

# **PARTICIPATORY DESIGN FOR DEMOCRACY AND WELLBEING: NARROWING THE GAP BETWEEN SERVICE OUTCOMES AND PERCEIVED NEEDS**

## **ABSTRACT**

The research is funded by an Australian Research Council Linkage Project with the South Australian Department of Health, Flinders University, University of South Australia and Neporendi Forum Inc, an Aboriginal NGO and in partnership with Anglicare. The multidisciplinary research ensures that the service users together with the providers design what works, why and how on the basis of their perceptions of successful outcomes that have achieved wellbeing. This paper explains how narratives told by Aboriginal service users and Aboriginal service providers on what works, why and how provide the basis for redesigning the approach to complex interrelated problems associated with unemployment, alcohol, domestic violence and homelessness. Co-researchers address how the service users strive to achieve wellbeing in terms of their lived experiences and is thus far more than information management.

## **1. INTRODUCTION: USER CENTRIC DESIGN FOR WELLBEING**

Wellbeing can be defined as social, cultural , political , economic and environmental sustainability. It is a systemic approach (McIntyre-Mills 2006c). The Public Health Advisory Committee, New Zealand, 2007) stresses that wellbeing *“is an idea whose time has come”*. This research develops and tests out a means to undertake health impact assessment in a systemic manner with local Aboriginal participants who are to be affected by the consequences of decisions.

## **2. RESEARCH BACKGROUND**

The research aims to design and test out a process that could achieve a better match between service outcomes and perceived needs, based on the expertise of the service users.

The SA Aboriginal community initiated the research and are the co-owners of the research process and its outcomes. Neporendi is representative of the issues faced by Indigenous communities in other areas of Australia, such as: high levels of health-related issues, unemployment, homelessness, family violence and reduced education opportunities. The effects of family violence are wide-ranging, for instance: the criminalization of the offenders has financial, physical and psychological consequences for the women, children and men involved. It also has intergenerational consequences. Social inclusion, homelessness, unemployment, gambling, family violence and drug misuse are facets of a complex, interrelated problem that requires a coordinated governance response across departments in the public, private and non-government sectors. However, current compartmentalized thinking in respect of some aspects of human services has led to disciplinary specializations. Service providers need to

develop the capacity to work across disciplines and to understand better the nature of “joined up” social problems as they relate to social well-being and governance (See Ogawa 2000, Davies and Kelly, 1993; Ackoff and Pourdehnad, 2001; Duhl, 2002; Gaventa, 2001). This is not merely a change to policy and practice, but a move away from the perception and definition of issues in separate compartments.

### 3. STATEMENT OF THE PROBLEM

The rationale for the research is twofold:

- Firstly, complex problems need to be addressed by means of responsive and participatory policy processes that are implemented by interagency responses.
- Secondly, interagency responses are difficult to manage effectively and need to be accountable to the principals they serve and to the other agents with whom they collaborate (Gath. 2005).

### 4. RESEARCH APPROACH

The research is systemic in that the users tell the providers what works, why and how and they design a better way of doing things, thereby contributing to participatory democracy (McIntyre –Mills 2003, 2004, 2005a, b). Complexity can be understood in stories and pictures and they form the basis for trying to model complex responses to needs. It is profoundly sad to tell a story and then not to receive a response. The theory of sociocybernetics (Beer 1974) stresses that understanding non linear relationships is a first step to developing policy responses. The purpose of this research is to explore the relationships more deeply with service users and housing providers in the public and private sectors, in order to build trust and mutual understanding to enhance the policy performance match between agents and principals (Warren, 1999, Uslaner 1999). A design for healing was created by Aboriginal **service users** and the Health Department **service providers**, many of whom are Aboriginal. The holistic approach is in line with Aboriginal understandings of health and wellbeing. The integration of services, and consumer and community participation are key platforms of the South Australian Government’s “First Steps Forward” plan (arising from the Generational Health Review)<sup>1</sup>.

The steps<sup>2</sup> for undertaking the research are as follows:

1. Invitation to do action research with Neporendi, on basis of previous research.
2. Establishing rapport through participatory action research project on domestic violence funded through a small grant from Community Benefit SA and participation as a volunteer
3. Listening actively to narratives and not judging or passing judgmental comments. Narrative enables people to explore and reflect and make meaning
4. Identification of the area of concern with the participants and the formation of a partnership that built on previous research in South Australia and Central Australia with Aboriginal Australians.

<sup>1</sup> The team comprises researchers from Flinders University and University of South Australia, SA Department of Health and Aboriginal NGO Aboriginal Forum Inc.

5. An ethics approval process that involved all the partner organizations and the Aboriginal elders.
6. Developing relationships and trust based on past work, current continuity and availability and future commitment Narratives and response to 5 conversation prompts/questions collected from service users and providers which explored the problems.
7. Data collection from observation, listening to narratives. Analysis of rich pictures from participants.
8. Creating personal meaning maps through drawing soft systems maps .
9. Creating shared group maps and identifying archetypes in an iterative approach using PAR
10. Participants are encouraged to identify patterns for themselves and to learn from their experiences.
11. Testing the patterns of response by asking whether the users agree with them
12. Enabling comparison between their story and the typical stories from which they select on the basis of choosing the cluster of core factors that characterize particular narratives.
13. Construction of soft systems maps, coding and analyzing the narratives and descriptions, giving weightings to the number of times items were mentioned.
14. Developing a proforma for the design of a knowledge base, based on the emergent themes
15. Testing the design by using a walk through based on questions and ticking off factors from a map created by all the participants
16. Self selection of factors from the NVivo “ factor map” of core building blocks will help to identify which archetype they are closest to. Personalising the factor map by adding factors by placing the new factor as close as possible to existing factors and describing the new factor. Conditional scenarios will enable participants to assess the implications for making changes in their lives.

Problems were mapped as tasks and processes to “what”, “how” and “so what will be the benefit and to whom?” questions. Soft systems thinking focuses on tasks, processes and the rationale for the way we think about problems. Soft systems refer to the “why” questions or rationale for thinking and practice. The use of conversation, art and cooking was thought to be useful as a means to create opportunities to work with participants by building on activities that families identified as enjoyable. **Designing and developing** a system of healing pathways or tracks based on the experiences of those who have shared their wisdom in a workshop with participants from Neporendi. The healing pathway is a generic for all current and future service users. The system could help the users to test out ideas with service providers in order to find the best match of services to meet their needs and expectations.

According to Roddick (ARC application 2004): “IT computing has rarely, if ever, been applied successfully to perceptions”, because it has not been responsive to a range of systemic dimensions and most importantly to values and emotions. Cornelius (1996: 138) stresses that weighting emotions has not really worked effectively, that is because it depends on who does the weighting and in what context. Our approach is not to model and predict universal outcomes, but merely to provide a decision making tool that responds and learns from both users and providers perceptions (and weighting, see the appendix). But ultimately it is the service user who will make the decision based on what a service provider suggests within a specific context. Our approach is to construct a system together with our partner organizations using ethnographic narrative, systemic conversation and mapping verbally through storytelling or picturing that:

- Provides options, rather than single recommendations,
- Learns from successes,
- Is user-friendly.

Narratives are the means by which we make sense of our experiences. Our identities are shaped by many factors age, gender, level of education culture contribute to our life chances and how we see ourselves and are seen by others. By our relationships with others are also important. By enabling service users to think about their thinking through telling narratives about how they perceive the factors that support or undermine wellbeing

The following questions were developed with board members, a female community worker employed by the organization and were checked by both male and female elders, prior to the research:

Socio-demographic details

- Name
- Age [asked at the end of the interview]
- Gender
- Schooling /qualifications [asked at the end of the interview]
- Type of employment [asked at the end of the interview]
- What does well-being mean to you? [This is asked so that the informant can talk discursively about health in a broad manner]

Please give some examples of times in the last day, week, year or recent past when you have not been well. Have you/your family/members of your network [specify and make sure that people are given the option to be vague about whether they are talking about themselves, their extended family – because it can shame people and it is culturally impolite to be too direct] experienced any of the following in the last day, week or year/recent past?:

What services/interventions did you access? Why? What was your experience? [the question is not designed to address only traditional health services- informants regards employment, education, supportive family and friends- life style and spirituality and culture as important]

What worked? What are the best stories of successful interventions? Why? How?

