Journal of Australian Indigenous Issues

In this issue:

- Aboriginal Rangers
- Indigenous Education
- Indigenous Art
- Australian Men's Sheds
- Indigenous Social Attitudes
- Indigenous Entrepreneurship
- Poetry

Volume 15
Number 1
March 2012

Continuities in Education: Pedagogical Perspectives and The Role of Elders in Education for Indigenous Students

Authors: Kay Owens, Pat Doolan, Maria Bennet, Patricia Paraide, Patricia Logan, Ylva Jannok Nutti, Libbey Murray, Ray Peckham, Dominic O'Sullivan, John Hill, Frank Doolan, Gunilla Johansson, Alca Simpson, Vappu Sunnari, Christine Ohrin, John Nolan, Terry Doolan, Michelle Doolan, Alissa Miller, Beatrice Murray, Melissa McNair, Paul Taylor (deceased)

Contributors: Rod Towney, Gary Shipp, Ian Pritchell, Belinda Downey, Debbie Morrow, Dina Moore, Carolyn Thurston, Kerry Perrin, Melissa Smith, Beverley Moriarty, Jean Brain, Judy Carter, Diane McNaboe*

Abstract

This article presents a pedagogical perspective that developed through conversations across cultural groups from different geographic locations – an Australian rural city, Sweden, Papua New Guinea, and New Zealand. Indigenous Elders and others from the local community, educators including Indigenous educators from the rural city and overseas, developed a pedagogical perspective on continuities in education in Indigenous contexts. An ecocultural perspective is expanded as a critical pedagogy of place which considers both the ecological and sociocultural contexts of education by drawing on the funds of knowledge of the Indigenous community. Key points are (a) the nature of the past including working together in survival struggles influences the present; (b) the position of Elders in education is critical for sustainability of relationships, culture and land; and (c) the community's and family's roles and pedagogy continue in school education when teachers and educators have the relationships, trust and respect of the community and learners.

Social justice: Education and the community

Social justice requires inclusive pedagogies recognisant of community voices. These appropriate and fulfilling pedagogies require transformative alignment with community cultural patterns. Pedagogical perspectives are based on systemic willingness to listen to households so that stereotyping and homogenising assumptions are avoided. These perspectives were evident in

**** Kay Owens, Maria Bennet, and Libbey Murray currently teach in teacher education at Charles Sturt University. Patricia Logan teaches Science in the Faculty of Biosciences, and Dominic O'Sullivan teaches Political Studies at CSU. John Nolan is from the Centre for Indigenous Studies, CSU. Pat Doolan, John Hill, Paul Taylor, Ray Peckham, are Elders of the Wiradjuri in Dubbo. Frank Doolan, Michelle Doolan, Terry Doolan, Christine Ohrin, Alca Simpson, and Alissa Miller are active members of the Wiradjuri community. Melissa McNair and Beatrice Murray have taught at CSU but currently teach in schools. Ylva Jannok Nutti, Vappu Sunnari and Gunilla Johansson teach at the Luleå University of Technology, Sweden while Patricia Paraide is employed as a Senior Researcher in the National Research Institute of Papua New Guinea. This paper is dedicated to Paul Taylor who passed away suddenly at the end of 2010 prior to the paper being finalised.***

the Funds of Knowledge projects in the United States of America (USA) when teachers asked households about family history, contacts with others in the region, formal and informal labour, routine activities, perceptions of their roles as parents and caretakers, their own and their children's schooling, and language used in schooling. The household interviews informed professional pedagogic discussions and decision-making (González et al. 2005). Such approaches reduce stereotyping and generalisations of Indigenous culture (Gervasoni 2005). Education in these borderlands affords the child his or her own developmental "transit where space and time cross to produce complex figures of difference and identity, past and present, inside and outside, inclusion and exclusion" (Bhabha 1995: 1). The teacher's role is to facilitate these border crossings.

These pedagogical approaches maintain wellbeing by exploring ways of representing cultural resources. The practices, strategies, and knowledges of the households are mediated by teachers to reduce the complexity of everyday experiences, respectfully and "without losing sight of the rich and dynamic totality of their lives" (González et al. 2005: 21). Pedagogical changes occur as teachers adapt procedures, artefacts, discourses and reasoning as a result of their communication with the community households. They are inquirers with questions, and they accept that funds of knowledge are fluid and negotiated through discussions among participants. These same processes become the metalanguage and processes of teaching with the students actively involved in developing their knowledge. Teachers become risk-takers, supportive, and non-judgemental (González et al. 2005). The hybridity of these funds of knowledge develops as two-way or both-ways education with equity of purpose, worldviews and pedagogies for teachers and community families (Stanton 1994).

In such educational approaches, culture is not perceived as frozen in time as portrayed by special cultural days. Instead learning is a lived, cooperative experience that reflects the children's cultural backgrounds and promotes interracial understanding. This cooperative learning is not just in the classroom between children but between the teachers, parents and communities (see also de Abreu et al. 2002; Pinxten et al. 1983). Such connections provide quality education (New South Wales Department of Education and Training 2003) by providing opportunities for children to build on their cultural and home background knowledge and integrate that knowledge in the classroom. Such critical pedagogy is authentically inclusive.

Ecocultural pedagogies: Critical place-based education

Basing education in place within a cultural context encourages students to negotiate traditional and western approaches to phenomena (Aikenhead 2001a). The crossing of borderlands (Aikenhead 1998) provides children with a voice to understand the environment. When students experience the outside environment and develop their own action projects through researching topics from the internet, people and books, they express their self-generated knowledge (Comber et al. 2007).

Ecocultural pedagogy values and maintains these cultural funds of knowledge. The interrelatedness with ancestors, place and people forms the basis for relationships with schools. Education is recognisant of cultural

patterns that sustain the capacities of environmental systems (Gruenewald 2008; Gruenewald and Smith 2008). Indigenous education embeds literacy of place, practices that value and maintain place, and the narratives and stories of the links between people and place. This education for sustainability is *in, through*, and *about* these places. Central to an Indigenous perspective on sustainability is the essence of relatedness, "defined as sets of conditions, processes, and practice that occur among and between elements of a particular place, and across contexts that are physical, social, political, and intellectual" (Martin 2008: 61). It is through stories or yarning that deep knowledge is expressed. Ecocultural education entails the self-identity of the Indigenous culture connecting to others, the land, and the bigger worldview (Pinxten et al. 1983). The key issue for this article is that the Indigenous community have a key role in presenting an alternative worldview of learning and sustainability for establishing a critical ecocultural pedagogy.

