Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

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Submitted by:

John Christopher Guenther, B. App. Sc. (App. Chem.)

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Declaration

I hereby declare that the work herein, now submitted as a thesis for the degree of Doctor of Philosophy of the Charles Darwin University, is the result of my own investigations, and all references to ideas and work of other researchers have been specifically acknowledged. I hereby certify that the work embodied in this thesis has not already been accepted in substance for any degree, and is not being currently submitted in candidature for any other degree.

Signed: ....Date:...................................

Abstract

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Australia’s tropical savanna region comprises about one-quarter of the nation’s land mass but less than three per cent of the population. The region is characterised by relatively large Indigenous populations and low population density. Industries contribute significantly to national wealth but Indigenous peoples experience relatively poor health, education and employment outcomes. While VET is traditionally viewed as a means for individuals to gain employment skills or industry to gain the skills needed to remain competitive and productive, this research explores broader outcomes of VET and its value for diverse communities in these contexts.

The project asks three questions: What are the indicators of well-being across the savanna?; What is the link between education and learning and capacity-building in savanna communities?; and How can education and learning be applied effectively to produce capacity-building outcomes? Using a mixed methods design, the project begins with a statistical assessment of well-being in the savanna to answer the first question. This is used as a basis for site selection of four case studies of the effective application of VET. Qualitative data from the cases is analysed using NUD*IST software to answer the second and third questions and to build a theoretical framework.

While the findings may support the traditional employment role of VET, they also suggest that identity formation is a key ingredient that contributes to effectiveness of programs. A model for the formation of identity in training is developed.

The findings have significance for a number of VET and community development stakeholders including those who are: addressing skills shortages; developing policy around Indigenous communities; interested in using VET for enterprise development; and VET practitioners and evaluators wanting to ensure quality in learning. As such, the implications extend beyond the Australian tropical savanna region and could be tested and applied in regions within and outside Australia.

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Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 1: Introduction

1 Introduction

> let the wise listen and add to their learning,
> and let the discerning get guidance—
>
> for understanding proverbs and parables,
> the sayings and riddles of the wise.
>
> The fear of the LORD is the beginning of knowledge,
> but fools despise wisdom and discipline.
>
> Proverbs 1:5–7

It was not long ago that vocational education and training (VET) was considered a poor cousin of higher education. Young people were being encouraged to take places in universities because of expectations of better career prospects and higher pay. However, from 2004 the emphasis shifted clearly back to the need for building Australia's skill base through vocational education and training. Discussions about skills shortages occur regularly in the media and nowhere are these skills shortages more pronounced than in the industries that are of particular significance to Australia's tropical savanna region.

The savanna region comprises about one-quarter of the nation's land mass but less than three per cent of the population. About one-fifth of that population is Indigenous and is growing at twice the rate of the general population. The region, unique in Australia because of its climate, its people and its geography, faces many challenges. On the one hand the industries of the savanna contribute significantly to the wealth of the nation. On the other hand, many of its Indigenous peoples experience health, employment and education outcomes that are more consistent with developing nations around the world.

It is in this contrasting context that VET offers several possibilities. For industries facing skills shortages, VET is an important contributor to skills needs. For remote Indigenous communities, education and training offers possibilities for employment outcomes and skills for numerous livelihood outcomes that are specific to this northern Australian context. The stakeholders of VET in this context include a huge array of providers, trainees, government agencies, industries, communities, researchers and voluntary organisations. Within this context, this research explores the linkages between education and training and indicators of economic, social and cultural well-being, as well as the sustainable management of natural resources of communities and regions within the savanna.

1.1 Background and purpose

The project aims to determine how vocational education and training can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning. In doing so it makes a connection between well-being and education and training.

1.2 Scope

The project's scope is largely delineated by the purpose, described above. In terms of physical location the project is focussed on the tropical savanna region of northern Australia. The reason for this geographical emphasis is related to the interests of the funding bodies (Charles Darwin University and the Tropical Savannas Cooperative Research Centre), which are located in the region.