What interventions did not work and why?

What can you teach the service providers so that they can provide a better service outcome?

Please draw a picture with me of what makes you feel well and unwell and give suggestions how to make the situation better. [Rich picturing technique is used]

At the Council of Australian Government's meeting (10 Feb. 2006) policy emphasized promotion of wellbeing through health, education and employment along with promotion of mental health. Wellbeing is an issue for all Australians, but Aboriginal Australians are arguably disadvantaged. Chesterman and Galligan (1997) explore the notion of "citizens without rights" and consider whether other forms of democracy and governance can address life chances. Better processes to ensure social inclusion and participatory democracy could address wellbeing more effectively. These issues of accounting and accountability have been raised by Indigenous thinkers internationally (Gallhofer, S. and Chew, A., 2000).

User centric design is based on telling narratives and exploring perceived ontologies. The next step is to analyze the discourses for patterns (Christakis and Bausch 2006 and Van Gigch 1991, 2003 on meta modelling). Making sense of perceptions is through identification of patterns and making meaning/sense of the patterns based on weighting the choices. The number of times particular themes were raised or particular service choices made equals a weighting. Having established that the challenge of addressing complex health, housing, alcohol related problems, we decided to establish the interrelated web of factors that support well being what works, why and how.

Typical narratives were developed on the basis of core factors identified by means of mind maps<sup>3</sup>. Because the stories were gathered over many years, it was possible to map out movement and variation in the stories of women. The notion of being and becoming (Deleuze and Guattari in Bogue 1989) is explored as it is central to transformation and emergence (Atkinson (2002).

The focus of the conversations was on what makes people well and how things could be done better.<sup>4</sup> The idea of enabling people to become designers of interventions developed through a series of conversations in a range of contexts with service users and providers. In these conversations the importance of relationships was stressed as a means to explore options with service users. Healing is a form of two –way learning. To engage in the process requires respect, hope, trust and a sense of agency. This requires relationship building. Our hope was not to create a computer program to replace the process of building a relationship with a carer, but to enable service users to explore their own lives, by drawing on the wisdom of previous participants and then to add their own stories of what works why and how.

Complex, rich stories reveal patterns, but they are merely guidelines for people to make their own pathways, with the guidance of a service provider or community development facilitator who will listen actively and support the service user to achieve the combination of services and interventions needed for their unique circumstances. Rich organic metaphors were suggested by the designers. organic analogies



<sup>3</sup> The research was based on narratives collected over more than three years of participatory action research, during which stories were updated by participants who were part of the extended Neporendi network in the Southern Region of Adelaide, South Australia. Mentoring and support by Aboriginal men and women was core to the research which was about building and establishing rapport and trust. As time past layers of story were shared whilst engaged in extended participatory action research.

<sup>4</sup> I was very mindful that the conversation be pleasant and engaging. Issues were raised easily because people were not asked to talk about themselves but about others made conversations easier and less intrusive. The following questions were developed with board members, a community worker employed by the organization and were checked by a woman's group and an elders group, prior to the research:



Healing through art and weaving draws together the strands of experience. Yarning and respectful listening helps to make sense of experience (Wisdom of the Aboriginal elders and artist, Anna Willaby).

A participatory action research approach enables participants to tell narratives and engage in conversations leading to the design of a proforma by an informatics programmer to map the relationships across variables. The evaluation of the project will discuss the extent to which their awareness of their own circumstances will be expanded through doing so-called 'mental walk throughs' along the 'dreaming paths'.

Each of the 50 *participant service users* have contributed to the design of the knowledge base through their initial research conversations and the use of organic analogies (see McIntyre-Mills 2007). The analogy of healing through weaving together strands of experience is central and powerfully resonant to the Narranjiri women, as are the analogies of pathways in the landscape of life and branches in the tree of life. The next steps were to discuss the mapping with the co-designers and to test out the ideas in a pilot study with the service providers to ascertain if the system enabled better outcomes to be achieved as far as the users are concerned.

Each of the 50 *participant service providers* have contributed to the design of the knowledge base through their research conversations.

The first phase of the conversations revealed the following themes as factors to be considered in an integrated approach to complex problems: escaping violence or bad situation, finding safe housing, mental health, social inclusion, education, employment, poverty, depression, gambling, alcohol and other drugs, violence, racism, diabetes, renal dialysis, death, mourning and sorry business, moving around and travel associated with visiting or leaving a bad situation, sense of connection and belonging. "Dropping the ball" or being unable to cope is the result when too many issues need to be juggled.

The survivors against the odds stressed that a host of factors *together* made it possible for them to achieve transformation in their lives. Success stories have the potential to lead to simplifications or become nothing more than motivational story telling unless other stories span a range of life chances. The next step was to develop a

proforma for the design of a knowledge base, based on the emergent themes to address solutions<sup>5</sup>. We tested the design by using a walk through of a computer program based on questions and ticking off factors from a map created by all the participants.

Participants were asked to self select factors from the NVivo “factor map” of core building blocks will help to identify which archetype they are closest to. Personalising the factor map by adding factors by placing the new factor as close as possible to existing factors and describing the new factor. It is anticipated that when the process is tested the service users will give their perceptions of what works why and how and then the interactive process will enable better matches, thus enhancing “cognitive capability , namely perceiving, imagining and thinking (Nussbaum 1995 : 77).

Service users were encouraged to:

1. identify with a) typical stories by comparing their own lives with the typical stories, by selecting the factors that characterize the story and identifying the factors that make their own story unique. These new factors are added to the map.b) factors that are relevant in their lives. If they mention a factor that is not there it will be added by positioning the new factor next to the closest factor already mapped.
2. explore the scenario of ‘what if I were to make one small change in my life? What would the implications be for my life?’
  - identify the turning points and the barriers and discuss how the patterns in their own lives are similar or different.
  - consider the impact that taking a step in a different direction will have on their lives.

This process could help people to realize that they are not alone and that their private trouble is often a public issue that is shared by others who have helped by sharing their stories for the benefit of others. Violence and violation are public issues that can be addressed by enabling people to make a choice to move into a more positive way of life through action learning from others lived experience.

## 5. HEALING PATHWAYS AND CONTEXTUAL MATCHES

Conversations lead to my being shown artwork that represented in both abstract and associational terms that life is about making a journey, personal growth, being rooted in culture and reaching out to others. Choices are made on the basis of learning from experience. The value of this project is that the learned experiences can be shared with one another. Based on an analysis of the data, wellbeing for service users can be described in terms of the following 6 typologies that will be used as typical scenarios in our computer program:

1. ‘*Being employed*’ and ‘able to help others’, because their ‘life is in balance’
2. ‘*Rebuilding*’
3. ‘*Making a transition*’ by using a combination of services
4. ‘*Keeping it together*’ after leaving a violent situation and trying to control drug and alcohol misuse – use cigarettes extensively
5. ‘*Making the break*’ from an unsatisfactory way of life
6. ‘*Not coping*’ and unable to leave or repeatedly returning to a violent situation.

Instead of using a flat continuum from 1-6, we modelled a series of overlapping spirals spanning holistic, integrated service delivery to fragmented and compartmentalised delivery of services as options with many variants in between (See Downes 2006: 36). Those who are most in need require the most integrated services and the most participation in decision making. Those who are least in need require the least integrated services and are able to draw together services for themselves and act as facilitators for others, volunteers in service delivery or act as service providers for others. The challenge is to map the turning points for the a) better or b) worse that lead to changes in life and to c) identify the barriers from the point of view of both service providers and users.