Decolonising education

When a critical ecocultural pedagogy involves Indigenous knowledge and ways of learning, one begins to decolonise the curriculum and pedagogy. Schools, policy-makers, teachers and students know the history and culture of Indigenous communities, acknowledge the impact of colonisation, and acknowledge the students' Indigenous community languages including Aboriginal English. Decolonising education changes values and perspectives and instils the desire to reinhabit people's thoughts, their cultural lives, and their land. "Decolonizing becomes a metaphor for the process of recognizing and dislodging dominant ideas, assumptions and ideologies as externally imposed" (Smith and Katz 1993: 71). Indeed decolonising requires recognition of the impact of past and present colonial practices, thinking, and the power relationships that are established for the system and teachers over the Indigenous communities.

These colonial impacts are recognised by teachers when there are relationships established with the Indigenous community and the teachers hear the stories directly from the Indigenous community (see also the Bidialectal approach to writing English, Owens 2004; Reid et al. 2005). The personal sharing of Indigenous knowledge by the community makes a difference in teachers' perspectives when Indigenous knowledge of science and environment topics is linked to science topics (Chinn 2007), and mathematics (Owens et al. 2011). "Decolonising depends on recovering and renewing traditional, non-commodified cultural patterns such as mentoring and intergenerational relationships" (Gruenewald 2008: 9, following Bowers, 2001).

Decolonisation involves the establishment of pedagogies similar to learning in the community rather than the undoing of a loss created by colonisation. The hybridity is positive in terms of continuity and synergy rather than reductionist and dualistic. However, recognising diversity in the community and decolonising the curriculum and education remain problematic (Paredes-Canilao 2006). Decolonising and difference are still perceived in terms of the dominant or western culture although "difference" may not be seen as "othering", that is the attribution of deficit in relation to the mainstream and not like "us". "Difference" is still a term that emphasises heterogeneity and

individuality which may not be the perception of Indigenous communities who consider balance as critical both for the community and the land (Verlott and Pinxten 2000). In fact we argue that the role of the Elders is critical and pervasive in overcoming the concerns about difference and establishing a critical eocultural pedagogy of place.

Policies and ecological models of education

In ecological models of education (Brofenbrenner and Ceci 1994) ideologies and broad social values influence systems such as political ideologies, national and state education policies and Eurocentric values which in turn influence schools and neighbourhoods surrounding the family and child. These then interact with the immediate contexts for the student — family, peer group, and classroom. These systems are dynamic changing over time. In particular, historical contexts affect cross-cultural contexts within different layers. In other words, the past impacts on the present and future. Of relevance to this article is the importance of the interactions between the educational systems of both home and out-of-home places, and the policies that aim to link these two systems.

In Australia, several reports (Department of Education 2005, 2008; Laughlin and Ella 2004; Ministerial Council on Education 2005, [MYCEETYA]; Moroney and Brinkworth 2003; New South Wales Department of Education and Training 2005, 2008; Slack-Smith 2008) substantiate:

- A lack of knowledge of Indigenous ways of knowing by systems, schools, and teachers;
- A lack of knowledge of what Indigenous students know and can do when entering formal education situations;
- An emphasis on projects and a need for systemic change so that appropriate approaches are mainstream thinking;
- Generalising about cultural identities rather than an awareness of the local community;
- A need to monitor student progress at school and beyond school, and the impact of mobility, attendance, and retention on education;
- A need for real partnerships between schools and communities.

Authentic relationships in partnerships are based on openness and trust at both the personal and institutional level and are maintained over time. Partnerships provide equity in terms of pedagogical understandings and practices. Sustainability of these partnerships requires planning and supportive structures focussed on mutually beneficial goals, and communication strategies that are known in the community and developed through a committee representing Indigenous voices. It is important that the community recognises that the partnership is to identify inequities and put strategies in place to overcome them (Gervasoni 2005).

Positive relationships are also important in establishing transition programs from home to school or between different levels of formal education. A good start for the student is facilitated by a supportive transition situation lessening risks for developing identities (Spencer 2006). Successful programs focus on more than academic or school organisational skills. These transition

activities are multi-faceted promoting engagement, a sense of belonging, acceptance of oneself as a cultural being, Aboriginal identity, positive relationships between school, parents and educators, and opportunities to build upon the strengths of children, educators, families and communities (Dockett et al. 2006). Active involvement of children and families overtly signals the relevance of school and the importance of high expectations (Dockett et al. 2007). The whole school is involved and programs are well planned, responsive and take account of contextual aspects of the community.

Approaching cultural transitions and overcoming a sense of alienation involves considering school learning as code-switching, a term that has been used for switching languages but it is equally as critical for switching between the cultural code of home/community settings and the less familiar code of school (Forrest 2009). Schooling may reduce the need for code-switching but code-switching of language and educational code is used to advantage in both learning of concepts and establishing relationships between people. Relationships are enhanced by the use of culturally appropriate ways in schools and an increase in the employment of Indigenous teachers and staff members who assist other teachers to understand and change their teaching approaches (Hockey 2008). However, the voices of these staff must be heard in order to decolonise the curriculum and change teachers' approaches (Bindarriyl et al. 1991). We were concerned to begin dialogue around these issues of a critical pedagogy that involved Indigenous community, their aspirations and knowledges, and the possibilities for education in our communities.

Methodology: Our yarning—cultural exchange

Our University campus is on Wiradjuri land although people from several other Indigenous groups, especially the neighbouring Gamilaroi, also live in our city, Dubbo. A group of lecturers, Indigenous Elders and community members built on their growing friendships to plan a three-day forum with a specific focus on explaining how continuity between community and formal education could be achieved. Our focus was to discuss the impact that historical and contemporary Indigenous contexts have on education and how we can improve continuities for early childhood (3-8 years). Implicit in this focus was a greater appreciation for decolonising education and recognising Indigenous community education past and present.

A poignant aspect of the discussion was the participation of Sámi and non-Sámi Swedish representatives, a Tolai from Papua New Guinea, a Māori from Aotearoa–New Zealand, mainly Wiradjuri and some Gamilaroi Australian Indigenous participants—some of whom were University or school staff—and non-Indigenous lecturers and teachers. This article shares a part of the knowledge generated by the forum. Authors are those who participated in the construction of the article on the third day, assisted in writing or assisted in presentations of knowledge. Other forum participants are contributors to the article. Minutes of conversations together with speakers' names were typed and distributed during the three days. However, the following points are regarded as community responses so that names are not included.

Participants shared research papers, policies and other websites electronically before and after the forum. Some of these were available in hard copy during the forum and participants added other papers. We began with a yarn up introducing ourselves. We listened to specially prepared papers from the different countries, had whole group discussions about the educational challenges, and small group discussions to develop themes and key points. There was plenty of laughter and plenty to eat. During the following year, discussions continued more informally.

