges that reading is a social practice and that as such readers draw on a repertoire of resources including cultural, social and cognitive practices to construct and reconstruct meanings from texts. Further, the enactment of reading events varies according to the purpose and context in which they

occur. The resources upon which readers draw are acquired through participation in various social contexts with the guidance of significant others such as parents, carers, community members, peers and teachers.

The Study

The data referred to in this paper resulted from an extensive qualitative study into the practice of oral reading in the primary school (Rennie, in press). It sought to provide answers to a number or questions not addressed in previous studies that investigated isolated aspects of oral reading such as reading rate, fluency and comprehension and interaction within reading groups.

Some of the aspects addressed by the study included the frequency and nature of the use of oral reading activities in the classroom including when, where, why and how it was used. It also examined the social, communicative, interactive and historical aspects of the activity.

The study sought three different perspectives on oral reading in the classroom. The study explored the students' perspective, the teachers' perspective and the researcher's perspective. The data revealed a number of mismatches between the different perspectives. This did not mean that the findings were any less reliable but rather they were three different constructions of the same event. A similar study using a number of different perspectives on news time or the practice of telling news, from Kindergarten to Year 2 also found that there were different constructions of the event for the key participants involved (Cusworth, 1997).

Method

In this study, oral reading was conceptualised as a socially constructed practice (McHoul, 1996) and as one aspect of reading instruction in school. The study, which adopted a sociocultural approach in its investigation of oral reading, viewed oral reading as ‘variable forms of social practice’. This meant that the participants who helped to construct the various activities and the groups and institutions where participants were socialised into these practices were also important (Cairney & Ruge, 1997; Gee, 1990; Luke & Freebody, 1997b; Welch & Freebody, 1993). Data collection included teacher surveys and interviews, student surveys and interviews and classroom observations.

One hundred teachers were surveyed and interviews were conducted with six teachers from two different school sites. Questionnaires were administered to 122 students and interviews were held with nine students from each of two schools. This sample included three students from Year 3, three students from Years 4/5 and three students from Year 7 in each of the two schools. Observations of oral reading occurred in the six classrooms where individual teachers and students were interviewed.

Data analysis involved two distinct phases. A form of interpretive analysis characterised the first phase. Coding of the data identified recurring themes in the different data sets (Miles & Huberman, 1994).

The second phase involved mapping the data. The MASS (Material, Activity, Semiotic, Sociocultural) framework developed by Gee and Green (1977) facilitated this phase of the analysis. Gee and Green claimed it is a useful means to assist in describing and defining classroom literacy events. The framework adopts an ethnographically grounded approach to discourse analysis and assumes that each observation or interview examines a 'slice of life' of the various contexts explored. Every literate practice represents a different event or situation. Within this framework Gee and Green identified four dimensions of social activity - World building, Activity building, Identity building and Connection building (Gee & Green, 1997). World building refers to how participants assemble situated meanings about 'reality', present and absent, concrete and abstract. Activity building describes the construction of situated meanings connected to the activity itself. Identity building concerns situated meanings relevant to the identities in the interaction and includes ways of knowing, believing, acting and interacting. Finally, Connection building relates to how interactions are connected to past and future interactions (Gee & Green, 1997).

Mapping the oral reading events observed, allowed the comparison of the different perceptions and understandings of the various activities from the students', teachers' and researcher's perspectives and highlighted any matches or mismatches between the data. It allowed the identification of the features of an activity, which served to identify it as a particular activity as opposed to other similar activities. In this case, it allowed the identification of some of the common features that characterised oral reading activities. This paper reports on one of the four dimensions of the activity of oral reading, in particular how it serves to build identities and construct readers in the classroom.

Oral Reading: Building Identities

The findings from this study suggest that oral reading practices helped to construct a reader's identity. The public and graded nature of these events, teacher feedback, comments from students and rules of participation all contributed to the ways in which students positioned themselves as readers in the classroom.

All of the interviewed students discussed participatory rules associated with each of the activities. In four of the activities, students read when required. In the Year 3 and Year 7 group-reading activities at one of the schools, teachers said they did not insist students read, although they saw it important that they have a go. The students interviewed in the Year 7 class in this school gave the impression that they all read during these sessions by taking turns at the reading. During my observations of the event, the teacher nominated a reader and asked if he or she wanted to read. The student heard the question, did not answer, and began to read. This is interesting because in most classroom interactions if the teacher asks students a question then there is an expectation they will respond. This was not the case in this situation.

Davies and Hunt (1994) discussed the achievement of a reading circle. Eight children sat in a circular fashion on the floor. The teacher called for volunteers to read. One

child responded. The others followed the text and waited for the call for the next volunteer. The activity continued in this fashion. Finally, a boy named 'Leigh' was the only student who had not read. Although reluctant, Leigh began to read. The students either side of him whispered words he did not know in his ear. They helped him to complete a task that he could not have done easily on his own. In this situation, the teacher allocated turns on a volunteer basis, but students understood that everyone would eventually have a turn at the reading.

Being a willing participant in school events is part of positioning oneself as a successful student. Student reports often refer to the degree and nature of a student's participation. Comments such as 'Mary needs to participate more in discussions' or 'John needs to read more during independent reading' are common. Schools expect students to participate and they value it. Non-participation is something that needs fixing. After all, if all students decided not to participate then the order and structure of the school would be in disarray. Students interviewed inferred that participation in the various events was non-negotiable. There were consequences for not completing the work, for non-participation and non-compliance. One teacher commented that she required students to do the work to the best of their ability. Another commented that all students must 'have a go'.

The teachers' discourse of participation and 'having a go' in oral reading events conflicted with the discourse constructed by the students who listened during these events. Teachers relayed the message that they should have a go at the reading, as practise would result in improvement of their reading skills, public speaking and confidence levels. Generally, teachers present mistakes as a natural part of the learning process. Students interviewed reported that others often laughed at them when they read and that they made negative comments about their reading, in particular when they made mistakes. Further, the activity of oral reading allowed others to make judgements about their reading ability. Struggling readers knew that others found their reading frustrating to listen to. 'Having a go' when they were not competent and comfortable with the task was seen as a 'shame job'. Classroom observations of the various reading events revealed that in some instances readers did receive this type of feedback from their peers. There was tension between positioning oneself as a 'successful student' by 'having a go', positioning oneself as a successful reader through displaying competent oral reading skills and protecting oneself from ridicule by their peers.

Some students figured out ways to minimise the amount of exposure they had during these events. One group described how the teacher insisted they establish a reading order by sitting in a line in front of her. Some students explained how they tried to get nearer the end of the line so there were fewer students around when it was their turn to read.

Students and teachers identified listening as an important rule in each activity although the degree to which teachers enforced this rule varied. One Year 3 group in particular felt empowered to police this rule themselves. They explained how they dealt with offenders when the teacher was not present. In the interviews some students spoke about the frustration they felt when others were talking whilst they read. Some

students felt that others were not listening because of their inability to read well. They also felt that teachers often did not listen when they read to them in a paired reading situation or reading conference.

In all of the small group and whole class oral reading activities, students' reading abilities were public. The public nature of the activities made it possible for students to compare their own reading performance to that of others. Whilst students could not identify what teachers assessed during the activity, they were able to discuss the characteristics of a ‘good’ reader.

Both students and teachers described what they thought constituted a ‘good’ reader. Oral reading skills featured prominently in the ways in which students perceived how their teachers described ‘good’ readers. ‘Expression’ was the most frequent response, followed by ‘volume’, ‘speed’ and ‘clarity’. It is interesting but not surprising that ‘posture’ and ‘eye contact’ also featured in the responses. Students did not prioritise the ability to ‘comprehend’ in their perceptions of how the teacher might describe ‘good’ readers.