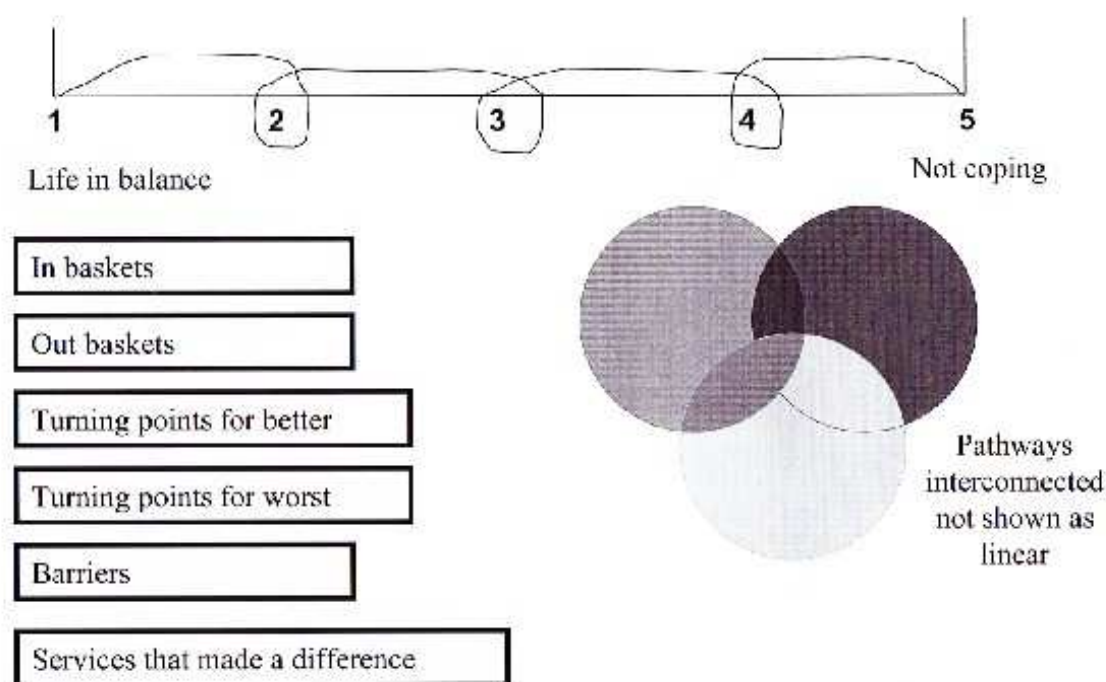


Figure -2. Healing Pathways in McIntyre-Mills et al 2006:287.

The data organised within the proformas highlighted the themes and the relationships between them (Figure 1). Further analysis and organization into an ontology of issues will fully describe these themes and provide the structure for discovering “pathways” for the individual( Figure 2,3) .



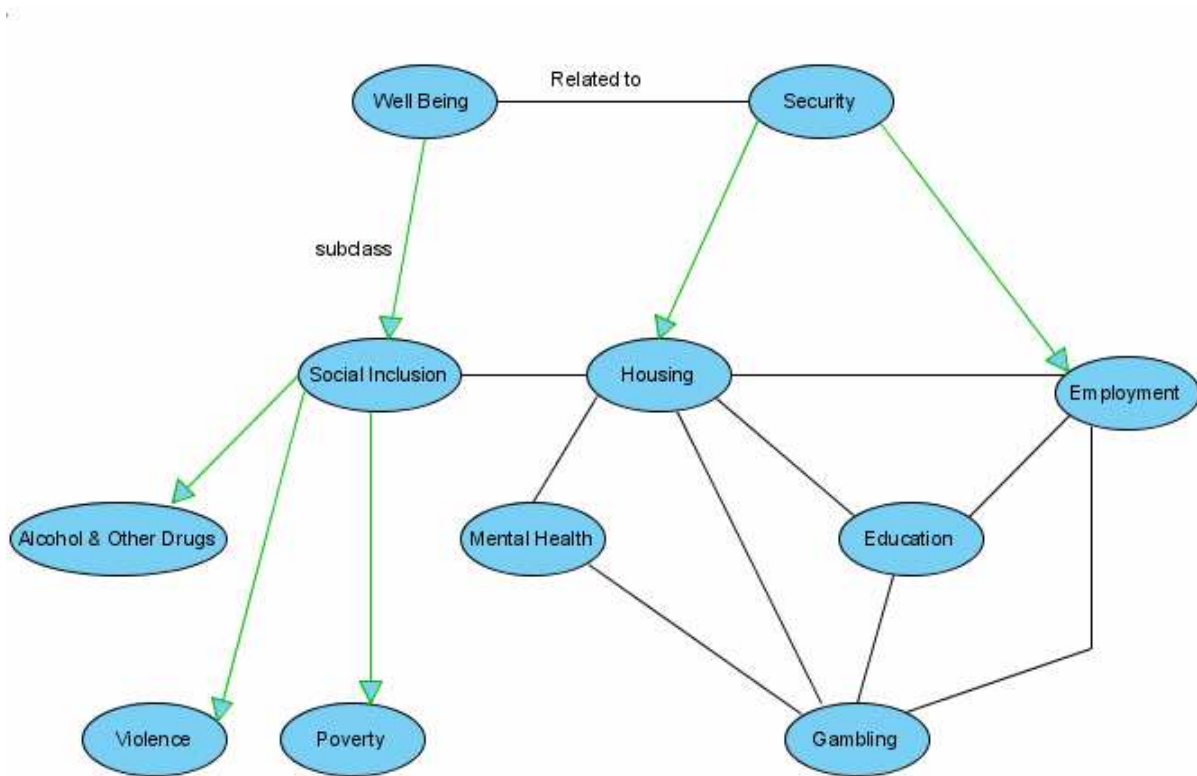


Figure 3. Graphical structure of issues and their inter-relationships (De Vries in McIntyre-Mills et al 2006: 295)

The interface will be designed as detailed in Figure 4 below:

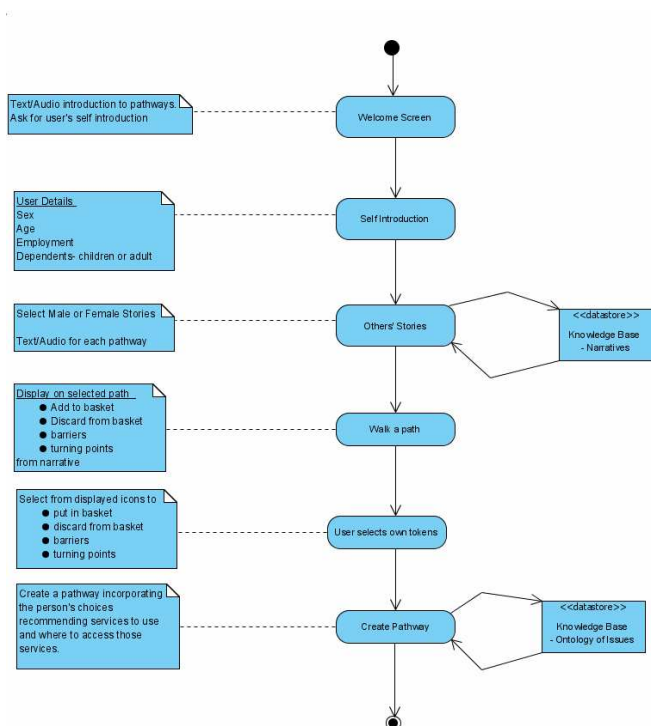


Figure 4: Activity diagram for Pathway Creation (De Vries, 2006 in McIntyre-Mills et al 2006 :297)

These patterns are drawn from analysing the stories of women and men. Wellbeing can be seen as a function of the following, as detailed in Figure 5:

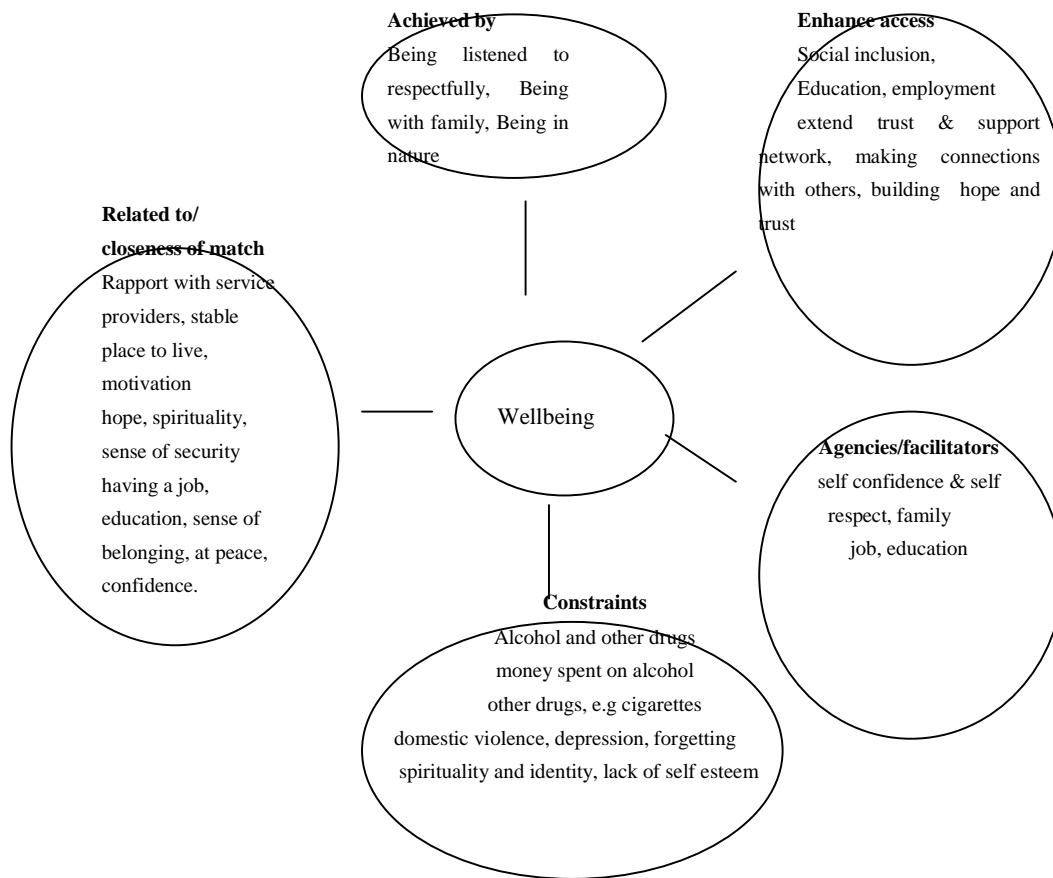


Figure 5: Map for the proforma

Combinations of 5 axial factors appear important at this stage of the analysis:

- **Home safety** (and being free of violence)
- **Health** (physical and mental health – appearance , energy)
- **Purpose** (Formal Employment or preparation for employment /profession employment/CDEP / training /education)
- **Connection/belonging** ( people and place), volunteering, community leadership and cultural spirituality
- **Self respect and confidence**, feeling good about oneself which is linked with being able to access services, work, study, maintain a stable home for children.

The inference from the analysis of the data so far is that by providing a combination of safe housing, meeting basic physical needs then accessing education and employment become possible.

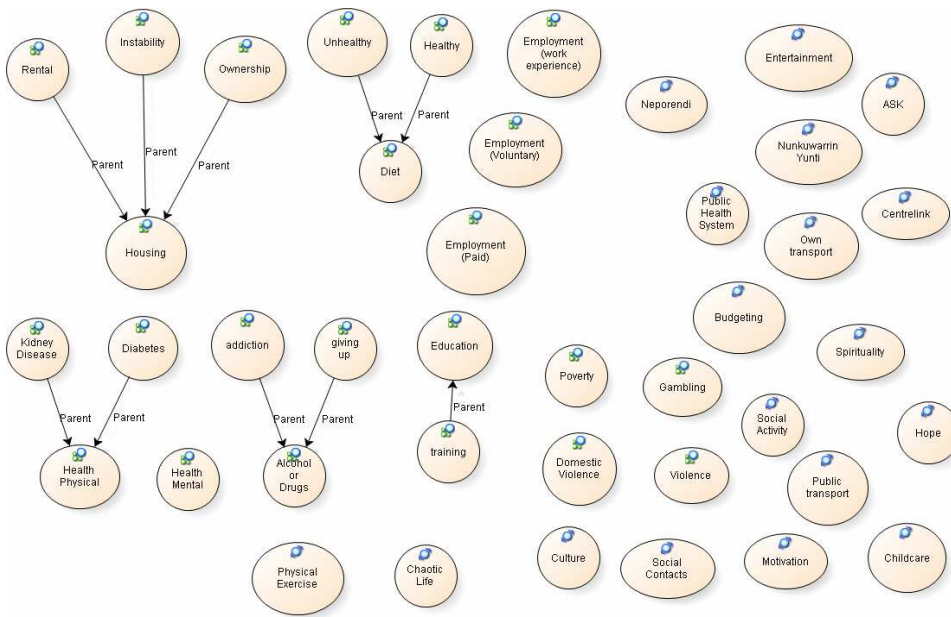
To overcome barriers in accessing services, it is vital that service providers in mainstream and specific services are welcoming to ensure that the confidence of service users is built. The role played by holistic or (one – stop shop outreach) is important in this context as it enables rapport and relationships to be formed. Also a quickly negotiated pathway to ensure that the above mentioned axial themes are addressed effectively and efficiently would enable better outcomes.

Once a preliminary analysis of the data was undertaken a series of iterative workshops were held to explore the map of factors with the participants using the following answer sheet:

1.	How does the bubble help other aspects of life?
2.	How does the bubble hinder other aspects of life?
3.	How important is the bubble ? (use scale like one below)
	<u>not at all      a bit      doesn't matter      quite important      very important</u>
4.	If I solve this problem or have this asset first, does it make solving other problems easier?
5.	Do these things always happen together? Or one after another?
6.	How do I achieve it?
7.	How do I avoid it?
8.	Where can I get help for it?
9.	Who can I help and how, if they need this or have this problem?
10.	Is it sometimes good and sometimes bad – in what situations?
11.	Are there other names/terms for the same thing?
12.	What can stop me from (or make it really hard) getting/achieving it?
13.	Are there conditions I have to meet to achieve/get it? (Such as age, sex, children, income, employment etc)
14.	Is this a smaller or larger part of another issue? (like Physical Health is parent of diabetes)
15.	If one thing happens, does another thing usually follow? Both good and bad.
<p><b>TASK</b></p> <p>Please look at the drawing of the factors that influence wellbeing</p> <p>Please write under the <b>headings and draw your own pathways</b></p> <p>Add issues/needs/solutions as you discuss and think about things.</p> <p>You can work as a group or alone – people can choose.</p> <p>Add as many more questions/descriptions as they/you want.</p> <p>Add balloons/ bubbles as well, if you want to.</p>	

Figure 6: Second Proforma for Data Acquisition (De Vries 2006)

It is clear that question 3 , asking for linear response is a reflection of the construction made by De Vries, but all the informants considered each of the factors equally important. But when informants were asked to self select the most important factors in their lives they clustered around health, housing, employment, education , trust and good relationships. All these factors are systemically linked. It was vital for the informants to stress this systemic weblike approach and to remind the informatics engineer that core factors are interlinked to provide the systemic base for wellbeing.



## 5.1 Outcomes for the service users

The first Nvivo maps were developed iteratively for discussion with the male and female service users and Aboriginal service providers who formed part of the reference group and later with a wider group of non Aboriginal commentators at a workshop hosted by McIntyre and Morgan with co-researchers and corrections were made, for example:

- the 'ASK' factor refers to an employment agency and thus needs to be located next to the employment agency bubble. It is a synonym.
- Gambling is an addiction and thus needs to be placed close to the bubble named 'addiction'.
- The factors covering employment 'paid' and 'unpaid' and work experience need to be nearer or linked as parent bubbles with ASK, employment agencies, Neporendi
- Having employment and budgeting are also closely connected - too far apart in the NVivo map.