The forum evolved as a yarning about decolonising Indigenous education to provide continuity from family to educational institutions. Yarning is an example of community involvement in creating a position on education that includes an Indigenous voice (Battiste 2000). "Yarning is sharing knowledge, investigating and creating our personal knowledges" (Sophia Pearce, personal communication). We shared our knowledge whether guided by University research, Elders and family, or experience and personal research. Knowledge development was enhanced by metaphors, stories and visions such as those provided by overseas examples. Trust, sharing, the development of knowledge, and respect for the Elders were evident in our yarning (Solbakk et al. 2007). Our yarning built on knowledge of the past to connect us in the present and to the future. This was a recurring aspect focussed on by the Indigenous members assisting with cross-cultural understanding. The process assisted us to decolonise our thinking whether we were Indigenous or not (Jannok Nutti 2008; Tuhiwai Smith 2005). In other words, we were bridging our thinking and valuing Indigenous ways of thinking (funds of knowledge). We were code-switching between Indigenous ways of knowing and our school ways through yarning. As a result, through the intertwining voices and stories key points were raised and are presented in this article.

The methodology of yarning is also the means of analysis. We initially shared individual stories and later we also told our personal stories as they linked with another person's point, story, theory or simply needed to be told as another way of getting each other, especially the non-Indigenous members, to appreciate the knowledge that was being shared. Gradually and in small group discussions the funds of knowledge that bridged our cultures began to formulate into a more abstract discussion, often illustrated in a picture and with more stories. The small groups shared their ideas and we began to write down the ideas that were felt to be crucial in presenting our yarning about continuities in education. These ideas were reorganised to establish a theoretical model represented in Figure 3. Further discussion and refinement of the organisation of points occurred through emails and through another gathering with the authors from the local community, mostly Elders. Additional explanations, stories, examples, refinements, and references to research literature were shared to assist with linking shared meanings through the yarning and our emerging theoretical position. The Elders entrusted further reorganisation of the stories and points to the first author and colleagues to meet publication requirements. After further checking with the Elders, the stories were organised under the areas decided by the forum as critical for quality Indigenous education. These areas are the importance of working together; the sustainability of culture, relationships, and land; the theoretical approach represented by Figure 3, and links to literacy and numeracy

education. One article focussing on numeracy education has been published (Owens et al. 2011).

Results and Discussion

Defining continuity in education through working together

The Wiradjuri words *ngadhu bandalong ngindhu* say "I join you" – you join me. The teacher meets the student – they join together and we are all continuing to learn together. We form our community – *searvodat min searnodagas* (Sámi-Swedish) – or we work together as one does around a campfire. This was recognised in Tolai as *da tur warurung,* working together. It was like weaving – a skill of the Tolai and many Indigenous and other cultural groups – going back and forth, the warp and the weft forming the pattern together. The weaving goes back and forth continually and grows into a beautifully designed product. This weaving of knowledge is neither black nor white but caring and sharing which is the basis of Aboriginality. A simple word, love, is central to development, reconciliation, and overcoming the downward spiral of lack of worth[1].

The forum itself was a working together and a joining together across the waters—Sámi, Papua New Guinea, Maori, Wiradjuri, and European. Continuity was seen as water which drops on the earth, joins together and finds its own life, force, direction, changing course to reach its destination, ... to provide in another place the headwaters of a new stream (a reflection on Tunisian Awad Afifi's 19th century wisdom). Water fills the cup 'half full'; it is not half empty but filling up. The funds of knowledge of the Indigenous community are important for both the Indigenous students and the education system.

Establishing partnerships between the Indigenous community and educational institutes is recognised as fundamental in policies (Gervasoni 2005; New South Wales Department of Education and Training 2008). However, the yarning elaborated that partnerships must recognise the Elders and the roles of Elders in the community.[2] In the circular campfire group, people join the Elders and knowledge comes from around the circle, and people return to the campfire for sharing, knowledge and identity building, learning in the family and community. The campfire provides for cleansing and revitalising. It is symbolic of who we (Indigenous community) are. For Wiradjuri, learning is a life-long endeavour. (See also Forrest 2009 on Western Australia.) This sharing, respecting, caring knowledge circle is for Wiradjuri and *gubba* (white people). The Dubbo Men's Shed, Charlie Perkin's life, and the University supporting the Indigenous community to write their stories are examples of the valuing and sharing of two cultures (Doolan 2004, poems in Figure 1, used with permission; 2008).

---

[1] Barlow, K. 2008. 'Kirby on life and love - speech to graduating students, Griffith University.' In *AM*. Australia: ABC.

[2] This is more than a tokenistic acknowledgement statement at the start of meetings.

To Charlie, Our First Graduate Education is a boomerang It's your digging stick Education gives you choices It gives you the chance to pick Even if you failed at school It's still not too late There are adult education courses Down there at the TAFE Education is the key To unlock the prison cell Where you get to, after that Only time will tell Although he played pro' football To improve his situation Charles Perkins knew he had to get A decent education We need leadership right now Like never before A white man's education Alongside ancient lore A decent education Will give hope to all your dreams It will make you a life member Of the winning team	Blackfellas we've got stories too And thanks to the Uni mob They're prepared to teach us How to do the job Everybody has a story Some stories tell of triumph Others express pain. We've been telling stories Without the written word Yarning on amongst ourselves But we're not being heard It's like talking underwater Frustration dogs our days Thanks to the Uni mob We're learning better ways. You don't know the half of it But I reckon we'll surprise Our stories will inspire They will open up your eyes Cause there's another story In this multicultural place It's a Black Australian story About the original race.

Figure 1: Doolan (2004, 2008) iliustrates working together in his shared poems

The importance of working together was also emphasised by reference to significant past and present leaders. Pearl Gibbs, an Elder, a leader in the wider community worked with non-Aboriginal people to achieve rights for her people. Pearl Gibbs (1906-1982) was the first Aboriginal woman to serve on the Aborigines Welfare Board in 1955 and she pushed to get Welfare Board houses in the town instead of on the Mission. Pearl's mother and John Nolan's great grandmother spoke fluent Wiradjuri over in West Dubbo as did a number of remembered people on the Mission.

Another voice for the people was William Ferguson[3] who established the Aboriginal Progressive Association (APA) with George Carr and Tom Carney and this led to the State wide organisation. In 1938 he with others drew up a list of claims including equal distribution of goods, abolition of the Aboriginal Protection Board, equal education, and power to be in the hands of Aboriginal people. Bill Ferguson should be known to local children and tutors in schools. These people are part of the past connected to the present and future and part of the identity of the Aboriginal community and hence of this rural city. It should be known and celebrated.

The people's voice was heard through the APA, their newspaper The Abo Call, the magazine *Identity*, FCATSI (Federal Council for Aboriginal and

[3] Bill Ferguson's house still stands in Wingewarra St but is currently not recognised by the National Trust.