Dispositions also featured prominently in the student questionnaire and interview data. ‘Confidence’, ‘tries hard’, ‘reads lots’, and ‘enjoys reading’ were common responses.

Twenty-one percent of student responses in the questionnaires included comments such as ‘excellent’, ‘very good’ and ‘good’. These students had great difficulty articulating what a ‘good’ reader might look like. During the observations of the various oral-reading events, teachers gave feedback similar to this. Teachers often delivered comments such as ‘well done’ and ‘great reading’ after students had finished reading. An explanation of what was ‘excellent’ or ‘great’ about the reading was lacking in this feedback. Further information about the students’ reading performance would have enabled these students to understand what constitutes ‘good’ reading better.

Teachers' responses in the questionnaires did not vary considerably from the students’ responses. They also referred frequently to oral reading skills and dispositions when describing ‘good’ readers. Only 56 out of the 100 teachers surveyed mentioned ‘comprehension’ or ‘understanding’ as an important characteristic. It was also interesting that some teachers measured students’ reading ability on their level of confidence, on the amount of reading they did and on the enjoyment they gained from the task. In fact, 24% of the responses related to these attributes.

During the interviews, students’ descriptions tended to mirror those areas that teachers identified as needing improvement in their reading. This suggested that when teachers did provide feedback it tended to focus on areas needing improvement rather than what readers did well. This made it difficult for the students to have a comprehensive understanding of what a ‘good’ reader might look like in their teacher’s eyes. Construction of their own reading identities centred on those aspects of their reading which were lacking. Few students articulated what they did well.

Comments and feedback from their peers also contributed to how individual readers positioned themselves. Inattentiveness signalled a message that other students were

not interested in listening to them. Many students in addition to expressing a dislike for the activity also discussed the frustration experienced when listening to readers who struggled with the task. Other studies provide findings consistent with these. They found that skilled readers became bored with the slow pace of the activity and that less skilled readers often read texts above their instructional level leading to high levels of frustration (Hoffman, 1991; Zutell & Rasinski, 1991).

Many of the activities observed featured ability grouping of students. Membership of these groups was public knowledge. Students knew which level they were at, they knew which level their peers were at and were aware of the movement of students between groups. In one situation, students described the movement of a student from the 'middle' to the 'lower' reading group. The student's name remained on the middle group with a line through it and was re-entered on the list of names for the lower group. There was an attempt to mask the graded nature of the groups by giving them names; however students interviewed discussed them in terms of their composition.

For one Year 3 student the grading of the groups was problematic as this prevented her from positioning herself as a 'successful' reader during the group interview. The group of students interviewed in this situation included two students from the 'top' reading group and another who was in a different and 'lower' group. During the interview, the student tried to convince us that the groups were not ability-based. However, when she voluntarily ranked the readers in the interviewed group she was careful to place herself at the bottom of the list, as she knew that the others in the group, due to the graded nature of the activity, were knowledgeable about where she ranked within this group. This student wanted to position herself as a successful reader but was not able to do so because of the graded and public nature of the activity.

The graded nature of these activities had implications for the type of texts students read. Students described levelled books, some, which were marked, kept in different locations and differed accorded to their thickness. Students often described 'good' readers as those who read 'thick' books.

Students openly discussed their feelings associated with the activity of reading out-loud during the interviews. All of the students interviewed said they preferred to read silently. Many talked about the embarrassing nature of the activity. Students did not like making mistakes in front of their peers and most admitted doing this more frequently when reading out-loud. One student in particular became very anxious when it was her turn to read. Literacy biographies of pre-service teachers reflect on the same kind of feelings in relation to reading out-loud as experienced by the students in this study:

> Stacey: I felt that if I could read fast enough, the other kids wouldn't make fun of me. So while I was reading as fast as I could, I never focussed on the meaning. I think this happens a lot because there's such a focus on reading the words right.

> Lorraine: I don't remember anything about my first-grade reading experiences, but I do remember loving to read aloud in second grade. I also remember hating it when a few kids would read, because they were behind the rest of us and it took a long time.

> Charles: Whenever it was my turn to read I would get cold sweats, I was so frustrated because I could only figure out maybe three words of a sentence. So when I would try to read to the class *everyone* would laugh at me. I would always try to sound words out, waiting for the teacher to go ahead and tell me the word (Worthy & Broaddus, 2002, p. 334).

This particular study found that both experienced and less skilled readers had negative experiences of oral reading events in school (Worthy & Broaddus, 2002). It is interesting that these comments made by pre-service teachers mirror comments made by students in this study.

Students also expressed dislike for some of the discussions held between readers. Many students elected not to participate in these discussions and some said they would rather monitor their own comprehension by listening to the answers provided by other students. Observations of one oral reading event revealed that a small number of students dominated the discussions between readers and that a large number of students elected not to participate. As discussed earlier at least 8 of the 22 students did not participate in the discussion and 2 of the 22 students who dominated the discussion contributed to 63% of the turns held. I found that the participation rate for students increased as group sizes became smaller.

The nature of oral reading events were detrimental to some learner readers. They served to help construct students' reading identities. In the case of struggling readers, these events only served to reinforce the negative perceptions these students had of themselves as readers. The public and graded nature of the activities meant they could compare themselves to other more able readers. They often endured negative feedback from their peers. It was difficult for students to keep their reading abilities private. Students knew who the good readers were and they knew how they ranked against other readers in the class. A study which examined students' perceptions of better readers in elementary classrooms found that by the second grade students rated their own and others' reading ability in a manner consistent with that of their teacher. The manner in which teachers organised instruction influenced this. Students' ratings were more accurate in classrooms where there was high incidence of public performance both in large and smaller groups (Filby & Barnett, 1982).

Implications

The findings from this study suggest that the nature of many of the oral reading activities observed contributed to the ways in which students constructed themselves as readers in school. Further, the nature of the activity denied some students the opportunity to be seen as a successful reader.

One minute of reading was often a very stressful time for some students and only served to reinforce the negative view they had of themselves as readers. The negative consequences of having students read out-loud in a public forum are well documented in the literature (Allington, 1984; Dwyer & Bain, 1999; Gill, 2000; Heathington & Alexander, 1984; Hill, 1983; Hoffman, 1987; Ingram, 1985; Palardy, 1990; Reutzel, Hollingsworth, & Eldredge, 1994; Worthy, 1996; Worthy & Broaddus, 2002; Zutell & Rasinski, 1991).

The graded and public nature of some of the events observed was problematic for many learner readers. Students reported feeling uncomfortable, anxious and nervous. The other participants in the event, the listeners, reported being equally frustrated having to listen to readers lacking in confidence. There was limited enjoyment gained from the activity from both readers and listeners. Teachers felt that students learned about reading through listening to good role models. 'Good' role models were rare in the activities observed. Students reported enjoying listening to their teachers read. In some group reading activities, using a competent reader as a role model would have benefited readers more.

There were attempts by some teachers to normalise aspects of these oral reading practices. Teachers suggested that participation in some of the events was voluntary whilst most students indicated that participation was strongly encouraged. Teachers gave the impression that it was okay for students to 'have a go' and that this was more important than making mistakes. Students on the other hand reported being on the receiving end of negative comments and laughter from their peers when they made mistakes. Teachers gave ability-based groups names to mask their composition, yet students were very knowledgeable about their own and others' reading abilities.

Some teachers attempted to renegotiate relations of power during the activity. They adjusted their language so as not to direct feedback to particular students, they voluntarily joined in the activities and they attempted to disrupt some of the practices often associated with the activity such as assessment and accountability. Despite this, students still spoke about the rules, the assessment practices and accountability measures that governed oral reading.