The aim is to find the shortest pathway approach to achieving wellbeing outcomes. But the pathways are based on the perceived lived experiences of the service users as to what constitutes a successful, integrated outcomes.

## 5.2 Pattern recognition and meaning making

Context is all important to the design as the perceptions expressed are based on specific experiences which will be developed into conditional scenarios to guide action.<sup>6</sup>

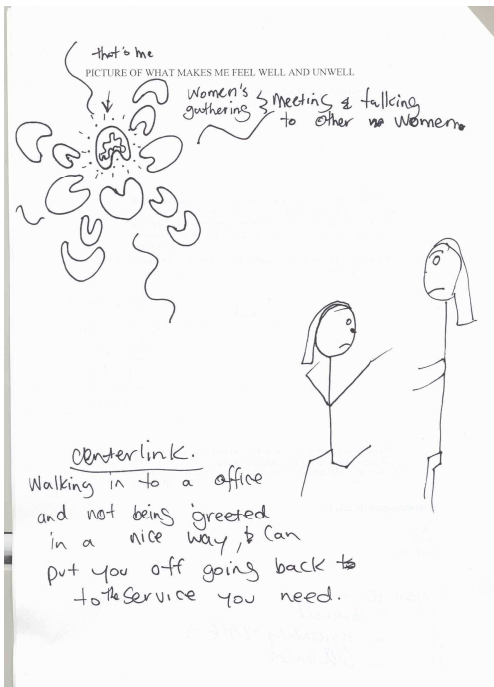
The computer program will be updated as different users contribute and this will be achieved by positioning the factors (that the service users perceive to be important) as synonyms in response to contextual scenarios. We will test the program to establish if it enables :

- Greater self knowledge and learning from others
- Better decisions, based on pattern recognition that could also help to make sense of the trauma and losses they have experienced
- Participating in an active, constructive way in designing alternatives.

Being 'shamed' by service providers was discussed as being one of the greatest barriers (on this see Atkinson,2002) to healing as it creates a sense of victim hood and leads to mistrust. See the diagram below which was drawn whilst telling a narrative about how usersperceived relationships with service providers.<sup>7</sup> In the diagram below the story teller explained that she was made to " feel small" and to " feel shamed" in the way the service providers communicated, because they do not communicate respectfully in the way that women communicate in groups where they sit in a circle and each person's contribution is listened to carefully and valued. If the dynamics make you feel disrespected, it undermines opportunities to build connections and pathways to wellbeing.

<sup>6</sup> These suggestions are however, only meant to guide decisions made by service users together with a service provider , who could sit side by side and use the computer program to help identify which narratives resonate with their own experiences and explore the choices made by others and then to consider their own possible responses that could be added to the program. As each service user works with the program they will add items that they perceive to be valuable for the 'in baskets', items that need to be discarded. They will identify the turning points they have experienced for the better and the worse and the barriers (De Crespigny et al 2002) they have experienced.

<sup>7</sup> The legacy of racism, loss of land and generations of social exclusion provide the lens through which the service users view their life chances and evaluate the services. Poverty and a lack of resources, combined with a lack of self respect associated with violence, abuse and alcohol misuse are part of the systemically linked web of problems. This is why a sociocybernetics approach is needed to explore the complex, recursive interrelationships so that a web of interventions can be provided.



The data show multiple non linear relationships across:

- Domestic violence, a lack of confidence, social exclusion and the use of alcohol and other drugs.
- Lack of confidence (and prior experiences as children) leads to women accepting DV or putting up with it for the sake of their own children.
- The value of women leaving a violent home base as a first step towards achieving wellbeing
- Socio-economic disadvantage causes discrimination in accessing rental housing.
- A sense of security provided by a home base from which to get a job, training or education.
- A safe home, a sense of connection with a supportive wider community supports stable relationships.

## 6. OUTCOMES FOR THE SERVICE PROVIDERS

- More effective matches of services to perceived need.
- Better able to combine services to meet complex needs.
- This has implications for governance – people at the receiving end of the decision can test out ideas and so this makes the rhetoric of subsidiarity a reality – good for democracy and for science.
- It provides a generic tool for governance and has implications for e-governance.

The resulting ‘flow-on’ effects of adopting an holistic and systemic approach (Roche & McDonald, 2001) for promoting intergenerational health and well-being will: a) achieve better role modeling across men and women of all age groups and b) lead to greater control over life chances.

In this research dialectical considerations are assisted by drawing on and adapting Senge’s (1990,1999) work on typical patterns of feedback to inform a) ways of human knowing and b) to assist in understanding patterns of complex, wicked problems that need to be addressed by means of governance policy that takes into account **perceived values** that shape decisions and outcomes:

1. ‘Reinforcing’ policy loop, for example: a) Cutting the time allowed for sole parents to stay at home to look after children leads to greater use of the payment for having children as a means to address the perceived problem of leaving children and going to work. Children are thought to be at risk and women can have a range of reasons such as lack of confidence – for not leaving their domestic lives. b) Cutting funding for public subsidies for dentistry leads to increased use of pain relief and reinforces the likelihood that the poorest will have little confidence to seek employment and educational opportunities, because of lack of confidence caused by a legacy of social exclusion and racism that results in little confidence to access private rental markets, for fear of “ being shamed”. The sense of being a victim is a cause and an effect of social exclusion and needs to be addressed through enabling people to understand why they feel the way they do and to consider how it is impacting on their lives in a negative way. A women who could not face the officials at the Court when she went to fill out a form to pay her fine, went away , knowing that she would be in even more trouble. But she said that she just could not face being humiliated because she felt powerless and unable to communicate with the officials.
2. ‘Balancing loop’, for example: increasing funding to service delivers will be balanced out by unfriendly staff.
3. ‘Fixes that backfire’, for example: cutting costs to welfare by reducing spending on welfare leads to higher spending on crime control and an increased sense of social exclusion and alienation.
4. ‘Limits to growth’, for example the more emphasis on controlling expenditure the higher the savings , then a leveling off of the benefits of cutting service benefits.
5. ‘Shifting the burden’, for example cutting the costs in one department by shifting the costs elsewhere. Less funds for dentistry leads to greater use of alcohol and other drugs.
6. ‘Tragedy of the commons’, for example: increasing the pressure on organizations to be more productive and efficient and abandoning idealism of the public good leads to all the organizations becoming competitive and less co-operative, which impacts on the effectiveness of services and the common good(see Palumbo and Scott in du Gay 2005).
7. ‘Accidental adversaries’, for example: two welfare organizations in competition for scarce funding leads to less co-operation and emphasis on the wellbeing of the service users.

## CONCLUSION

The findings to date:

- **Demonstrate the importance of linking service users and providers** and the role that ongoing communication can play in shaping policy. As Aristotle argued, being involved in dialogue on policy matters and applying the dialectical process in one’s community is one of the ways to ensure a fulfilling life (which he called eudaimonia, on this see Nicomachean Ethics (Irwin, 1985) and Christakis and Bausch 2006 on



‘demosophia’, or the ‘wisdom of the people’ for providing ‘the requisite variety’ to test out ideas on how to address complex problems).

- **Support the idea that wellbeing is ‘what is valued’** and necessarily includes basic needs of safety, housing, employment/ education or training. Empowering **Indigenous organisations** to achieve wellbeing for Indigenous people is a step in this direction (Rowse 2003), but that these steps are insufficient to achieve wellbeing for self determination, unless Indigenous people have political and economic opportunities that result in their becoming citizens with rights respected within the wider community. **Cultural inclusion needs to be supported by democratic structures and processes** (see Elias and Lichterman 2003).

New approaches to communication within and across organizations to support good governance requires working with many variables and considering not merely linear cause and effect but instead considering communication feedback loops (See Christakis and Bausch 2006, McIntyre-Mills et al 2006a,b and Van Gigch with McIntyre Mills 2006).