Torres Strait Islanders – a non-government organisation), Charles Perkins through Student Action for Aborigines (the Freedom Rides), the Foundation for Aboriginal Affairs, and the walk-off from the pastoralist's property Wave Hill in the Northern Territory, and the Unions. The Aborigines harnessed the white community so the referendum was passed on 27 May 1967, the day that more than two thirds of the Australian voters agreed to changes in the Constitution of Australia resulting in recognising all Aborigines as citizens with the same rights and responsibilities as other citizens. This day was a time of acknowledging the Elders.

In present time, the second key day for hearing Aboriginal voices was more than forty years later, and following further fights for land rights and Indigenous rights, Sorry Day, 13 February 2008. This day was a time of recognising the lack of acknowledgement of the Elders. In the same year, a Statement of Reconciliation was accepted by the University (Charles Sturt University 2008). It was poignantly said, that even if the lives of past Elders are discussed in schools, how many children have listened to Ray, a current Elder, talk about his role in distributing information to Unions to support rights for Aboriginal people, working with Pearl Gibbs and others. Ray lived place-based education in which knowledge is followed by action (see Comber et al. 2007; Sobel 2008).

Continuities in education, building of leadership, and assistance in the education of learners follows from building relationships. Through sharing stories, self-identity is developed and the present role of the Elders ensures that the past collaboration will be a beacon for the present-day working together. Yet our yarning suggested the role of the Elders in learning still requires change in the wider society.

Sustainability of relationships, culture and land

The perspective of time is recognised in ecological models (e.g., Brofenbrenner and Ceci 1994) but for an Indigenous community there is an expanded perspective. The past provides the identity, it cannot be separated from the present or future. For all the Indigenous groups – the Wiradjuri, the Sámi, the Tolai and the Maori – emphasis was on "the rights of the child to the past, rights to the present, and rights to the future" (Somby 2008, cited in Jannok Nutti 2008). This right of the Sámi culture is justification for the Sámi school. Education is a way of viewing past, present and future – "Tomorrow, Then and Now"[4]. Elders shared some personal history providing stories and emphasising the impact of the past on the present, the value of the family, the recognition of good relationships, past and present, between members of the Indigenous community and the colonising community, and the putting aside of the hurts of the past to build new relationships to move forward and at times sacrifice to make a difference for the community.

[4] The University theme for NAIDOC day in 2008.

Many years ago where the Mac and Talbragar flow
Life was full of fun and respect
Mum and dad were always there
Seeing to our care
There were never any signs of neglect
And when that sun was going down
There never be a frown
Or signs of any jealousy or hate
When us boys and them girls in the mission lane we played
And our boundary was that old mission gate.
Then our lives were turned around
We moved into town
Our culture and respect were no more
For the goodie goodie ways
Learned our children how to say
And our lives were being run from behind close doors.
So my memories do blow back to them old mission shacks
...
What a time

Figure 2: Welcome song from John Hill about Talbragar Reserve

Stories about Talbragar Reserve ensured we understood the connection to the land and the significance of the place to the Aboriginal community (Hill 2007, song used as part of Welcome to Country, used with permission, see Figure 2). It included the hardships – control by the manager, lack of freedom to move around, removal of children, poor education, lack of food and poor distribution of food and much more, connections within the family, resilience, the impact on schooling, language and family losses, and its positioning of the Indigenous community as outside of town. It was a place of knowledge of the social connections, the language and the links between place and people (Dormer 1981, 1988; Harris 1990; Honest John 1990; Horner 1994; McGuiness R. et al. and photographs by M. Riley ~2000; Parbury 2005). Factors such as culture and being positioned as different from the dominant cultural context influenced the child's identity but may create potential risks for that child (Spencer, 2006). This past is continuous to the present and future; our sharing circle with Elders helped decolonise relationships, curriculum, and pedagogy (Smith 1999).

John Hill, one of the Elders, talked of his battle with alcoholism that had resulted from the lack of self-esteem initiated by lack of respect of Aboriginal men under the Aboriginal Welfare Board in NSW and the rules of the Mission management (Honest John 1990). John reminded us of his school days where he was always sent to the back of the room but he could still listen. He was not helped much by the teacher but he listened. By contrast, nowadays, children are sent out of the classroom or out of school for not doing what the teacher expects. In those days, children did not always have access to formal education but even in some of the homes, children received education. Others shared their history as part of the stolen generations and what it was like to be

brought up in a "home" and of grieving for that "childhood". Each story was linked to the present and future.

Place-based culturally inclusive education involves bush programs, outside in nature. This was evident in the shared stories from Sweden and Papua New Guinea that illustrated mathematics in a cultural context. The ways that people use and understand trees, animals, ground, wood, local designs and artefacts were shown to be numeracy and literacy, valid for the children in the place (Gruenewald and Smith 2008). Teacher education should incorporate experiences out in the bush, to talk of different wood, length, shape and purpose of artefacts, and to write about the experiences, other stories, and explanation of dance and relationship. CSU preservice teachers gain experience in the community at the after-school tutoring community centre. Not only does the program provide a beginning for achievement for children in literacy and numeracy but it is a beginning of understanding for teachers (Averill et al. 2009). Experience in teaching in schools in Indigenous contexts, formal subjects on Indigenous culture and pedagogy, and opportunities to meet with Elders in other subjects enacted an essential element in partnerships, in working together. The involvement of most lecturers and some students in school partnership programs influences lecturing. However, we should see a further increase in Indigenous staff and students on all campuses with an improved support system, dedicated spaces and appropriate programs for Aboriginal learning, and a stronger Indigenous voice on Council. During the forum, children at two schools shared their new knowledge of Wiradjuri culture in song and dance. It was that half full cup but also a cup that was overflowing with pride, a recognition of the revitalisation of their language, music and dance.

Education was seen as a way of sustaining and keeping what was working in Aboriginal culture and keeping human resources Aboriginal. For the local Wiradjuri group, there are nearby places where groups of Wiradjuri gathered. In times of drought, other groups would come to the outskirts of the main Wiradjuri grounds on the river and the land's resources were then shared. There are places of ancient grinding grooves, sources of ochre, many scar trees (a particular form of local art of relationships and stories[5] and a source of tools like coolimans[6], canoes, and shields) but all the land is our Wiradjuri land. Life depended on water courses and the food that the rivers and surrounding plains provided. Dubbo was built on a swamp (a major food, water and material source) and a bora ground. Some people knew the plant foods and the medicinal plants, others where to go. It was expressed that spirituality is knowing and learning; knowledge that is Indigenous is holistic, connected and significant. Ecocultural pedagogies are embedded in the past relationship between land and people and are the basis of the present and future funds of knowledge (Gruenewald and Smith 2008).