Many students interviewed for this study indicated that oral reading was not their preferred way of reading. The nature of the activity made it difficult for these students. They found it difficult to pronounce words, comprehend what they read and experienced anxiety and stress. These readers in particular did not benefit instructionally or personally from the experience.

Students reported finding the activities stressful and said that they generally found it more difficult to read out-loud than read silently. This difficulty increased when they were required to read to a large group. The data suggest that providing reading instruction in a context where students are required to read in front of their peers is problematic, particularly for those readers who struggle with the task. It did not afford them the opportunity to learn to read in ways that they felt comfortable with and made it difficult for them to position themselves as successful readers in school.

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SOCIAL CAPITAL, LITERACY ECOLOGIES AND LIFELONG LEARNING: THE IMPORTANCE OF 'PROCESS' IN REPOSITIONING LITERACY DEBATES

Ian Falk & Jo Balatti

> It is therefore a mistaken dichotomy to wonder whether the unit of analysis of identity should be the community or the person. The focus must be on the process of their mutual constitution. (Wenger, 1998, p. 146)

Literacy as (Inter) Action

From the earliest moments of our lives we are engaged in interaction with our environment. We are not simply 'born' any more than we are simply 'babies'. At birth we are both the cause and effect of interplay between mother and midwife, forceps, doctor, father, towelling, metal instruments, tables and nursing staff. We interact with people and things. How do we know what is food and what is not? What is cold and hot? What makes us cry, laugh, hurt? We can only reach a definition of ourselves by reference to other people and other things. However, our gaze over the last century or more has been more 'on the baby' than on the interaction between baby and her environment.

As babies grow into children, the interactions become more frequent and diverse. The contexts vary, people vary, places and things are more varied. Kids go home and they go to school. They play sport and they use the internet. They learn to read and write, go to church, make love and war. In all cases, they only achieve this as joint accomplishments with other human and physical elements of their environment. Their learning is a co-production drawing upon human and physical resources in the interaction.

This paper began from our belief that we tend to nominalise 'literacy' rather than 'operationalise' it as *learning.* From the time we first heard the term 'multiliteracies' (New London Group, 1997) we were uneasy about it without really knowing why. Perhaps it is because it makes an already too-complex matter even more complex, and then nominalises it into a big and powerful entity.

Process and Product

We can look at literacy as having two dimensions: process and product. The process is the interaction between the co-participants, be they human or physical (person, computer, textbook). The product resulting from the interaction is often described as a 'text', spoken, written or non-verbal, that is imbued with meaning through the values and purpose that bind the human participants.

Those following the study of literacy as 'reading and writing skills' focus particularly on the technical and purported cognitive aspects of literacy. These are aspects of the learner and are concerned with the human capital skills and knowledge related to the features of the print (letter formation, vowel and consonant configuration). These technologies are in fact an invaluable 'tool kit'. Reading and writing are transferable, it just takes a while. This is usually because students have only been taught the reading and writing technologies, not the contextual and taken-for-granted information that makes for an adequately resourced 'literacy event'. The 'text-type' and 'genre' folk have taken this one step further by including the format of the document and grammatical considerations in the explicit contextual data, but the interactive, cultural and interpersonal material is still missing, and these dimensions include the bulk of the resources required for knowledge and identity shifts.

Those involved in the study of critical or socio-cultural literacy view literacy as the activities associated with communication among people. These activities are considered to have particular meanings which are available only from mutual understanding of the values that bind meaning-sets together. These meanings (and therefore values) must be understood in order for the social participants to have a measure of confidence and control over their micro (one-to-one), their meso (group) and their macro (group of groups) social settings. We look mostly at 'the text' and not at the literacy events, apart from asserting that they be critical. But how would we know whether a literacy event is good, bad or indifferent? For the critical element to have teeth, we also need to have some conception of the common good and how it can be conceived without being generalised beyond meaning.

Socio-cultural (critical) literacy makes assumptions about resources. Effective critical literacy assumes that the agents, or learners, have at their disposal the resources on which they can draw in the production of spoken, written or non-verbal texts in all of life's social and cultural situations. Furthermore, it assumes that they have some form of control over those texts and contexts, whatever that may mean. This presupposes that literacy education actually provides the necessary, purpose-related resources in terms of knowledge and skills necessary to resource the acquisition of critical or socio-cultural literacy. This reaffirms the importance of focusing more directly on the resources that are drawn on in learning interactions. Perhaps we should be talking about multi-sited literacy events where different socio-critical knowledge and identity resources are required to help generate critical, designer, designed or desired outcomes.

But what resources are necessary? And are we talking about resources for literacy events at and for school? Or are we talking about literacy for the multi sites for which school should be preparing children - the sites for life?

As a way of responding to these questions we find the metaphor of a literacy ecology useful. To talk of literacy ecologies rather than literacy skills, literacy events or even literacy activities provides a way of identifying the kinds of resources and interactions required for critical literacy, their availability and the capacities required to draw on them.

Literacy Ecologies

The literature on ecology and ecosystems (e.g., Colinvaux, 1986) describes an ecology as the study of interrelationships of living organisms and their environment. An environment comprises a living thing's surroundings, such as other plants and animals, climate, rocks and soil. The community of organisms in a particular place, together with its nonliving surroundings, form a functioning system that biologists call an ecosystem. Ecosystems have flows of matter and energy and they have inputs and outputs. While the site of analysis is the ecosystem, the unit of analysis is the interrelationship. Building from a concept developed by Barton (Barton, 1994; Barton & Hamilton, 1998), this paper shows the potential of the idea for an even greater explanatory role: the idea of literacy ecologies allows us to acknowledge more than the fact that text is embedded in context or that events occur in a milieu. It provides for a new focus on a new unit of analysis: the interrelationships between the various components of the ecosystem – the individual, the community, and the resources through a study of the interactions between these elements.

'Literacy learning' occurs in different situations and environments that have different ecologies of which particular institutional and organisational characteristics are only one aspect. Schools for example, provide one set of literacy ecologies; so do workplaces. Literacy ecologies are also operating in clubs, organisations and families. In each case, we can look at the interrelationships among the participants, resources, processes and products associated with literacy learning.

Here we wish to discuss that particular set of interrelationships, often referred to as a resource, called social capital, which includes its meanings, production, uses, dimensions, misuses, measurement, and its possible effects on the common good. The social units or 'ecosystems' we are using are communities. In one sense, these are similar to communities of practice (e.g., Wenger, 1998). In our major studies we have used geographical communities of 2000 to 5000 people each comprising a rural township and its surrounding area.

Social Capital

Social capital is the taken-for granted (and therefore often neglected) 'third capital' after physical and human. Bourdieu introduced the term to the sociological world in his paper called 'Economic capital, cultural capital, social capital' in 1983, though it has been in use for much longer than that. To our knowledge the earliest use is by an economist called Silverman in 1935. While established authorities define social capital in their own ways (Coleman, 1988; Putnam, 1993), broadly speaking, social capital (Woolcock 1998, p.155) 'encompass(es) the norms and networks facilitating collective action for mutual benefit'. Networks, norms and trust involve formal and informal associations - from the formal and informal clubs and associations, to the implicit networks captured by 'old school tie', the Hospital Auxiliary, the email chat groups, to the neighbours over the fence and the lot we meet in the park. We are also talking about every other group, formal and informal, to which we all belong. It's not whether some of us belong to more or fewer networks that counts; it's the nature of those networks that seems to be important.