Compartmentalised thinking and practice	Systemic Thinking and Practice
<ul style="list-style-type: none"> <li>• Simple , categories of options</li> <li>• Discrete variables</li> <li>• Linear relations cause and effect – based on diagnosis</li> <li>• Space and time are separate and fixed</li> <li>• Experts understand the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Complex , overlapping domains</li> <li>• Working with social, cultural, political, economic and environmental variables</li> <li>• Multiple feedback loops guide selection of options</li> <li>• Space and time are relative and relational</li> <li>• Ability to appreciate the different ways in which problems are constructed</li> </ul>
<ul style="list-style-type: none"> <li>• Analyze information in a <b>systematic, linear</b> manner</li> <li>• Decisions framed by experts</li> </ul>	<ul style="list-style-type: none"> <li>• Generate systemic solutions through ongoing testing</li> <li>• Dialectical consideration of one argument, another and achieving synthesis</li> <li>• Decisions informed by the requisite variety of service users</li> </ul>

By enabling and analyzing the patterns and finding what the factors are that support change and the barriers that prevent change the service users could be able to think about how closely their own lives match the different domains and what they can do to make changes. The research on knowledge management processes could:

- Enable policy making and data management in contexts where large amounts of data need to be held in mind to inform decisions.
- Establish cross boundary work – both conceptual and spatial, between service users and service providers, which is greatly needed for regional and trans national policy making (McIntyre, 2005, McIntyre-Mills 2006c).
- Give insights into more inclusive approaches to policy design (McIntyre-Mills 2003, 2006) and provide lessons for the way we think about or frame wellbeing, policy making and governance (Colebatch 2006, McIntyre-Mills et al 2007 in press).

- Address the practicalities of taking small scale democratic deliberations and scaling up the process using an adapted form of communities of practice (Wenger 1998) to enable multilevel governance across cultural boundaries (on this see Bausch 2006, Christakis and Bausch 2006; Fukuyama 2006; Langford and Edwards 2002; McIntyre-Mills et al 2006 a, Van Gigch and McIntyre-Mills 2006; Pierre and Peters 2000: 67,207-209, Peters, 2001)<sup>8</sup>.

Definitions that are owned and that reflect the perceived needs have “radiance” (Churchman, 1971, 1979, 1982) and power to transform. Radiance is the difference between ideas that flow from a sense of identity (and shared meaning) to ideas that are imposed (McIntyre-Mills 2003 a, b). “Human systems are different”, according to Vickers (1983) and instead of matter, we have social structure and processes that need to be harmonized through respectful communication that can create meaning and resonance that builds trust. To sum up our findings to date: wellbeing is dynamic and inter-relational. The matching process is thus all important to public policy making processes and to governance to ensure that it is carried out effectively (Peters 2001). This research does not vulgarize (See Bateson in Guddemi 2006: 72) the notion of wellbeing as any fixed set of variables<sup>9</sup>, it is a state of mind, a relational value within a specific time and place. Wellbeing is a valuation of multidimensional variables (including social, cultural, political, economic and environmental variables). If we accept following new physics principles that space and time are not discrete entities, why should wellbeing be captured and categorized by means of outdated sociological thinking?

Those who work in terms of categories of cause and effect can argue as does Encarnacion (2006) that civil society needs to be reconsidered, because a state can be undermined by civil society. This misses the point. Diversity and freedom need to be encouraged to the extent that they are not undermined. Yes, the state is needed to provide the context for democracy to flourish, but the state also needs democracy to keep it democratic. The mutual testing is the sine qua non of both democracy and new science. The ‘iron rule of oligarchy’ (Michels 1915) should not be forgotten. The argument being that democratic organizations become increasingly structured, hierarchical and bureaucratic and the leaders control access to information and resources and are consequently more powerful than those at the bottom of the hierarchy as a result. The processes for dealing with complex situations are streamlined in democracies and the less powerful voices are silenced which undermines social inclusion opportunities for wellbeing.

To sum up, as we draw conclusions from this stage of the research on modeling perceptions of wellbeing from the point of view of service users and providers, it is clear that we are able to use mapping only as **an aid to**

<sup>8</sup> Dahl’s principles of democratic process (1989 in Kjaer 2004), can be critiqued, because voting is not enough. People need to be able to participate in the deliberations. Web democracy can help, such as engaging young people in drafting policy that spans the boundaries of the nation state, because poverty and pollution are not bounded by the nation state (See Kjaer for a discussion of Danish school children engaging in an exercise to develop a constitution for the European Union).

<sup>9</sup> Wellbeing like power is a concept based on perceptions, emotions and values. Furthermore it is relational and a combination of factors support wellbeing. As Aleksander (2005) outlines 5 axioms for consciousness, but although he tries to avoid blind spots he argues that consciousness is about awareness based on attention and perception, planning ahead and emotion. This is a very Western and middle class notion in so far as ability to plan ahead can be prevented by living from hand to mouth. The culture of survival outlined by Helman(1990) stresses that this difference is a result of life chances. Wellbeing plays out in the life chances of people, those who can show agency despite the limitations they face are able to achieve a life in balance. Power is defined in terms of many dimensions, that could be expanded to include social, cultural, political, economic and environmental factors but at least he stressed that they include “fear, hate, love, threats of punishment, and avoidance of pain” (see Bateson in Guddemi 2006).

**decision making in context**, not as a means to represent reality. As a result of documenting their perceptions and analyzing them we were able to identify core building blocks or factors that need to be considered contextually and ‘added to’ in iterative dialogue. The narratives and pictures (both abstract and concrete representations) were used to develop the meaningful metaphors with which people could identify, namely of weaving together strands of experience into baskets that could be used to gather learnings and to discard the problem areas from life. This process focuses on taking personal responsibility, whilst mindful that their life chances have been shaped by their social, economic and environmental history (as reflected in their experiences). The research process aims to enable a) social inclusion (building on Carson et al 2007: 113, Bourdieu 1986 and a critical reading of Putnam 1995) and b) connecting with others who are from the same background (bonding), c) making connections with those who are different (bridging) and d) creating links horizontally and vertically to bring about change strategically.

The value of matching is enmeshed in the process of engaging those who have lived experience in social life. The engagement is in itself important for democracy, personal and public accountability and for wellbeing. The mapping process is **not aimed at fixed prediction or control**, it is about drawing on the wisdom and tacit knowledge of people who are at the receiving end of policy and ensuring that they have a say in shaping the policy and management directions for the future at the local, regional and global levels. (see McIntyre-Mills et al 2006).

## BIBLIOGRAPHY AND REFERENCES

- Ackoff, R.L. and Pourdehnad, J., 2001, “On misdirected systems”, *Systems Research and Behavioural Science*, **18**(3):199-205.
- Armstrong, R. and Van Der Weyden 2005 Indigenous Partners in Healing *Medical Journal of Australia* 182 (10) 498-499.
- Ashby, W.R., 1956, *An introduction to Cybernetics*, Chapman and Hall, London.
- Australian Bureau of Statistics (ABS) 2001 Census of Population and Housing.
- Banathy, B., 1996, *Designing Social Systems in a Changing World*, Plenum, New York.
- Banathy, B., 2000, *Guided Evolution of Society: A Systems View*, Kluwer/Plenum, London.
- Banathy, B., 2003, Self-Guiding Evolution of Civilisation, *Systems Research and Behavioural Science*, 20:4309-323.
- Bateson, G.1972. *Steps to ecology of mind: a revolutionary approach to man's understanding of himself*. New York: Ballantine.
- Brewer, M. and Hewstone, M. 2004. Eds *Social cognition*. Blackwell, Oxford.
- Bausch, K., 2001, *The Emerging Consensus in Social Systems Theory*, Kluwer/Plenum, London.
- Behrendt, L. 2005. *The abolition of ATSIC- implications for democracy*. *Democratic Audit of Australia*. <http://democratic.audit.anu.edu.au/> accessed 4/01/2006
- Brubaker, R. and Cooper, F. 2000. *Beyond Identity Theory and Society*. 29-1-47.
- Bogue, R., 1989, *Deleuze and Guattari*, Routledge, London.
- Bourdieu, P. 1977. *Outline of a theory of practice*. Cambridge University Press.
- Bourdieu, P., 1986, *The forms of capital*. Reprinted from Richardson, J. in: Education, Culture, Economy and Society, A.H. Halsey, ed., 1997, Oxford University Press, Oxford.
- Bourke, C. 1989. *Cross –cultural communication and professional education: an aboriginal perspective*. Paper presented to Multicultural Communication Conference 25<sup>th</sup> Sept.
- Brady, M 1991 *The health of young Aborigines: a report on the health of Aborigines aged 12-25 years*, Hobart, national Clearinghouse for Youth Services.
- Bradley, R. 2001. Bits and logans: information processing and communication in social systems. Abstracts: *International Systems Sciences Conference*, Asilomar.
- Brubaker, R. 2004. Loveman, M. and Stamatov, P. Ethnicity as cognition. *Theory and Society*. 33: 31 –64
- Brubaker, R. and Cooper, F. 2000. *Beyond Identity Theory and Society*. 29-1-47.