The term 'vocational education and training', is used broadly in the literature and encompasses much of what might otherwise be described as adult and community education. One reason for including this learning sector is that it is difficult to pinpoint an organising peak body in any Australian state or territory that clearly defines the scope of Adult and Community Education (ACE). In the Northern Territory for example, there is no recognised ACE peak body. However, ACE is often funded through specially targeted VET programs. In this research the scope of learning, covered under the heading of vocational education and training, is therefore necessarily broad and is consistent with a view that considers 'vocations' as more than 'jobs'.

The research design for this project includes both quantitative and qualitative components. The qualitative element is designed to assess the perceptions of VET stakeholders. There is a large array of VET stakeholders, which include participants, providers, employers, government departments, funding agencies, voluntary organisations, community development organisations and researchers. The nature of the research questions demanded an understanding of the 'VET system' by participants. Therefore, because it was assumed that trainees without any other involvement in the system would not be sufficiently familiar with it, they were excluded from the scope of the study. However, all respondents did have experience with training at one level or another and were able to give views on the basis of their own experiences with learning.

1.3 Justification

The justification for this research arises from an emerging context, some of which did not present itself when the project was originally proposed. Several justifications that were present at the time of the proposal remain three years on. These will be discussed briefly first and then followed by some of the emerging issues which add to the relevance of this research.

1.3.1 Unique nature of Australia’s tropical savanna region

Australia’s tropical savanna region differs in several ways from the rest of what could be described as ‘mainstream’ Australia. Much of the education and training research that has been conducted in metropolitan and regional areas does not apply to the savanna region, characterised as it is by remoteness and sparsely populated regions, high proportions of Indigenous peoples with several language groups, different climatic conditions, unique health and well-being issues, unique natural resource management issues, and an industry base which has a much greater emphasis on mining and agriculture than might be expected in other parts of Australia. The ‘uniqueness’ of this region presents challenges and opportunities for education and training which have not been previously examined and which are worthy of research.

1.3.2 Indigenous employment issues

Issues surrounding Indigenous employment have long been on the policy agenda in Australia. It is widely recognised that Indigenous people suffer greater employment disadvantage than other Australians. The significance of these issues to the tropical savanna region is greater than in other parts of Australia, simply because of the large and growing proportion of Aboriginal and Torres Strait Islander peoples across the region. About one-fifth of the savanna population was Indigenous in 2001. While overall the savanna population is growing at about the same pace as the national population, the Indigenous population is growing at twice that rate. This growing demographic has significant implications for the labour force in the region, especially in the context of growing skills shortages. However, it also has implications for communities where there is a perception that there are no ‘real jobs’ and where training is perceived to be for ‘training’s sake’. In this working environment, how can vocational education and training be effectively applied? This question is of critical importance to Indigenous communities and to policy makers as well as training providers, all of whom have complementary interests in the region. It is also of critical importance because of the high uptake of VET among Indigenous people but at low qualification levels.

1.3.3 High uptake of VET among Indigenous people, low qualifications

Trends over the last ten years have shown that Indigenous people are taking up VET training at ever increasing rates. However, the evidence points to this uptake being at qualification levels that are much lower than those for non-Indigenous Australians. In the tropical savanna region there is a strong demand for relatively high-level VET qualifications in industries that contribute strongly to the economic well-being of the region: most notably mining and to some extent agriculture. Indigenous people living in the region are unable to take advantage of the economic prosperity offered by these industry groups to a large extent because they do not have the necessary qualifications required. This by itself creates a significant disparity between the two population groups. Inevitably, when one goes to visit a remote community, the key leadership and management positions in the community will be filled by non-Indigenous people. Are there examples of leadership and management in communities that could point to ways that these disparities and divides can be overcome? This research contributes to the discussion on this important issue.