Portes (1998, p. 7) observes that, 'Whereas economic capital is in people's bank accounts and human capital is inside their heads, social capital inheres in the structure of their relationships'. One interesting reading of the literacy/ecology analogy is that social capital is the 'energy'. We cannot label energy to trace its passage through an ecosystem. All we can do is measure indicators such as biomass and respiration. In real ecosystems, energy is not constrained to flow along set routes, but travels through complex loops and pathways created by situation and circumstance. In the literacy ecology application, we cannot see social capital but we can look for its pathways, those complex loops of interactions, of which language and literacy are indicators.

The 'concept of limiting factors', a major theme in the ecological literature, provides a further analogy. It is defined by Colinvaux (1986, p. 34) as follows:

> The presence and success of an organism or group of organisms depends upon a complex of conditions. Any condition that approaches or exceeds the limits of tolerance is said to be a limiting condition or a limiting factor.

So if some resource is either not present in enough quantity, or in excess, for example heat or a particular chemical, the system becomes sick. In applying the concept of limiting factors to a literacy ecology, there may be plentiful human capital and physical capital, but if there is not sufficient social capital (and of the right kind) then it becomes a limiting factor affecting the sustainability and viability of that literacy ecology or community. Similarly, the limiting factor might be lack of opportunities for interaction, or knowledge or identity resources of the required kinds. In fact, it would be interesting to analyse the literacy practices surrounding academic writing about 'critical literacy' in this way.

So while we all know the importance of physical (economic, infrastructural, technological, and environmental) capital, and recognise the importance of human capital as knowledge and skills, we seem to have missed the significance of the *social* capital required for effective social interaction. After all, adequate stocks of physical and human capital can only be put into circulation and used (drawn on) through social processes.

A research program into aspects of social capital and its mechanisms - networks, norms (shared values) and their associated oil of trust started in 1997 (http://www.clr.cdu.edu.au/; http://www.crlra.utas.edu.au). One strand of the research concerning the effects of social capital on the interactions in real life communities that is relevant here is the analysis of the nature of the interactive productivity between the individuals and the local networks in a community. We argued that for social capital to be a useful idea, we needed to understand what its components might be, how it was produced, where it came from, whether it could be accumulated and how it was used. We reasoned that to find answers to questions of this kind we needed to look at interactions or communication between people, for that is surely where social capital must lie - inhering in the structure of those relations, as Portes (1998) puts it. Interaction is also the site for literacy production, as noted earlier, and this coincidence was also of great interest to us. By looking at the sites of social capital and literacy production, we should be able to identify and

analyse their features or qualities. This examination should also tell us something about the relationship between literacy, learning and social capital.

Three Communities Study

The findings reported here are based on data from a study of the interactive interpersonal dynamics in three whole communities with the purpose of finding out what social factors made vibrant and active communities work together. All three focus on rural townships of around 2,500 people, all suffer typical rural Australian problems of unemployment, loss of youth to cities, remoteness, and shrinking commercial and government services among others. Purposefully different profile criteria were used in other respects. One community is regarded as vibrant, active, go-ahead, empowered, attracting small business and government assistance. Another community is virtually a single-industry town, while the third relies on small business catering to an annual influx of tourists.

The data were collected from a range of community texts gathered from participants, from various public offices including the local government authority, and from attendance at community meetings. A sample of 30 (on average) community members in each of the three communities was also interviewed. These community members were identified using a purposeful sampling technique: when people were cross-mentioned by three other informants as being regarded by the community as sources of knowledge or advice, they qualified for selection as a participant. As well as being the subject of interviews (semi-structured but flexibly applied and open-ended consistent with the grounded theory approach) these key informants were invited to contribute self-taped audio recordings and self-kept reflective journals for a week of activity. Once this group was established, a socio-economic matrix was used to ensure no significant group was omitted, such as ‘youth’, ‘hippies’ or ‘migrants’, and (the very few) categorical omissions were rectified by returning to key informants for advice on sectoral representation. The interviews and other recorded material were transcribed in full.

The data were analysed using a variety of micro and macro techniques. Using grounded theory in the first instance, the multitude of interactions was categorised. A variety of analyses across the broad data set showed themes and common threads. Comparisons across the communities highlighted the levels and types of interactions between individuals and associations in each of the three communities. Ways in which the communities could be said to learn during these interactions were identified. Using the concept of social capital (with its components of norms, networks and trust) as a basis, the effects and influences of the levels of interaction on the common good in the community were examined. We also used the principles of conversation analysis based on ethnomethodology (EM), on individual segments of interactions. The EM principles and procedures (e.g., Garfinkel, 1967) and those relating to conversation analysis (Heritage, 1984) included techniques such as the Standardised Relational Pair (SRP) (Eglin & Hester, 1992) to identify and document the conceptual cluster surrounding the participants’ reportings of their experiences. This conceptual cluster analysis around the two SRP terms is called a Category

Analysis (Freebody, 1998), and yields useful results about the broader social consequences of local interactive processes. In addition, other techniques, such as manual thematic techniques (Babbie, 1998) and the NUD*IST software package were employed.

The scope of the data gathered across the three communities, is summarised below:

Tape recorded interviews	n = 87	60 - 90 minutes each
Personal individual tapes	n = 20	10 - 45 minutes each
Personal diaries	n = 45	10 - 30 pages each
Tape recorded meetings	n = 12	10 - 30 minutes each

Findings

Our findings about the categories of resources that people draw on in their interactions as they make sense of their worlds include no real surprises. The two main groups are encompassed by the headings 'knowledge' and 'identity' resources. The knowledge is about people, places and things under sub-headings of knowledge-who, knowledge-what, knowledge-how, knowledge-when and knowledge-why. The identity resources encompass identity of self, others, groups, community, region, country and so on. They are the personal and social resources that participants draw on as they may act in new roles, change their behaviour, be self-confident and willing to act for the common good of their communities. This research (Falk & Harrison, 1998; Falk & Kilpatrick, 2000) shows that knowledge and identity resources are crucial for the development of social capital.

The kinds of resources drawn on and their adequacy were determined by the *purpose* of the interactions. In fact the concept of purpose was central both to our discoveries of the nature of social capital and its very definition. The purpose of the social project in hand defined the knowledge and identity resources which were drawn on and hence then valued as important. While Gee's (1996) 'Discourse' is held together by 'values', we found that these values are only given meaning by the purpose of a project. That is, the values upon which the Discourse is premised are only called values because they are shared by the participants in the ecology and clustered around a purpose. In the Discourse of, say, 'basketball', the shared values are associated with the purpose of 'doing' basketball.

We also found that many of the interactions had all the features of what we define as learning. Learning, in fact, permeated the most mundane activities. People set about their activities in associational and civic life to achieve something (a purpose), to solve a problem or find something out. We have called the interactions which are intended for the common good and purpose, to be learning, and that it is these interactions which produce social capital. The community groups observed often displayed characteristics of what may be called a 'learning community', which resonates with 'learning organisation' and has similar features. It also resonates with 'community of practice' (Wenger, 1998), and we have taken this generalisation further to call the groups in which this activity occurs 'communities of common-purpose', since it is the purpose which defines the knowledge/values of the group for purpose-related activity. Gee's term for this seems to be 'projects'.

Therefore, we can argue that the resources required for a community to build social capital are associated with knowledge and identity, and that they require opportunities of different kinds to allow the interactions to create the social capital (see Figure 1).