- Buber, M., 1965, *Man and Man*, Macmillan, New York.
- Carson, B., Dunbar, T., Chenhall, R.D. and Bailie, R. *Social determinants of Indigenous health*. Allen and Unwin. Sydney.
- Castells, M. 1996. *The rise of network society*. Oxford: Blackwell
- Chambers, R., 1997, *Whose Reality Counts: Putting the First Last*, ITDG, Bath.
- Checkland, P. and Scholes, J. 1990. *Soft Systems Methodology in Action*. Chichester: Wiley.
- Christakis, A. and Brahms, S., 2003, "Boundary spanning dialogue for the 21<sup>st</sup> century agoras", *Systems Research and Behavioural Science*, **20**:371-382.
- Colebatch, H.K. 2006. Accounting for Policy in Australia Public Policy. *Public Policy* Vol 1 No 137-51.
- Christakis, A. 2004. Wisdom of the People *Systems Research and Behavioural Science* Volume 21 No 5 479-488.
- Churchman, C. West, 1979, *The Systems Approach and its Enemies*, Basic Books, New York.
- Churchman, C. West, 1982, *Thought and Wisdom*, Intersystems Publications, California.
- Churchman, C. West., 1971, *The Design of Inquiring Systems. Basic Concepts of Systems and Organization*, Basic Books, New York.
- Collard, K.S., D'Antoine, H., Eggington, D. Henry, B. R. Martine, C. and Mooney, G. 2005 Can Mutual Obligation in Indigenous Health: can shared responsibility agreements be truly mutual? *Medical Journal of Australia* 182 (10) 502-504
- Cornelius, R. 1996, *The science of emotion: The research and tradition in the psychology of emotion*. Prentice Hall. New Jersey.
- De Crespigny, C. Groenkaet, M. and Casey, W. Murray, H. and Parfoot, W. 2002 *Breaking down the barriers: Urban Aboriginal Women: drinking and licensed Premises in the Southern Metropolitan Region of South Australia*. School of Nursing and Midwifery, Flinders University of SA and Aboriginal Drug and Alcohol Council (SA) Inc.
- Denzin, N. and Lincoln, Y. 2000. *Handbook of qualitative research*. London: Sage. Second edition
- Duhl, L., 2001, Systems and Service at School of Public Health, *International Systems Sciences*, Berkley.
- Edgar, D., 2001, *The Patchwork Nation: Rethinking Government-Rebuilding Community*, Harper, Sydney.
- Edwards. and Gaventa, J., 2001, *Global Citizen Action*, Colorado, Boulder.
- Elias, N and Lichterman, P. 2003. Culture in interaction. *The American Journal of Sociology* 108. 4: 735-794
- Ellis, C. and Bochner, A., 2000, Autoethnography. Personal narrative, reflexivity: researcher as subject, *Handbook of Qualitative Research*, 2<sup>nd</sup> ed., N. Denzin and Y. Lincoln, Sage, London.
- Espejo, R., 2002, "Self-construction and restricted conversations", *Systems Research and Behavioural Science*, **19**(6):517-529.
- Estrella, M., 2000, *Learning from Change, Issues and Experience in Participatory Monitoring and Evaluation, Participation in Development Series*, Intermediate Technology Publications, International Development Research Centre, UK.
- Fals-Borda, O. and Rathman, M.A., 1991, *Action and Knowledge: Breaking the Monopoly with Participatory Action Research*, Intermediate Technology, London.
- Flood, R. and Carson, E., 1998, *Dealing with Complexity: An Introduction to the Theory and Application of Systems Science*, 2<sup>nd</sup> ed., Plenum, London.
- Flood, R. and Romm, N., 1996, *Diversity Management: Triple Loop Learning*, John Wiley & Sons, New York.
- Foley, D., 2002, *Indigenous standpoint theory*, Sharing the Space Conference, Flinders University.
- Fonow, M. and Cook, J. 1991. *Beyond Methodology. Feminist Scholarship as lived research*. Bloomington: Indiana University Press.
- Forrester, J., 1999, *The Deliberative Practitioner: Encouraging Deliberative Planning Processes*, Massachusetts Institute of Technology, Cambridge.
- Forrester, J. 2000. Conservative epistemology, reductive ethics, far too narrow politics: some clarifications in response to Yiftachel and Huxley *International Journal of Urban and Regional Research*. Vol. 24. Vol. 4: 914-916.
- Foucault, M. and Gordon, C. (Ed) 1980. *Power / Knowledge: selected interviews and other writings 1972-1977*. Brighton: Harvester.
- Freire, P., 1982, Creating alternative research methods: learning to do it, in: Creating Knowledge: a monopoly? Society for participatory research in Asia, B. Hall, A. Gillette and R. Tandon, New Delhi: 29-37 in: *The Action Research Reader*, Deakin University publication, Victoria.
- Fukuyama, F., 1992, *The End of History and the Last Man*, Free Press, Simon and Schuster.
- Fung, A. and Wright, E.O., 2003, *Deepening Democracy*. Institutional innovations in Empowered Participatory Governance. The Real Utopias Project 1V. Verso, London.
- Gao, F. and Yoshiteru, N. 2001. Systems thinking on knowledge and its management *45th International Conference for the Systems Sciences*, Asilomar, USA