The past is the basis of Indigeneity, that is identity for an Indigenous person or people. Indigeneity is concerned with differentiation from the wider polity but it does not require political separation or a loss of individuality. Rather there is a balance between the rights of the individual and the collective culture (O'Sullivan 2011). The way forward for a person and a

[5] Dot painting was not a traditional form but it might help to raise self-esteem for children in school.

[6] A long carrying container that is relatively flat with upturned sides and rounded ends.

community is to have self-confidence, to be proud of self, and to have an identity part of which is working together through dedication, responsibility and democracy. Indigeneity is working together which places it as a system (Brofenbrenner's term) that presents a pedagogy for social justice.

In working together, the position of Elders in the community and their role in the various foundations of a child's education must be recognised if schools are to establish a strong learning environment for Indigenous students. The forum established an understanding of the roles of Elders in the child's development and represented it spontaneously in diagrams that were synthesised into Figure 3.

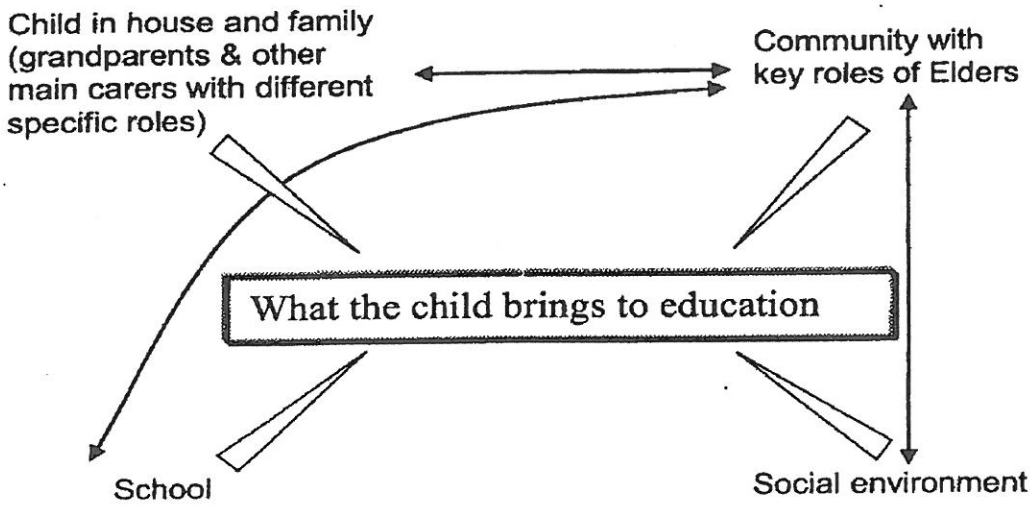

Figure 3: Elders' roles and the child's education

Figure 3 places the learner (what the child brings to education) in the centre standing on the four foundations of house and family, community with the key roles of Elders, school, and the child's social environment. The child is a part of the family and is seen as bringing knowledge, self-esteem, ways of knowing, and ways of relating to school into their formal education. This differs from ecological models that place the child separately in the centre (e.g. Brofenbrenner and Ceci, 1994). Each of the foundations for the child is itself influenced by the community with the Elders having key roles. The roles of Elders are paramount in each of the foundations.

The child in the family

Like Wiradjuri, the Sámi ideal is fostering the child. The issues for Sámi in Sweden are similar to those of Indigenous Australians due to colonisation (Jannok Nutti 2008; Johansson 2008; Owens 2008a). Language is a vital part of cultural identity. In PNG, the reform of education encourages the use of the child's home language in the first three years of schooling in particular and for there to be on-going cultural impact in the implemented curriculum. Despite studies showing the effectiveness of education in a child's home language

(Matang 2008; Paraide 2003), difficulty arises for teachers who studied under a colonised curriculum (Clarkson and Kaleva 1993). By contrast, valuing cultural contexts, maintaining culture, teaching within cultural contexts, developing context-specific strategies, meeting language differences appropriately, and having recognition of national values and national language were evident in decolonising curriculum in Sweden, Papua New Guinea and Australia (Owens 2008a, b). The issue of language remains unresolved in Australia. Both Papua New Guinea and Sweden support education being in the home language during the first three years but not Australia where English as a Second Language is emphasised rather than bilingual learning. The bidialectal project indicated that teachers in the area do not always recognise or value Aboriginal English or know of ways of using the two dialects for learning (Owens 2004; Reid et al. 2005). Its links with Wiradjuri should also be known and valued.

Quality teaching moves from home to school to home in a cyclical or spiral fashion emphasising it starts at home and is on-going and integrated (Jannok Nutti 2008; Owens 2010a; Owens and Kaleva 2008). Teachers, schools and systems should recognise the self-sufficiency and individual talents that the students bring to school and as Figure 3 suggests this is the child in the family. In addition, removing barriers around classrooms permits support networks from the home environment and caring/sharing responsibilities to be maintained.

Social environment

Commitment of the community provides a structure for utilising the roles of family members of students at the centre of education. The strength of learning in an Indigenous way emphasises sitting and listening and taking time to take in the intention of the conversation. This is not a direct way of interacting in linear time. Through community learning, children learn life skills and being smart in difficult situations. In culturally responsive pedagogy of relations in the Te Kotahitanga project, appropriate Māori cultural metaphors occur. "When educators create learning contexts within their classroom; where power is shared between self-determining individuals within non-dominating relations of interdependence; where culture counts; where learning is interactive, dialogic and spirals", the students feel respect for themselves and their culture (Te Kotahitanga 2008).

Elders in the community

Elders spoke of the importance of understanding roles related to relationship positions and that the people with roles in terms of kinship are the ones to decide relationships, provide discipline, share knowledge or teach. Teaching and knowledge sharing are undertaken in different ways according to roles and relationships. Elders decide about when, what and who should know. Knowledge is passed down according to certain roles of certain kin. The complex extended family is part of the education of a child. For example, there may be a grandmother who has provided cultural knowledge, maternal uncles

who make decisions[7], or a brother to whom people turn as the keeper of the knowledge or as having educational opportunities. Members may also have respect nationally for the role they play in the community in knowing men's or women's business and in knowing Lore[8].

To enhance the role of the Elder in the social environment, further support for families and the community is needed to keep communication channels open between all sectors in the community. Power relationships need to be designed to work in parallel rather than as opportunities for superiority. Trust, respect and self-determination options are needed. There are still perceived needs to be addressed in terms of enacted policies, continuity of employment in the education sector, a stronger community voice in decision-making, improved understandings of the roles of Elders even among Aboriginal families (e.g. the Tree of Life program for boys given by Tom Peckham and Rick Powell), and improved teacher understandings. These needs are met by cooperative learning (Verlott and Pinxten 2000), summed up as working together.