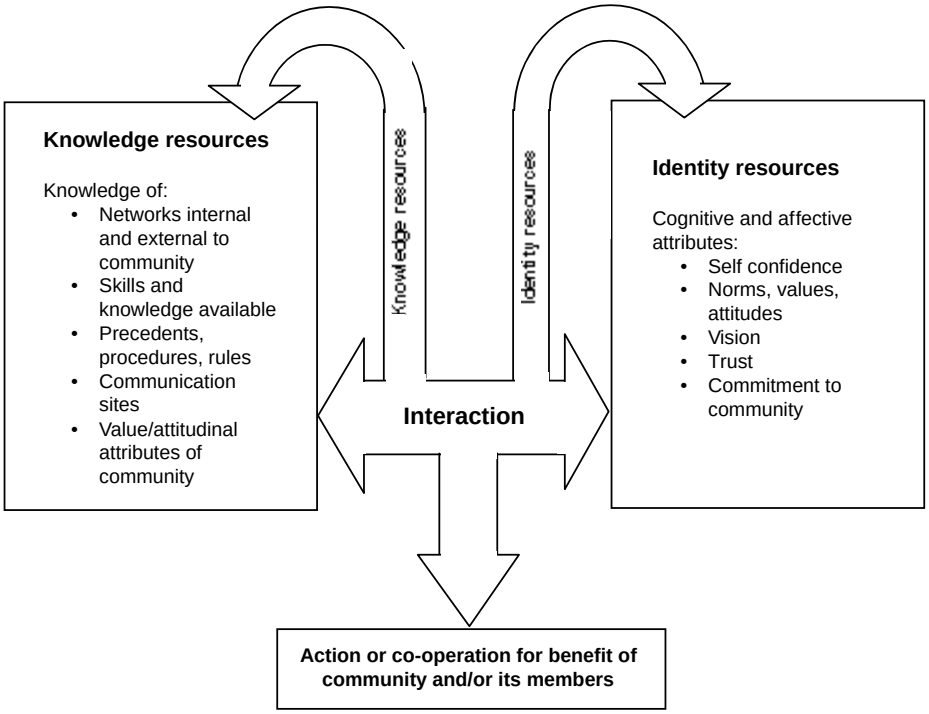

Figure 1: Simultaneous building and using of social capital in interactions between individuals

The model shows that social capital is built as it is used. The model applies to both geographic communities and other communities of common purpose such as email chat groups and so on. Kilpatrick and Falk (2000) note that both informal and deliberately arranged learning interactions help people get to know one another and develop networks. The interactions also build a commitment to the community, and increase people's confidence to act for the benefit of the community. Our research also tells us that the need to plan and provide for opportunities to interact, opportunities in which the appropriate (common purpose-related) knowledge and identity resources can be used, is often ignored or assumed. That is, without the interactions afforded by community events, activities, meetings and small and large interactions of all kinds; social capital simply cannot develop or be used.

However, while the actual quantities of opportunities for interaction are vital, the qualities of those interactions are equally as important. For successful community learning to occur, not only do the resources need to come together in interactions (opportunities, events, activities), but the interactions need to have particular qualities, and these are the key ones:

Historicity
Often unconscious, but crucial for decision-making and learning (Falk & Harrison, 1998), the use of historical memories of places, people (their skills and personality characteristics), and common resources are drawn on in people's private and business interactions. These histories are vital in making decisions about future courses of action. Historical knowledge enables new knowledge to be contextualized and applied. Without drawing on adequate short and long-term historicity, decisions and judgements are impaired.

Externality
The importance of external interactions has been an important piece of sociological knowledge from Stack's (1974) and Granovetter's (1973) work showing the effect of strong and weak ties on gaining employment. Taking account of external information (including networks) and acting on it works for the common good. External networking also helps communities (actual and virtual) relate and adjust to broader social changes. Without the dimension of externality, closed communities have a greater likelihood of perpetuating local prejudices and other anti-social values. In fact the dimension of 'externality' delineates social capital from a view of it as simply another term for 'social cohesion' or 'social solidarity'.

Trust
Trust in peers, business colleagues, family and community members underlies successful personal and business interactions and transactions. Trust is an indicator of the presence of social capital, develops as a by-product of the reciprocity and values, and in turn oils the production and use of social capital. Trust permeates all levels of our social world, and without it our society cannot achieve the social cohesion that many believe modern communities have lost (e.g., Kramer et al., 1996).

Social Application of Literacy and Social Capital

The networks, norms and trust of social interaction are given meaning and communicated through the literacy webs spun within a community. The complexity of such webs is determined by the sort of literacy interactions occurring at the myriad intersections produced when community members meet. These intersections range from major events or projects to the one-to-one interaction between neighbours, people in a queue, customers in a shop or more deliberately, when one seeks out information or advice from another. Examples from both ends of the scale might help illustrate how social capital and literacy capacities of individuals and communities are interrelated.

We have drawn the data from one of the three communities referred to above which we called Together Town. It is a predominantly white, middle class, conservative and Anglo-Saxon rural township. The township, as the focus of the surrounding community, is set in a picturesque river valley, and could be described as an historical village. The township itself is attractive. It is clear that the town is cared for in the physical sense. There are many community activities and events, some of which attract national attention and patronage, and the local clubs and associations meet frequently and actively. The community is vibrant - art and craft has become a significant cluster of activity in the community having an annual focus in the craft

fair. The town is also the recent winner of a prestigious national community award and various tourism and numerous Tidy Town awards.

The community project we discuss later was a community arts project aptly called 'Yarns'. It involved over 300 people, mainly women, and continues to attract national interest.

We now discuss interview data from two people living in Together Town whom we'll call Merle and Darren. They have very different formal education backgrounds, work histories and life experiences generally and they occupy different 'niches' in the community. But they hold similar positions of respect and power (influence? authority?). Both Merle and Darren were subjects in the research project because they had been nominated by at least three other community members as someone others would consider approachable and to whom they would go for information. In this sense they are valued community resources as knowledgeable and effective communicators.

Merle is a 50 year old business woman who has been living in the town for 25 years. For the last 20 years she has owned and worked in a health care business that is unrelated to her tertiary art history qualifications attained as a young woman. Since then she has completed other studies both for professional and personal enjoyment reasons. During her time in Together Town she has been an elected government representative, has been involved and continues to be involved in many community groups and organisations at the local and state level in civic and professional capacities. She facilitated the formation of a local group, 'a community of common-purpose', concerned with organic gardening and farming that has now become a state organisation with branches in many communities.

Merle talks about Together Town as follows:

> I like doing business here because I know my customers by name, and they trust me as I trust them. So they know if I say I will do this for you, I will do it, and the same with them, if they have something that I am interested in they will bring it in for me to read or they want to show me something, I know that I can trust they will do it, so that's good.

Darren is a 37 year old man who works as a mechanic. He is one of a hundred or so Australian Indigenous people in the community. His father is white and his mother is Indigenous. In Together Town Darren is sought out by both Indigenous and non-Indigenous people for information, advice and opinion. His formal education ended before completing Year 9 and he explains that consequently he has had 'to take on learning ways of being able to live in this society'. Darren was born in this community as was his father. Both parents were community-minded people and Darren believes that his good standing in the community has its foundations in the community spirited history of his parents.

Words like ‘learning’ and ‘learn’ pepper his conversation and he is involved in schools as an educator in Aboriginal history and culture:

> I’m also...very involved with the Aboriginal Speakers Program which is actually going into schools, and that’s a program that the Education Department has initiated over the last couple of years. And I was one of the people that they approached, and it’s something that we feel that...by putting true blue...black fellas into the schools again we are still...we are very heavily governed by our Elders as to what we can teach and can’t teach in the schools, and I’ve had extensive meetings with Elders as to what we are allowed to do, but...I think it can be a really good one. Children at a young age do not have a prejudice set in their mind, and that’s really great.