- Gaventa, J. 2001, Towards participatory local governance: six propositions for discussion. *Paper presented to the Ford Foundation, LOGO Program with the Institute of Development Studies*, June.
- Geertz, C., 1973, Thick description: towards an interpretive theory of culture, in: *The Interpretation of Cultures. Selected Essays*, C. Geertz, Basic Books, New York, pp.3-32
- Gibbons, M., Limonges, C., Nowotny, H., Schwartzman, S., Scott, P. and Trow, M., *The New Productions of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: Sage.
- Giddens, A. 1998, *The Third Way*, Polity, Cambridge.
- Greenfield, S, 2000, *The private life of the brain: emotions, consciousness and the secret of the self*. Wiley.Canada.
- Grugel, J., 1999, *Democracy Without Borders. Transnationalization and Conditionality in New Democracies*, Routledge, London.
- Guddemi, P. 2006 Breaking the Concept of Power ( and redescribing its Domain) Batesonian and Autopoietic Perspectives *Cybernetics and Human Knowing* vol. 13, 3-4, 144-152.
- Habermas, J., 1995, Reconciliation through the public use of reason: remarks on John Rawls's political liberalism, *The Journal of Philosophy*, XC11 (3): 109-131.
- Harris, L. and Wasilewski, J. 2004 Indigenous wisdom of the people forum: strategies for expanding a web of transnational Indigenous interactions *Systems Research and Behavioural Science*. Vol. 21 no 5 489-505
- Hampden-Turner, C., 1981, *Maps of the Mind*, Macmillan, London.
- Helman, C.G.1990., *Culture, Health and Illness* second edition. Wright, London.
- Jackson, M., 2000, *Systems Approaches to Management*, Plenum, London
- Jamrozik, A., 2001, *Social Policy in the Post Welfare State: Australians on the Threshold of the 21st Century*, Longman, NSW.
- Jung, C.J., 1972, Translated by Hull, R., *Mandala Symbolism from the Collected Works of Jung*, C.G. Bollingen Series, Princeton University Press.
- Kahane, A. 1992 *The Mont Fleur Scenarios: What will South Africa be like in the year 2002*. Deeper News vol. 7 Number 1 republication of The Weekly Mail and Guardian Weekly.
- Kavanagh, D. and Richards, D. 2000. *Can Joined-Up Government be a Reality?* Paper presented at the Australian Political Studies Association 2000 Conference, Australian National University, Canberra 4-6 October, 2000.
- Keel, M. 2004. *Family violence and sexual assault in Indigenous communities "Walking the Talk"* Australian Institute of Family Studies
- Lind, A. and Lind, B. 2005 The practice of Information System Development and Use: A Dialectical Approach. *Systems Research and Behavioural Science* vol ???: 453-464.
- Long, M, 2002, Beyond Traditional Boundaries: Government in the Information Age, *Australian Journal of Public Administration*. Vol. 61 no.1: 3-12.
- Michels, R. 1915 *Political Parties: A sociological study of the oligarchical tendencies of Modern Democracy*. Translated by Eden and Cedar Paul , 2001 Batoche Books: Kitchener.
- Minogue, M. Polidano,C. and Hulme,D. 1998. *Beyond the New Public management: Changing Ideas and Practices in Governance*. Edward Elgar.Northampton.
- Savage, M. 2005 *The Popularity of Bureaucracy: Involvement in Voluntary Associations in du Gay in The values of democracy*. Oxford University Press.
- March, C., Smythe, I. and Mukhopadhyay, 1999, *A Guide to Gender-Analysis Frameworks*, Oxfam, Oxford.
- Martin, D. 2005 Rethinking Aboriginal Community Governance. In Smyth, P., Reddel, T. and Jones, A. *Community and Local Governance in Australia*. Sydney. UNSW Press.
- McIntyre, J. 2003. Participatory Design: The Community of Practice (COP) Approach and its relevance to Strategic Management and Ethical Governance. *Journal of Sociocybernetics*. Vol. 4, No 1, 1-23.
- McIntyre, J. 2004. Facilitating critical systemic praxis (CSP) by means of experiential learning and conceptual tools. *Systems Research and Behavioural Science*. Vol. 21, 37-61.
- McIntyre, J. 2005 Working and re-working the conceptual and geographical boundaries of governance and international relations *Systemic Practice and Action Research* Vol. 18, No 2 157- 220.
- McIntyre-Mills, J. 2006 *Rescuing the Enlightenment from Itself: Critical and Systemic Implications for Democracy*. C.West Churchman Series, Vol. 1. Springer.London.
- McIntyre-Mills, J. et al 2006, *Systemic Governance and Accountability: working and reworking conceptual and spatial boundaries*, Springer. London, Vol. 3 of C. West Churchman Series, in press.

- Midgley, G. 2000. *Systemic Intervention: Philosophy, methodology, and practice*. New York: Kluwer.
- Negroponte, N., 1995, *Being Digital*, Vintage, New York.
- O'Reilly, B. and Townsend, J. 1999. *Young people and substance use*. Darwin: Territory Health Services.
- Ogawa, H. 2000. Lessons learned from regional experiences: Healthy Cities in the Western Pacific Region. Regional Advisor in Environmental Health, WHO Western Pacific Regional Office, *Key Note Address, Australian Pacific Healthy Cities Conference* June 2000.
- Orr, M., 2003, *Intertextuality: Debates and Contexts*, Polity Press, Oxford.
- Putnam, R., 1995, "Bowling alone", *Journal of Democracy*, 6(1):65-78.
- Palumbo, A. and Scott, A. Bureaucracy, Open Access, and Social Pluralism: Returning the Common to the Goose. In *Values of Bureaucracy*. Oxford. University Press. Oxford.
- Peters, G. 2001, *The future of governing*, second edition revised. University Press of Kansas.
- Pearson, N. 1999. Positive and negative welfare and Australia's Indigenous Communities *Australian Institute of Family Studies in Family Matters*. No 54. Springs/Summer.
- Polanyi, M. 1962. *Personal Knowledge*. London: Routledge and Kegan Paul.
- Rittel, H. and Webber, M. 1984. Planning problems are wicked problems *Developments in Design Methodology*. New York: Wiley.
- Ramsden, I. M. 2002 *Cultural Safety and Nursing Education in Aotearoa and Te Waipounamu* A thesis submitted to the Victoria University of Wellington in fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing, Victoria University of Wellington.
- Robbins, J. 2005. Life after ATSIC: Indigenous citizenship in an era of mutual obligation. *Paper presented at APSA Conference, University of Otago, Dunedin, NZ*. September
- Roche, A. and McDonald 2001. *Systems, settings, people: workforce development challenges for the alcohol and other drugs field*. Commonwealth Department of Health and Aged Care.
- Rowse, T. 2003 Tim Rowse reflects on three conferences about Indigenous rights and the campaign for a treaty. *Australian Policy online* [www.apo.org.au](http://www.apo.org.au)
- Runcie, M. and Bailie, R. 2002 *Evaluation of Environmental Health Survey on Housing*. Menzies School of Health
- Sakurai, Y. and Smith, R.G. 2003. *Gambling as a motivation for the commission of crime* Australian Institute of Criminology.
- Schaffer K and Smith S. 2004. *Human Rights and Narrated Lives, The Ethics of Recognition*. Published by Palgrave .New York.
- Schumacher, E.F. 1973. *Small is beautiful: economics as if people mattered*. New York. Harper.
- Senge, P., 1990, *The Fifth Dimension*, Doubleday, New York.
- Senge, P., Kleiner, A., Roberts, R., Roth, R. and Smith, G., 1999, *The Dance of Change: The Challenges of Sustaining the Momentum in Learning Organizations*, Nicholas Brealey, London.
- Singer, P., 2002, *One World: The Ethics of Globalisation*, The Text Publishers, Melbourne.
- Stanley, L. and Wise, S. 1993. *Breaking out Again. Feminist Ontology and Epistemology*. London: Routledge.
- Steering Committee for the Review of Government Service Provision 2005. *Overcoming Indigenous Disadvantage*. Key Indicators 2005.
- Ulrich, W. 2001. The quest for competence in systemic research and practice. *Systems Research and Behavioural Science* 18: 3-28
- Ulrich, W., 1983, *Critical Heuristics of Social Planning: a new approach to practical philosophy*. Wiley. New York.
- Uslaner, E., 1999, Democracy and social capital, in: *Democracy and Trust*, M. Warren, Cambridge University Press, Cambridge.
- Van Gich, J. in collaboration with McIntyre-Mills, J., 2006, 'Wisdom, Knowledge and Management', C. West Churchman Legacy and Related Works, Vol. 2., Kluwer, Springer.
- Walsh, F and Paul Mitchell 2002. *Planning for country: cross cultural approaches to decision-making on Aboriginal lands*. Alice Springs .IAD press.
- Warren, E., 1999, *Democratic Theory and Trust*, Cambridge University Press, Cambridge.
- Warren, L., 2004, A systemic approach to entrepreneurial learning: an exploration using storytelling, *Systems Research Behavioural Science*, 21: 1: 3-16
- Webb, S.P. 1998. *Knowledge management: linchpin of change* The Association for information management. London: ASLIB.
- Wenger, E., 1998, *Communities of Practice: Learning, Meaning and Identity*, Cambridge University Press.
- White, L. 2002. Connection matters: Exploring the implications of Social Capital and Social Networks for Social Policy. *Systems Research and Behavioural Science*. Vol.19, No 2, 255-270.
- White, L., 2001, 'Effective Governance' through complexity thinking and management science, *Systems Research and Behavioural Science*, 18(3): 241-257.