Elders role in the school

Curricula need decolonising through everyone's thinking being decolonised and through changes in systems (Tuhiwai Smith 2005). For these reasons, teacher education in Sámiland, Sweden, focuses on cognitive, cultural, communicative, creative, critical, social and didactic competences (Jannok Nutti 2008; Johansson 2008). This necessary capacity-building is part of the participatory action research in two Sámi schools undertaken in the Swedish longitudinal study which encourages parent participation in the development of curriculum in the school. The study showed that parents and teachers show a high level of awareness and cooperation in developing a culture-based local curriculum through processes of reflecting on, and creating an education incorporating the past, the present and the future (Jannok Nutti 2010; Johansson 2009). Teachers developed projects with parents and the local community around language training, dance music, joik (a Sámi way of singing), natural sciences and spirituality, storytelling pedagogy, role of Elders in the daily work, independency and responsibility, and transferring knowledge e.g. grouse hunting, stories of branding reindeer calves, and reading the signs of nature. Other challenges for teachers occur around bilingual education and revitalising of the Sámi language. Nevertheless, the continuity of education for the students was evident.

Elders from the different groups in our city agreed on the importance of increasing educational opportunities, teaching the Wiradjuri language, and increasing Indigenous education, thus recognising that identity for Indigenous students is vital for their success. However, curriculum change only occurs with recognition of and respect for the roles of the Elders. Respect revolves around the institution and teachers attaining credibility with the Elders, providing feedback to the Elders about outcomes, providing time for sharing circles, recognising education begins at home, and that there is a strong kinship system providing responsibility for learning and issues such as attendance. A relevant Wiradjuri curriculum based on place incorporates

[7] Wiradjuri is a matrilineal society.
[8] Lore may be more evident in more remote communities.

cultural and spiritual aspects in it and in assessment (cf, the lack of place-based assessment in national testing, Hattie and Brown 2007; Victorian Curriculum and Assessment Authority 2008). Donovan (Donovan 2008) explains that Aboriginal pedagogy and supporting culture are ways of ensuring that the curriculum and the teaching support Aboriginal students. If the curriculum reflects the culture, there is no dumbing down of the intellectual quality of the learning but knowledge is problematised and connected requiring higher order thinking. Recognition of the home-developed cultural knowledge and ways of learning, including Aboriginal English, is needed.

The Elders emphasise that teachers should know that some things might not be appropriate to share but they accept their feelings of ignorance, confident that relationships are what count rather than knowledge. Teachers cannot expect knowledge if that information belongs with a keeper and that person's position.

The Elders bring Indigenous knowledge of the appropriate content and strategies for learning. Their involvement is the beginning of community involvement in the classroom. Through community participation, preferably as paid employees (e.g. teachers), the house and family relationships and roles, and the family interactions in the community are the basis of the continuing education. There are responsibilities and roles of different members of the community that need to be recognised in the structure of school-community relationships.

Whole of school awareness of these community roles, values and responsibilities comes through community tutors and through teachers having the attitude that the community has a role in the students' lives. There will be continuity and sustainability if the relationships, trust, respect, responsibility and commitment are present when community, home, school, language and culture are drawn together into the circle. A principal from a Dubbo primary school noted at an Aboriginal Education Consultative Group (AECG) meeting that the increase in student attendance and improved behaviour correlated with changes in teachers' attitudes when the 8-ways program (Yunkaporta and McGinty 2009) was introduced. A similar comment from the Orange AECG was made about the Stronger Smarter Learning Communities project (Smarter Stronger Institute Queensland University of Technology 2010). The power relationships were changing within the schools as teachers accepted the Indigenous funds of knowledge on ways of learning.

For adequate transition from home to school, two-way home-school support structures together with long-term specific school transition programs (a year or more). Working with support over this longer period is one way of bridging language, expectations, changing support structures, and ways of learning. Nevertheless, the transition continues throughout school (Owens 2008a, 2010b). Goals for students are being negotiated with parents and the child in Personalised Learning Programs and Positive Behaviour for Learning plans. As in other countries like Sweden, it often requires the presence of an intermediary who is employed by the school. Students cross cultural borders (Aikenhead 2001b; Jegede and Aikenhead 1999); they transit from the eco-cultural environment that is holistic in its acquisition and understanding of knowledge to the fragmented symbolic knowledge of school. The ease with which they make this transition is crucial for engaging and learning school knowledge, skills, attitudes, values, and language. It needs to be a two-way

road such as the work at Yirrakala (Thornton and Watson-Verran 1996). The school recognises home cultural values and views, and acknowledges the source of knowledge learning as central to the school learning. School goals are modified by ensuring specificity appropriate for the local place. For example, the early English readers take account of place, social systems and environmental science of the community. The result is the development of school knowledge that is less fragmented in its presentation and more relevant to the place (Gruenewald 2008). In the two-way process, Indigenous knowledge incorporates school knowledge and technologies as evident again in Northern Territory programs (Trudgen 2000) and 8-ways program in NSW (Yunkaporta and McGinty 2009). Both school and Indigenous community can value ways of learning such as collaboration and support, respect and relationships (Aikenhead 2001b; Jegede and Aikenhead 1999). In the two-way process, Elders play a critical role that is to be understood, respected, and valued by the school.

Conclusion

The authors and other Indigenous members of the Dubbo community shared stories, research, experiences, worldviews, values and understandings during a three day forum. Histories, academic papers, poetry and song were shared and discussed. Existing and new relationships were forged and strengthened with continuing communication through the year. During the forum, an educational approach was developed that took account of the emerging taken-as-shared knowledges and understandings. The theoretical approach was an ecocultural pedagogy, a critical pedagogy of place, requiring partnerships between communities and schools with schools respecting and building upon the funds of knowledge available within families. In this theoretical perspective, the child is seen as one with the family for there will be many areas of knowledge that are not spoken of, are invisible and intuitive. Crossing into the school is not dysfunctional but enriched since it is undertaken with the Elders as leaders, decision-makers, guides and supporters. The role of Elders and the relationships which they develop in the community are complemented by their position in the border crossing itself, in the family and in the social environment of the child (Figure 3).

In this ecocultural approach, Elders play a key role in education within the Indigenous community where education is perceived as self-regulating, investigative and taking a risk to solve problems. Education for Indigenous communities starts with the Elders and their underlying support of the child. Taking on this perspective, the dynamics of the school systems change. With these changes in authority and power, a critical pedagogy develops that differs from the western, centralised school system imposed by national and state curricula and national testing. Elders and teachers negotiate the meaning of these curricula together.