Darren goes on to talk about his strengths. It is interesting that the knowledge of language resources drawn on is so different from Merle’s, yet their roles as social brokers, and their capacity to have an influence over their literacy ecologies, is so similar:

> What do I say was my strength? I definitely wasn’t....a very educated man. I guess my strength had to come from within, from within my own personal self. And I guess the ability to learn quickly and adapt were always going to be handy when a guy was sort of low on the education part. If you can learn to adapt and learn new trades quickly I guess that helps. And I think just staying pretty practical and commonsense in my thinking.

We asked Darren and Merle what they thought their knowledge and skills were and how they went about sharing what they knew with others. In effect, these questions were asking Merle and Darren about their literacy practices and especially how their practices drew upon and generated social capital. Parts of their responses are reproduced below which are interwoven with a discussion in terms of the social capital model (Figure 1) presented in this paper.

Social broker or knowledge broker? ‘I’m a purveyor of knowledge’

Merle is a good example of the social brokers that we found in these communities - those who brokered knowledge through their own knowledge- and identity-resource-base:

1. Yeah you get pinned down as being the person that’s always there and ‘She might know’. And in fact I probably do and I am a resourceful person. I have been trained to be resourceful because of the research work that I did in the past and still do. I have never lost that ability, and I like to pride myself on being a resource. This is the thing I am giving this community. If I went out of business selling what I do today, I would still be the resource person. In fact I’d almost have to

sit on that chair somewhere along the footpath and they'd say, 'She's still there, you can go and ask her if you want to'. But I don't mean to say that I'm a lynch pin it's just that because I've done a lot of things, read a lot things and am interested in so much, that it's there for people, and it's not mine to keep.…That to me is the entire reward for being in the community like this. And heaven knows I go to someone else when I need a resource or need an answer and I have my people I go to, in my network to help me out as well.

2. I don't know everything but what I do have I will share with people, I have quite a large lending library here in the shop for various things people want to take home and learn about....and secondly you've got to listen, and you have to listen to what people want to know....by listening to them carefully you can usually find out [what people want or need] and usually say, 'Hey, isn't this what you mean?' – 'Yes, that's what I mean; you've got it'. And so you're just a wonderful person because you came up with a solution, but what you did is just turned their thoughts around and showed them what they knew, what they wanted in the end - they just didn't quite know how to say it, so I think that is what I do....I'm a purveyor of knowledge.

In the above segment there is the explicit reference to the networks of social capital, which are cited as 'a resource' for information, the indications of reciprocity and commitment in the reference to sharing, and of course, the reliance on trust – 'they trust me as I trust them' in the paragraph cited earlier. It is through these social brokers that the information required for particular valued purposes becomes focused as knowledge. But let us look more closely at what 'knowledges' are really being brokered. The particular skill of being able to turn 'their thoughts around and showed them what they knew' indicates the interactive development of identity by putting what they knew into the words that they 'didn't quite know how to say'. Note, however, that this skill is not one of 'knowledge of what' , but rather 'knowledge of who and how': Merle's brokering is in fact not the kind of 'knowledge broker' touted as being the worker of the future by, for example, Reich (2000), whose use of the term implies a buying and selling of 'knowledge of what'. Rather, Merle is acting as a connector for two sets of literacy ecologies by the brokering of knowledge and identity resources that allow people to see themselves in a different role, as 'doers' of something new, of being prepared to take on a new task - that is, to take risks.

Such micro examples help show that the over-simplistic notion of 'knowledge broker' needs to be re-examined. They also help show how it is that the very acts of interaction, drawing on the knowledge and identity resources for the particular purpose in hand, are so woven into the 'literacy texts' of the occasion as to make their separation somewhat meaningless. For example, we find it difficult to see how one could analyse the real meanings and functions of literacy in the text of the above transcript to show the social brokering role that Merle occupies other than through the resources drawn on and their functions.

There is an argument that can be put that Merle is well-educated, which she is in a formal sense. She has an apparently excellent factual knowledge-base, functions effectively within and across a number of community literacy ecologies in such a way as to be able to show people how to transform their identities by crossing their margins - and is generally, therefore, an exemplar of what a fine education and therefore (?) high levels of literacy can do for one. In one sense this is quite true. However, if one looks only at the literacy outcomes, and not also at the interactive resources, one could be deceived about the relationship between 'literacy-as-skills' and 'critical/sociocultural literacy'. Darren, it will be remembered, withdrew from school before the end of Year 9. Here is part of his story.

School education vs community learning: 'Blessed with the gift of the gab'

Darren talks about learning and school in the following extract. The discussion that follows it focuses on the ways in which formal learning and informal - or community - learning relate:

1. ...my Dad used to often say I was blessed with the gift of the gab, you know, and my Mum...used to say it was the black fella in me, but...I share my skills in many ways.

2. I never classed myself as a guy with a whole lot of bloody skills, really, to share, I suppose...I've always thought my knowledge was quite limited due to my schooling education, but when I was probably 20 I would have said that I was low educated person, but at 37 I can sit back and have a look and say, well, I mightn't have achieved that academic status of passing Grade 10 and whatever, at that school, but I'm sure as hell I got through the 37 years old just as easy as what the next guy did, you know?

3. So 'pass on skills' is hard; I'd never classed myself as a guy that I've had to pass on a lot of skills. The only thing with my Aboriginal traditional culture - I do pass those on a lot. I've learnt a lot from my Elders, which was traditional, both traditional and contemporary...; we tend to find that some of our traditional practices just are not possible any more because of the total difference….I learned a lot of those skills from my Elders and I do pass them down to our younger children and that's just done by Cultural Council, or being on the land, and they're shown those skills, taught them...and... passed through, in that manner.

4. I guess if you want to class football as a skills...I pass that on, I pass that on through the Together Town football club and in many years of involvement within the local community in football and cricket. We actually had a young fella who is now playing with the Brisbane Bears.... He actually comes from my family as well, but not on the black fellas' side.

5. Pass those skills and knowledge down and I guess we do that in many ways, don't we? We can talk to them, and people can take the skills from that - with our tradition... you pass down those skills a lot by talking - but also by hands-on, showing the children and the young ones....

The difference between the white and black discursive worlds is a theme developed during this segment of text. The examples of perception of 'difference' shown here are evidenced in use of pronouns (Paragraph 5, for example the use of 'we' and 'our'). A person used to living in two cultures and therefore two sets of discourses and to drawing on different identity and knowledge resources in each will, it is presumed, have the capacity to reflect on the significance of the differences. This case demonstrates some of that reflection.

In Paragraphs 2 and 3, the talk focuses on the differences between formal ('schooling education') and informal or community learning ('learning a lot from my Elders'). In Conversation Analysis terms, the standardised relational pair (SRP) 'formal/informal' learning could be in evidence. There is explicit commentary on formal education: 'I mightn't have achieved that academic status of passing Grade 10 and whatever, at that school'. This is counterpoised immediately with a reference to his learning since school - his informal or community learning: 'but I'm sure as hell I got through the 37 years old just as easy as what the next guy did'. The phrase 'at that school' holds some tone of mild accusation in the use of 'that'. The counterpoising acts as a contrasting device, positioning formal and informal education as two opposites or binaries. In Conversational Analysis, binaries can be standardised relational pairs, which form the beginnings of category formation, which, when linked, may then lead to membership categorisation devices (MCD). These are the groups of meaning-resources that conversationalist participants draw on as they jointly construct meaning in their interactions.