1.3.4 Issues around remote access

Much of the tropical savanna region is considered to be ‘remote’. That is, the distance from major service centres is either considerable or barriers to access exist, for example in relation to closure of roads during the wet season, or limited access on islands off the northern coast. It could be argued that with new information and communication technologies, the traditional barriers associated with distance are beginning to break down. It is more likely that barriers associated with remoteness, such as infrastructure, cost of service delivery, limited employment opportunities, as well as the isolation caused by wet season road closures contribute to VET participation patterns. The research will clarify what these barriers are and to what extent they are real or perceived and to what extent they are being overcome.

1.3.5 Skills shortages

The issue of skills shortages has only appeared recently as a ‘newsworthy item’ and one that has attracted the attention of policy makers. At the time the proposal for this research was discussed, skills shortages were not perceived to be a problem. Indeed much of the discussion in the literature was about using VET as a kind of ‘unemployment program to keep people occupied’. Since mid-2004 however, skills shortages have become prominent on the ‘policy radar screen’. In at least two of the key industries of employment of the tropical savanna region—agriculture and mining—there has been much discussion about how to address the problem of skills shortages. There are suggestions that difficulties associated with recruiting skilled labour are stifling the economy. In mining, the shortages are placing upward pressure on wages and costs. At the same time the region has a huge pool of people who are not in the workforce. This research contributes to the discussion about skills shortages and how Indigenous people might be upskilled to fill the gaps.

1.3.6 Changes to CDEP

In early 2005 the Commonwealth government flagged that it would be making changes to the Community Development and Employment Projects (CDEP) program to focus more on employment, community activities and business development results. . While it is too early to consider the impact of the changes, as they are progressively implemented, practitioners and planners will be considering ways to make the most of the changes. In terms of the significant VET component of CDEP activity, the direction that this will take will undoubtedly change in accordance with the new policies around CDEP and Shared Responsibility Agreements (SRAs). VET will continue to play a vital role in supporting the new CDEP and communities that enter into SRAs. This research will add significantly to the body of knowledge that exists about VET and how it is applied to Indigenous contexts.

1.4 Research significance

The research topic has significance for a number of reasons and for a number of stakeholder groups. Firstly, it has significance because of the reasons outlined in the justification above. Secondly, it has significance for the livelihoods and futures of multiple stakeholders of VET, and particularly for those engaged in the tropical savanna region. This research marks a first attempt to understand the ways that VET works in this unique part of Australia.

For one of the funding bodies, the Tropical Savannas Cooperative Research Centre (TSCRC), the research adds new knowledge to the existing body of knowledge about education and training in the savanna context. In particular it adds to the body of knowledge under Theme 3: ‘Viable and socially desirable regions’ and Theme 4: ‘Productive and capable people’ (TSCRC 2005c). To date much of the TSCRC’s work has been related to the science of the savanna region and a consideration of the ecologically sustainable development of the region. This research broadens the base of the Centre’s research to consider some of the human/social aspects of knowledge in the tropical savanna region.

For the Northern Territory and Queensland government departments with responsibility for employment and training (DEET and DET), the research for the first time provides empirical data relating VET to capacity-building for the region. The data provides insights into the perceptions of large groups of VET stakeholders, 40 per cent of which were training providers. The findings have relevance for regional planning issues, particularly in relation to the sites used for the research: The Bowen Basin (Queensland), West Arnhem Land, the outer rural area of Darwin, and Palmerston.

For training providers the research findings have significance in terms of program development and planning. The findings provide a new framework for program evaluation and provide new knowledge about the important role of identity formation in learning. The latter is particularly critical for building effective programs: the research indicates strongly that identity formation is a critical aspect in making programs effective. Further, the research points to a pathway for that identity formation through training. These findings are not articulated in other research reviewed. The findings also point to gaps and opportunities that astute providers will take advantage of, particularly in the area of new enterprise development, which has emerging significance in the light of new Indigenous economic development strategies and changes to CDEP.