The centre for this negotiation is the place, the outdoors, the physical, and the relationship with these places which the Indigenous Elders share with the teachers and children. "One hazard, then, in negotiating the cultural borders between the subculture of science and the everyday world is the need to restructure or transform scientific knowledge. (One advantage of Aboriginal knowledge of nature is that it comes already contextualised, and hence there

is no need to restructure it before putting it to use.)" (Aikenhead 1998: 11). This sharing or teaching will not be linear just as the yarning above flowed back and forth. Learning will continue through time as trust and respect develop. The learning provided by the past Elders and leaders as illustrated in this article is seen as a continuity with the present and future thus sustaining relationships, culture and land.

The school that works with the community can establish the relationships, trust and respect of the learners as a continuation of ecocultural pedagogies and knowledges established within the family and community. However, the teacher becomes aware of the effects of colonisation on their own thinking and the processes by which they can decolonise their thinking. Briefly this is through equal partnerships, listening in yarning, planning with community, and involving Elders, community, and family in schooling. The result will be modification of goals, processes, and evaluations.

References

Aikenhead, G. 1998. 'Many students cross cultural borders to learn science: Implications for teaching'. *Australian Science Teachers Journal* 44(4):9-12.

Aikenhead, G. 2001a. 'Integrating Western and Aboriginal Sciences: Cross-Cultural Science Teaching'. *Research in Science Education* 31(3):337-355.

Aikenhead, G. 2001b. 'Worldviews, students, science teachers, school science. Where to next?'. *Studies in Science Education* 36.

Averill, R., D. Anderson, H. Easton, P. n. Te Maro, D. Smith and A. Hynds. 2009. 'Culturally responsive teaching of mathematics: Three models from linked studies'. *Journal for Research in Mathematics Education* 40(2):157-186.

Barlow, K. 2008. 'Kirby on life and love - speech to graduating students, Griffith University'. *AM*. Australia: ABC.

Battiste, M. ed. 2000. *Reclaiming Indigenous voice and vision*. Vancouver, BC, Canada: UBC Press.

Bhabha, H. K. 1995. *The location of culture*. London: Routledge.

Bindarriyl, Yangarriny, Mingalpa and Warlkungi. 1991. 'Obstacles to Aborinal pedagogy'. In R. Bunbury, W. Hastings, J. Henry and R. McTaggart (eds.). *Aboriginal pedagogy: Aboriginal teachers speak out - Blekbala wei, deme nayin, yolhgu rom, ngini nginingawula, ngawuranungurumagi*. Geelong, Vic: Deakin University Press.

Brofenbrenner, U. and S. Ceci. 1994. 'Nature-nurture reconceptualized in developmental perspective: A bioecological model'. *Psychological Review* 101(4):568.

Charles Sturt University. 2008. 'Statement on Reconciliation'.

Clarkson, P. C. and W. Kaleva. 1993. 'Mathematics education in Papua New Guinea'. G. Bell (ed.). *Asian perspectives on mathematics education*. Lismore: Northern Rivers Mathematical Association.

Comber, B., H. Nixon and J.-A. Reid (eds.). 2007. *Literacies in place*. Sydney: Primary Teachers Association.

de Abreu, G , A. Bishop and N. Presmeg (eds.). 2002. *Transitions between contexts of mathematical practices*. Dordrecht, The Netherlands: Kluwer.

Department of Education, Employment, and Workplace Relations. 2005. 'Policies and issues related to Indigenous education'. DEEWR.

Department of Education, Employment, and Workplace Relations. 2008. 'Family-school partnerships framework'. DEEWR.

Dockett, S., T. Mason and B. Perry. 2006. 'Successful transition to school for Australian Aboriginal children'. *Childhood Education* 82(3):139-144.

Dockett, S., B. Perry, T. Mason, T. Simpson, P. Howard, D. Whitton, S. Gilbert, S. Pearce, S. Sanagavarapu, J. Skattebol and C. Woodrow. 2007. 'Getting it together: Successful transition programs from prior-to-school to school for Aboriginal and Torres Strait Islander children'. Canberra: MCEETYA.

Donovan, M. 2008. 'Quality teaching and Aboriginal students. A NSW model'. *Journal of Australian Indigenous Issues* 12:104-115.

Doolan, F. 2004. 'To Charlie, Our first graduate'.
Doolan, F. 2008. 'The Uni and blackfellas stories'.
Dormer, M. 1981. *Dubbo to the turn of the century, 1818-1900*. Dubbo NSW, Australia: Macquarie Publications.
Dormer, M. 1988. *Dubbo, city on the plains, 1901-1988*. Dubbo NSW, Australia: Macquarie Publications.
Forrest, S. 2009. 'Boodja Marr Karl: A whole of community approach to Aboriginal education: The development of a cultural framework for Aboriginal participation in education and schooling'. *Journal of Australian Indigenous Issues* 12(1-4):278-288.
Gervasoni, A. 2005. *Australian Catholic University - Pursuing its mission to engage with communities: A case study of the Melbourne and Ballarat campuses. A research report for the Australian Consortium of Higher Education*. Melbourne: Australian Catholic University.
González, N., L. Moll and C. Amanti eds. 2005. *Funds of knowledge: Theorizing practice in households, communities, and classrooms*. Mahwah, NJ: Lawrence Erlbaum.
Gruenewald, D. 2008. 'The best of both worlds: A critical pedagogy of place'. *Environmental Education Research* 14(3):308-324.
Gruenewald, D. and G. Smith. 2008. *Place-based education in a global age: Local diversity*. New York, NY: Lawrence Erlbaum.
Harris, J. 1990. *One blood: 200 years of Aboriginal encounter with Christianity: A story of hope*. Sydney: Albatross Books.
Hattie, J. A. C. and G. T. L. Brown. 2007. 'Technology for School-Based Assessment and Assessment for Learning: Development Principles from New Zealand'. *Journal of Educational Technology Systems* 36(2):189-201.
Hill, J. 2007. 'The old mission gate.' In *Memories and messages:Songs and stories of Uncle John Hill*: Chloe and Jason Roweth.
Hockey, A. 2008. 'A new beginning: Indigenous education'. *Professional Educator* 7(3):34-37.
Honest John. 1990. *My destructive ways*. Kyogle, NSW, Australia: Upper Eden Publication.
Horner, J. 1994. *Bill Ferguson: Fighter for Aboriginal freedom: A biography*. Canberra: Author.
Jannok Nutti, Y. 2008. 'Sámi education in mathematics - A school development action research project'. *Journal of Australian Indigenous Issues* 12:177-185.
Jannok Nutti, Y. 2010. 'Ripsteg mot spetskunskap i samisk matematik: Lärares perspektive på transformeringsaktiviteter i samisk förskola ock sameskola'. Luleå, Sweden: Luleå Tekniska Universitet.
Jegede, P. J. and G. S. Aikenhead. 1999. 'Transcending cultural borders: Implications for science teaching'. *Research in Science and Technological Education* 17(1):45-66.
Johansson, G. 2008. 'Cultural knowledge in school curriculum in practice - decolonizing processes and school development at Sámi schools in Sweden'. *Paper presented at the World Indigenous Peoples Conference on Education*. Melbourne, Australia.
Johansson, G. 2009. 'Parental involvement in the development of a culture-based school curriculum'. *Intercultural Education* 20(4):311-319.
Laughlin, A. and D. Ella. 2004. 'The report of the review of Aboriginal education. *Yanigurra Muya: Ganggurrinyma Yaarri Guurulaw Yirringin.gurray - Freeing the Spirit: Dreaming an Equal Future*'. Sydney: New South Wales Department of Education and Training
Martin, K. 2008. 'The intersection of Aboriginal knowledges, Aboriginal literacie and new learning pedagogy for Aboriginal students'. In A. Healey (ed.). *Multiliteracies and diversity in education: New pedagogies for expanding landscapes*. Melbourne: Oxford.
Matang, R. 2008. 'Enhancing children's formal learning of early number knowledge through Indigenous languages and ethnomathematics: The case of Papua New Guinea mathematics curriculum reform experience'. In *11th International Congress on Mathematics Education*. Monterray, Mexico.
McGuiness R. et al. and photographs by M. Riley. ~2000. *Yarns from the Talbragar reserve*. Dubbo NSW, Australia: Dubbo Regional Gallery.
Ministerial Council on Education, Employment, Training and Youth Affairs. 2005. Australian directions in Indigenous education 2005-2008. MCEETYA.
Moroney, W. and P. Brinkworth eds. 2003. *Springboards into numeracy: Proceedings of the National Numeracy Conference*. Adelaide, Australia: The Australian Association of Mathematics Teachers.
New South Wales Department of Education and Training. 2003. *Quality Teaching in NSW Public Schools*. Sydney: Author.