The language in the third paragraph shows a reflective transformation from the answer expected of his white world (paragraphs 1 and 2), to the 'other' world of his traditional Indigenous community: 'I'd never classed myself as a guy that I've had to pass on a lot of skills' stems from the same discourse as the 'I never classed myself as a guy with...skills.... I've always thought my knowledge was quite limited due to my schooling education' in Paragraph 2. The white and black worlds share discursive proximity in this talk which allows a transfer of discourse items embedded in white discourse (the 'skills' and 'knowledge' from formal education) to the Indigenous discourse: 'The only thing with my Aboriginal traditional culture - I do pass those on a lot'. Once again, this case reaffirms the deep divisions between the two literacy ecologies, apparently created by the white culture's version of formally acquired skills. Once the transfer from one discourse to the other is made, the discourse items ('skills', 'knowledge') are seen to rapidly recontextualise and be colonised by the white world's language. For example, 'I've learnt a lot from my Elders' and 'they've shown me those skills'.

The final paragraph, Paragraph 5, provides an explicit recognition of the role of oral tradition (talk) in the transmission of skills and knowledge, framed in the first few words by the now integrated 'white' discursive items 'skills' and 'knowledge': 'Pass those skills and knowledge down...'. The word 'skills' appears twice more in this sentence, as if to demonstrate that the speaker has recognised how the two discourses have come together and is practising the elements. The role of talking is once again emphasised, and then counterpoised with the 'hands-on showing the children and the young ones'. The contrast between the 'real life' (informal, community) learning and formal education parallels the 'hands-on' informal discourse with the 'skills' and 'knowledge' of formal education.

How can we compare Merle and Darren on the dimension of 'critical literacy'? Darren also facilitates people to cross the boundaries of their literacy ecologies, as he does between white and black literacy ecologies. He is 'uneducated' yet apparently as adept at using knowledge and identity resources to his purpose for action. His use of historicity layers traditional Indigenous culture through the Elders with his white heritage. What, then, is critical literacy in reference to these two community members?

Leaving that perspective in the air for the moment, let's consider the same question in reference to a community event – where literacy, community learning and social capital intersect in even more complex critical ways.

The 'Yarns' Event

In the discussion about social capital presented in the first part of this paper, it was noted how crucial 'opportunities' for interactions are to the production and use of social capital. The arguments around the way TV may have deprived American society of these opportunities continue (e.g., Putnam, 1995), and the nature and quality of interactive opportunities require more space than we have here. Let us focus for now on an opportunity or occasion in which social capital was created - that is, the specific, socially productive and purposeful interactive moments that were the catalysts for social capital production.

The social interaction and resulting social cohesion occurred during the Together Town 'Yarns' project, a community arts project. The Together Town community has a number of annual events such as the local agricultural Show and a large annual Craft Fair. The 'Yarns' project grew from the need to repair aspects of the community's interrelationships, specifically related to the ongoing conflict resulting from the arrival two decades ago of the 'hippies' into the traditional farming community.

'Yarns' is an artwork in silk, depicting Together Town and surrounds in four large panels – one for each season. A historical perspective of the community was also stitched into the work. It is made of yarns – silk, cotton, wool; people told yarns as they constructed it; the panels themselves tell stories of the past and of the present; and it continues to produce stories in the community and for visitors. It involved more than 300 people, over 10,000 hours of work, 200 metres of hand dyed silk and many arts and crafts such as design, drawing, embroidery, appliqué, cross-stitch, weaving, patchwork and quilting.

A large proportion of the community, mainly women, participated in the project. They worked in formal groups and informal networks consisting of groups of loosely linked individuals who came together for a common purpose or interest. The project's success required more than art and craft know how. It required planning and co-ordination; co-operation and division of labour; sponsorship and promotion; effective intra and inter group communication; and learning and teaching. Experts ran workshops in specialist areas such as silk printing so that other women could learn and contribute to the project; women invited groups into their homes to work together on discrete sections; others worked towards entering displays for the community event at which the project would be unveiled. Participants sought external expertise as well as looking for it in their own community. 'Yarns' was about sharing knowledges and networks, creating new ones, and being prepared to re-shape identities for a common purpose.

The project was and is a resounding success. The finished product is now a tourist draw card. The community is proud of its achievement, and it is another accomplishment that signals to business operators and the population at large alike, that this is a vibrant, 'go-get-it' community. And it displayed all the signs of community learning, of social capital being used and generated and flowing healthily and vigorously. The project resulted in high levels of interaction between individuals and groups in the community who had not necessarily interacted before. Communities of common-purpose clustered to contribute to the common goal of the project. There was a common purpose involved, with external information available through contacts in others place and states about technical aspects of tapestry, embroidery, stencilling and much more. Informal and nonformal learning occurred to suit the task. Common values related to the skills and knowledge involved in the project were identified and fostered so that friendships of various strengths and types were created and cemented.

The process of creating the tapestry had all the ingredients of social capital - qualities of externality, historicity, common purpose, trust, and it was for the common good.

For the Common Good? '... trying to do the best thing at the time'

The debates on social capital and critical literacy have another element in common, and that is the use to which each can be put - deliberately or unintentionally - against other people. Darren for one did not derive the same benefits from the project as most of the community (the other community) appeared to do. At least, not at the point at which 'Yarns' first entered the public arena:

> D The 'Yarns' project actually put a big wedge in the community here between the Aboriginal community and the white community. The

‘Yarns’ project was started off and it was supposed to be inclusive of everyone and when it got down to the stage where it was nearing completion instead of waiting for a nice Aboriginal artist to come along and do our nice bit of work on our panel somebody jumped in very, very wrongly and overstepped the mark and done it for them and then tried to stand up and say ‘Well we’ve done this in the best interest of the Aboriginal community’. So ‘Yarns’ I believe actually left a bit of rough ground there...I’ve been approached by many people just of late about trying to reconciliate that problem from ‘Yarns’. We got shafted, it was a mistake made by a person who was trying to do the best thing at the time. They thought that they had taken all people’s concerns into heart and were working for the best of everyone. But we found out later on that you know that person was a little bit sort of, what do you say ignorant to the Aboriginal culture ... by not allowing that artist to take part and that be an actual Aboriginal person doing it, they thought they was doing the right thing and...I mean [the initiator of ‘Yarns’] - I’ve talked to him yesterday.

I Really? Just yesterday?

D Well he come and talked to me actually, yeah, because he’s actually trying to find another place to house ‘Yarns’. And he was down at a tourist meeting and he was saying how he was trying to you know get funding to house the ‘Yarns’ and stuff like that, and I know that [he’s] taken ‘Yarns’ on very strongly, he feels that it was a great community project, and I don’t think [he] fully understands how much it did upset the community - the Aboriginal community - by thinking that they was taken into account.

I Do they know now?

D They do now, yeah, we told them in [no] uncertain terms. And sometimes I guess you’ve got to, because if you don’t, I mean I’m not a radical person, but there is times where I - you know - our Elders were there as well, and they say to us there’s times when you need to stamp our authority, and say well hang on a little minute, you fellas did muck up here, you made a big mistake, be man enough to stand up and say okay we mucked up; we made that mistake, how do we go about righting it, and then we’ve got a future to go to, once you’ve at last accepted the fact that they’ve made a mistake. We know that that bit of recognition...will only help...not make the same mistake the second time, and I’m sure if I go along and have a talk to [them] we’re sure we can work something out. I know there is a future plan to actually continue that ‘Yarns’ project and make it...an established ‘Yarns’ thing and at this stage the Aboriginal community has been consulted very closely, so their input will be put in correctly next time round. So yeah, so I mean I don’t know why...they come to me.

So *was* the ‘Yarns’ project community learning? Whose community? Building social capital should be inclusive of diversity, and not be used as a white middle class gloss.