For planners in the area of community capacity-building the links between learning and well-being are particularly needed as a basis for justifying an expansion of the traditional role of VET to incorporate a wider, community oriented application of education and learning resources for results that have a broader range of benefits.

For researchers the findings provide a valuable springboard for further research in the region. There are gaps that this research does not address—most notably the perspective of Indigenous people and training participants—that new research could fill.

1.5 Research questions

The research questions shown in this section frame the project and frame the way results are reported in Chapter 4. Each research question will be briefly discussed here. Where appropriate, particularly in Chapters 3 and 4, the relevant research questions will be restated to assist the reader's understanding of the methods used and the results obtained.

1.5.1 Research question 1

How is well-being defined across the savanna region?

(a) What are indicators of well-being across the savanna?

(b) How does well-being vary across the savanna?

The first research question frames a largely quantitative portion of the project related to indicators of well-being. The question was designed to provide a quantitative basis for later connection with education and learning. The question was also used to help identify potential study sites for the second and third research questions. Well-being is used here intentionally to avoid confusion with 'outcomes' approaches to learning, which tend to be associated with employment.

1.5.2 Research question 2

What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(a) Who benefits from education and learning?

(b) How does training build capacity and well-being?

The second research question aims to establish a qualitative link between well-being, capacity-building and learning. It does so by first asking the question: ‘who benefits from learning?’ and then going on to discover how they benefit. The survey instrument designed to elicit responses to these questions was carefully constructed and tested to ensure that perceptions about the benefits of learning would not be clouded by a possible prevailing view that VET was just about employment or jobs for individuals and skills for industry. Prompts were built into the instrument to help respondents think of all the potential beneficiaries in a systematic way. In terms of the analysis of this question, an existing well-being model was used as a framework to help identify responses and categorise them accordingly.

1.5.3 Research question 3

How can education and learning be applied effectively to produce capacity-building outcomes?

(a) What makes training effective?

(b) What role do partnerships play in effective delivery?

(c) What are indicators of effective delivery?

The final research question was more focussed on aspects of training delivery. The survey instrument was designed in this instance to ground the responses in ‘stories’ about programs with which respondents were familiar. It was from these stories that a framework for effective delivery was developed. The stories also provided a basis for identifying significant training partnerships. Again, the stories were used to identify principles that contributed to the role that stand-out examples of partnerships played in effective training. The instrument was designed to avoid misconceptions about ‘effectiveness’. Respondents were allowed to formulate their own definition of ‘effective’ in the context of the training program they described.

1.6 Limitations

The project does have limitations, which are described below. The limitations relate to application of the findings and are in part due to deliberate choices made in the project’s scoping and design. Time and funding constraints also contributed to the limits set on the project.

1.6.1 Data limitations

A quantitative assessment of well-being indicators for a region such as the tropical savanna region has inherent limitations. Firstly, in some instances suitable and comparable data is not available. In other instances it is not available at a small regional level. Further, the assumptions related to the application of indicators in mainstream contexts, for example housing ownership indicators, do not always apply in all the contexts of the savanna region.

1.6.2 Site limitations

The scope of the project meant that a focus on a regional area with unique conditions was warranted. However, this in itself means that the generalisability of the findings to other regions is somewhat limited. Additionally, the choice of four specific sites limits the application to some extent to similar contexts. It is also noted that for given site types, such as the Indigenous West Arnhem site, the findings may not apply equally to other Indigenous communities or areas where large numbers of Indigenous people live, for example in Cape York or the Kimberley.

1.6.3 Respondent limitations

Scoping choices meant that the views of a large and important group of VET stakeholders—namely current trainees and particularly younger trainees—were to a large extent set aside in favour of those with a broader understanding of the systemic issues surrounding VET. Further, the sampling methodology, built largely around a purposefully selected group of key stakeholders, meant that the views of Indigenous people—while not ignored—were not purposefully sought.