New South Wales Department of Education and Training. 2005. *Aboriginal Education Policy* (replaced in 2008). Sydney.
New South Wales Department of Education and Training. 2008. *Aboriginal Education and Training Policy*. Sydney.
O'Sullivan, D. 2011. 'Democracy, power and Indigeneity'. *Australian Journal of Politics and History* 57(1):86-101.
Owens, K. 2004. *Report on the Bidialectal Approach to Writing Standard Australian English Project 2003*. Sydney: Aboriginal Programs Unit, NSW Department of Education and Training.
Owens, K. 2008a. 'Culturality in mathematics education: A comparative study'. *Nordic Studies in Mathematics Education* 13(4):7-28.
Owens, K. 2008b. 'Diversity of approaches to mathematics education in a cultural context'. *Proceedings of the conference of the International Study Group on the Relations between History and Pedagogy of Mathematics, HPM2008*. Mexico City: Organising Committee HPM2008.
Owens, K. 2010a. 'Changing our view on space: Place mathematics as a human endeavour'. In J. Bana and J. Malone (eds.). *Annual conference of the Mathematics Education Research Group of Australasia*. Perth: MERGA.
Owens, K. 2010b. 'Policies and Practices: Indigenous voices in education'. In J. Shirley (ed.). *The Fourth International Conference on Ethnomathematics ICEm4*. Towson.
Owens, K. and W. Kaleva. 2008. 'Case studies of mathematical thinking about area in Papua New Guinea'. In O Figueras, J Cortina, S Alatorre, T Rojano and A Sepúlveda (eds.). *Annual conference of the International Group for the Psychology of Mathematics Education (PME) and North America chapter of PME, PME32 - PMENAXXX*. Morelia, Mexico: Organising Committee of PME32-PMENAXX.
Paraide, P. 2003. 'What skills have they mastered?' *The National Education Reform: Where Now, Where to?* Goroka.
Parbury, N. 2005. *Survival: A history of Aboriginal life in New South Wales*. Sydney: NSW Department of Aboriginal Affairs.
Paredes-Canilao, N. 2006. 'Decolonising Subjects from the Discourse of Difference'. *Journal of Multicultural Discourses* 1(1):6-26.
Pinxten, R., I. van Dooren and F. Harvey. 1983. *The anthropology of space: Explorations into the natural philosophy and semantics of the Navajo*. Philadelphia: University of Pennsylvania Press.
Reid, J.-A., Owens, K., Bennet, M., Coombe, K. & Hill, Y. 2005. *Report on the Bidialectal Approach to writing Standard Australian English, 2004*. Sydney: Aboriginal Programs Unit. NSW Department of Education and Training.
Slack-Smith, J. 2008. *Communities for Children - Dubbo Narromine, Wellington: Reflections on the initiative and on-going evaluation - An interim report*. Wilcannia, NSW: Centacare.
Smarter Stronger Institute Queensland University of Technology. 2010. *Smarter Stronger Learning Communities*. QUT.
Smith, N. and C. Katz. 1993. 'Grounding metaphor: Toward a spatialized politics.' In M Keith and S Pile (eds.). *Places and the politics of identity*. London: Routledge.
Sobel, D. 2008. *Childhood and nature: Design principles for educators*. Portland, Me: Stenhouse Publishers.
Solbakk, J., A. Solbakk, G. Guttorm, H. Gaski and L. Vars. 2007. *Traditional knowledge and copyright*. Kárášjohka, Norway: Sámikopiija.
Spencer, M. 2006. 'Phenomenology and ecological systems theory: Development of diverse groups.' In R. Lerner and W. Damon (eds.). *Handbook of child psychology: Volume 1, Theoretical models of human development*. 6th Edition. Hoboken, NJ: John Wiley and Sons.
Stanton, R. 1994. 'Mathematics "Both Ways": A mathematics curriculum for Aboriginal teacher education students'. *For the Learning of Mathematics* 14(3):15-23.
Te Kotahitanga. 2008. Research Unit, Massey University.
Thornton, M. B. and H. Watson-Verran. 1996. *Living maths*. Abbotsford, Victoria: Yirrkala Community School and Boulder Valley Films.
Trudgen, R. 2000. *Why warriors lie down and die: Towards an understanding of why the Aboriginal people of Arnhem Land face the greatest crisis in health and education*

since European contact: djambatj mala. Darwin, Australia: Aboriginal Resource & Development Services Inc.

Tuhiwai Smith, L. 2005. *Decolonizing methodologies: Research and Indigenous peoples* London: Zed Books.

Verlott, M. and R. Pinxten. 2000. 'Intercultural educatin and complex instruction. Some remarks and questions from an anthropological perspective on learning'. *Intercultural Education* 11 (Supplement).

Victorian Curriculum and Assessment Authority. 2008. 'NAPLAN tests.'

Yunkaporta, T. and S. McGinty. 2009. 'Reclaiming Aboriginal knowledge at the cultural interface'. *The Australian Educational Researcher* 36(2):55-72.