But the outcomes of what might be called ‘ Round 1’ in the ongoing and overlapping sets of literacy ecologies that Darren facilitates across both communities augers well – communication is open, more learning is possible. One interpretation is that neither the need nor the opportunity would have been possible had it not been for the first event, and that the intervening time allowed for a whole series of sub-events that facilitated the most recent ‘reconciliation’.

Some Concluding Thoughts, as yet Forming, Forming, Forming...

Learning processes, enhanced by their production of social capital, produce change in work, community and public practices through changes to people’s skills, knowledge, identities and values. These changes, the outcomes of learning, are visible at several levels of society: Learning produces demonstrable changes in individuals’ knowledge, skills and values; learning produces changes to outcomes achievable by groups and teams; learning produces demonstrable changes at the work, community and regional levels, and subsequently at the societal level. Work by scholars such as Michael Young on ‘learning societies’ (e.g., Young, 1995) conceives of learning societies as resulting from the collected outcomes of individual and collective learning; learning societies are well-educated, responsive to change, reflective and healthy.

The differences between formal learning and community or informal learning described in some of the data presented call for a re-examination of just what ‘school learning’ is and does - more particularly what it should be and should do. The data show two examples of social brokers, each with radically extreme formal educations, yet both experts in critical literacy. The man who does not consider himself as having skills and knowledge (from his formal institutional learning discourse) *does* have such attributes. Formal schooling and further education is seen by Darren as being *not the same as* the informal or community learning in ‘real life’, ‘doing’ and ‘hands-on, showing’. The latter Darren perceives to be the core attributes of the nature of learning required in his contemporary life and workplaces.

In this regard, there is some evidence in the data to support a view of learning as the discursive assembly and subsequent re-assembly of cultural practice. Learning and transfer of learning ‘...can be theorised as a process of discursive colonisation’ (Falk 1997, p. 64) rather than as being ‘cognitively different’, and in some way related to notions of intelligence. Darren, in those moments of reflective transformation, provides an example of this colonisation. Merle, as she describes her turning others’ thoughts around and showing them what they know, provides another example.

The socio-economic need for the ‘one qualification for life’ expectation of the traditional education and training approach is passing. The effects of socio-economic change on the nature of work and (un)employment are so pervasive that re-learning and re-training are supposed to need to be on-going. It is suggested that the socio-economic goals of the ‘new work order’ (Gee et al., 1996) require the informal and on-going learning that the people who are the focus in this paper have utilised successfully. The power of the binary of institutionalised learning in schools versus

‘community/informal/real life learning’ may act as an influence against the kinds of lifelong learning currently found in policy documents.

‘Learning’ may well have the potential to produce or enhance socio-economic wellbeing. However, if our society relies on the fallacious assumption that formally-acquired institutional learning is the same as the critical learning required to facilitate socio-economic change (and the hoped-for socio-economic outcomes that are presumed to flow from such change), then a truly civil society will likely be a long time in coming. This paper has provided two examples of the processes required for critical learning, by showing both Darren and Merle brokering literacy ecologies for the common community good.

We will now address the question that was left hanging earlier: What, then, is critical literacy in reference to the two community members, Merle and Darren? How have we as literacy experts ensured that there is an analytic body of work which shows that the knowledge, identity and skills resources for the kind of critical learning shown in the earlier examples are components of ‘critical literacy’? In other words, we talk about critical literacy as implicating resources-to-action in our social domain, but where is it that we describe and prescribe these resources (apart from the reading and writing technologies)? The relationship between critical and socio-cultural/critical literacy and the ‘subject areas’ of science, maths, English (and so on) remains problematic, yet it is in these subjects that students develop the resources to become critical. Literacy experts are, from our observations, still seen by many policy-makers and practitioners as experts on ‘literacy-as-reading’, while the subject specialists have ‘the knowledge’ (which is therefore nothing to do with literacy experts). In Australia at least, school knowledge, except for a very few, remains knowledge for one of life’s narrow pathways - schooling-college-university-career. What of our parallel civic, political and community literacies?

Socio-cultural literacy is, by definition, literacy for living. School is part of life; life is not a subset of school. Where is it that socio-cultural literacy suggests the agenda for literacy outside (but parallel to) and beyond schooled literacy? Where do we locate learning about the ways people learn and manage their literacy ecologies in their everyday lives, rather like Merle and Darren do? Socio-cultural literacy should provide a coherent practical account of macro social issues such as power, institutional life and production, as well as meso theory related to, for example, families, communities, groups and organisations, and micro theory of action and interaction. More importantly, a socio-cultural theory should account for how links occur between these institutions and groups, horizontally and vertically. This is the real articulation of ‘lifelong learning’.

It is important that socio-cultural theory accounts for forces such as power and how it is exercised, and the interactional and communication activity that oils these interactions is obviously also integral. Such a view would allow us to conceive of socio-cultural learning and literacy as being a literacy event, or literacy ecology, occurring in particular contexts, each of which has its particular resources. But the resources aren’t just ‘there’, they are *what the interaction draws on.* To resource socio-cultural or critical literacy would involve making judgements about the resources appropriate for the context of use of the literacy acquired in, for example, school contexts. Some textual features are not drawn on at all in interaction, others

are. However, for a successful critical literacy event to occur, there has to be an ecology involving the adequacy of available resources (knowledge that is there/available as a capacity) and the appropriate interactions of resources from that capacity pool. This helps to think about how learning interactions can be seen as drawing on identifiable relevant knowledge and identity characteristics, and that institutional features are one necessary component of these.

A definition of critical literacy that fits with the discussion in this paper is:

> Critical literacy is the resources or human and physical capital required for mutually beneficial and purposeful collective action.

while critical learning would be:

> Critical learning is the utilisation of those resources using social capital.

The two reasons we have chosen this definition are first, that from much of the writing on critical literacy (we haven't substantiated this in this paper) it is associated with individuals and their possession, demonstration, acquisition, or lack of 'it'. This seems to involve the individual's power and control over his or her social circumstances. That is, critical literacy is the use made of a commodity, a thing that individuals draw on to a greater or lesser extent. So the first factor favouring the above definition is the focus on the resources to action, rather than on the individual.

Second, there is the question about reciprocity. We have not as yet found any discussion in the critical literacy literature about the mutuality of critical literacy. Where is the talk about the individual's responsibility to society, not just that about society's responsibility to the individual? [There is a big issue in Australia about government policies on 'mutual obligation' - an interesting side of the reciprocity question]. Mutual benefit between people and their society is the second missing feature of critical literacy that the above definition allows for. The two-way street of mutual benefit has that element of interdependence that is a feature of ecologies. Literacy is the technology that facilitates mutual dependence in such an ecology. Literacy is about things - texts, skills. Literacy-in-learning refocuses on the interaction between people, texts and the physical aspects of the environment. The literacies are only given meaning in the context of the human and physical resources, and are themselves a resource, but no more important to the process than the other elements. It is this literacy ecology - the way human and physical capital is brought into life by social capital - which we hope this paper has raised for discussion.

Finally, we believe the idea of social capital helps bind literacy, learning and learning for life into a whole-society framework, and we believe it has a certain clarity of explanatory power and some political teeth at this time in history. This might well be because of the word 'capital' in the term, but in policy terms both ends of the political spectrum, as well as researchers and many branches of practitioners, accept it and are excited by it. Social capital is the product of an ecology of interactions between resources in the human and physical environment. Literacy ecologies inhere

in the structure of purposeful and productive human relationships as the manifestation of social capital. The call arising from this paper, then, is to raise the need to re-focus on literacy-as-learning rather than on just 'literacy'.

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