1.6.4 Design limitations

The mixed method design used for the project also has some limitations. Attempts to mix quantitative data and draw implications from the qualitative data will undoubtedly raise questions about the validity of the interpretation of the findings. The design recognises however that the different forms of data have different purposes. The quantitative data used helps to frame the context of the research while the qualitative data frames the theory building aspects of the research. These issues are covered more fully in the Methodology chapter.

The respondent sample size—132 respondents from 102 interviews—is arguably inadequate to draw statistically significant or generisable conclusions in a quantitative sense. However, the purpose of this research is not to extrapolate the perceptions of these 132 respondents and apply these findings more generally. Rather, using the purposefully selected sample, the aim is to identify principles and to build theory, which may be tested for application in a broader geographical or socio-cultural context.

1.7 Definitions

This section summarises important definitions adopted in this research, based on available literature and its application to the fields of study. In many cases the literature review considers alternatives for these definitions. However, these definitions are the ones that are adopted in the reporting of findings and discussion of results. The key definitions are presented here in alphabetical order. The main source used to justify the use of the definition is also provided.

1.7.1 Adult and community education (ACE)

While recognising that there is no single definition of adult and community education, ACE is here defined as adult learning activity for vocational, social, civic and personal purposes, generally characterised by its learner-centred nature, responsiveness to community needs, accessibility and inclusivity, diversity, variety and flexibility (Golding, Davies & Volkoff 2001).

1.7.2 Community

There is a diversity of opinion about what constitutes ‘community’. However for the purpose of this research communities are defined simply as places where people live.

‘Communities are commonly thought of as being groups of people living within particular geographical areas, such as cities or rural towns and their surrounding areas’ (ABS 2001c:56).

1.7.3 Community capacity

Community capacity is here defined as a community’s ability to draw on a range of social, natural, economic and human resources for its own benefit (Aspen Institute 1996).

1.7.4 Community capacity-building

Community capacity-building is the process by which the community’s resources and benefits are added to (FaCS 2000).

1.7.5 Identity

Identity as it is used in this research can be defined as that which defines the individual (or collective), expressed through perceptions of self-concept that include self-esteem and self-confidence and which is constructed, reaffirmed and changed by the social interactions, relationships and the norms and values in which the individual is situated (Ashmore & Jussim 1997).

1.7.6 Indigenous

‘Indigenous’ is used in this research to describe either Aboriginal or Torres Strait Islander peoples. This is designated on the basis of self-identification (ABS 2002h).

1.7.7 Social capital

The definition of social capital used here follows Organisation for Economic Cooperation and Development (OECD) and Australian Bureau of Statistics (ABS) definitions for the term, being the ‘networks, together with shared norms, values and understandings which facilitate cooperation within or among groups’ (OECD 2001b).

1.7.8 Tropical savannas

Tropical savannas are landscapes of grass and scattered trees that occur throughout the world’s tropics. Tropical savannas can be almost treeless grasslands or denser woodlands, as long as the canopy cover of the trees is not so dense that it shades out the grass (TSCRC 2005a).

1.7.9 Vocational education and training

Vocational education and training can be considered to encompass training that occurs both within and outside the *formal* VET sector (which includes apprenticeships and traineeships) and within and outside the specifically ‘vocational’ sector of training to include a range of post-compulsory learning options both for adults and young people (ANTA 2005a). Under this definition, much of what could be otherwise described as ACE falls under the broad umbrella of VET.

1.7.10 Well-being

The definition of community well-being as it is applied to discussions in this research is summarised as: the health of a community in terms of its combined economic, human, social and natural resources (Healy 2001).

1.8 Chapter outlines

The following chapters describe research undertaken to achieve the aims described above: that is to determine how vocational education and training (VET) can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the well-being of communities and regions. This section briefly summarises the chapters that follow: a literature review, methodology, results and finally discussions and implications.

1.8.1 Chapter 2—Literature review

Chapter 2, the literature review, is designed to place the research project in context. It begins by providing a context for the research and then considers current views on issues related specifically to the research questions.

Vocational education and training is set against a context of increasing demand for both the formal apprentice and traineeship sector and the non-formal adult and community education sector. Four main challenges for the post-compulsory education and training sector as a whole are presented. Firstly, issues of quality are discussed in terms of definitions, indicators and outcomes. Second, the challenges of flexible learning are presented. While this is considered as potentially an opportunity, particularly for remote areas of Australia, issues related to infrastructure, literacy and numeracy and some of the unique contextual issues of flexible delivery in the tropics are considered. The third challenge is related to funding and cost of training provision. The evidence of literature suggests that while overall funding has not changed in recent years, the cost burden is shifting away from government to private expenditure. The fourth challenge is that of supply and demand. At a time when skills shortages are frequently discussed in the media, the recent literature suggests that most government strategies are aimed at addressing labour supply issues related to these shortages. The effectiveness of these strategies has not as yet been determined.

The literature review then considers some of the unique contextual issues facing the provision of education and training in the Australian tropical savanna region. The impact of a high and growing proportion of Indigenous people in the population is considered. There are a number of implications for training provision related to language and literacy, health, culture and access. Partly as a result of the growing Indigenous population, the demographics are unique in this region. The industry profile of the tropical savanna region is also distinct from that of the rest of Australia. A high proportion of government employment noted in the ABS Census data reviewed is a reflection of engagement with CDEP. Mining, agriculture and tourism all play an important and significant role in the economy of the region, all of which affect the training environment. A fourth contextual issue is that of rural and remote access. The great majority of the region is considered to be ‘very remote’ and the region overall is sparsely populated with the exception of a few major regional centres, most notably around Darwin and Townsville. Remoteness and access remain significant issues for effective training delivery into the area.

The third major subsection in the discussion of literature relating to education and training focuses on issues of success: how it is defined and how different groups perceive success in training. The different perspectives of individuals, industry, communities, governments, providers and partnerships are considered. There is, given this array of stakeholders, no singular definition of success. However it is often described in terms of some kind of employment related outcome. Some inadequacies in measurement and reporting of outcomes are noted. The question of what determines successful training remains largely unanswered, with very little literature uncovered to shed light on this. There are indications from limited research reviewed that success is determined to a large extent by the nature of relationships within partnerships and the culture and values within organisations that support learning, but the issue remains largely unexplored.

The focus of the second part of the literature review is on the intersection between learning and community well-being. While a variety of definitions of community are reviewed the basis of definition to be used in this research relates the term simply to the location where people live. Definitions of related terms—community capacity and community capacity-building—are also considered. The view taken here is that community capacity is a community's ability to draw on a range of social, natural, economic and human resources for its own benefit. Capacity building is therefore the process by which those resources and benefits are added to.

Given these definitions of community, capacity and building, the next step in the review is to examine the nature of communities in the savanna region. A series of maps and tables are used to illustrate the size, growth and density of population groups in the region. The characteristics of population groups in terms of predominant industries are also shown. Of note in these maps is the way that certain types of communities are either clustered or dispersed across the region. For example mining communities were scattered, with a notable cluster in the Bowen Basin. Communities based around retail industries are clustered predominantly around Townsville and scattered in regional centres of western Queensland, around Darwin and in major centres of the Kimberley. Government and defence dominate Indigenous communities across the entire region.

A framework for thinking about well-being is developed next. This focuses on an understanding of the relationship between well-being and the notion of capital, described in terms of human, social, economic and natural 'types of capital'. This framework is important for an understanding of the nature of well-being, which in literature is described in terms of a range of indicators under headings of health, wealth, education, employment, leisure, social environment, physical environment and personal safety. Each of these 'bands' intersects with learning at some point. In each case learning contributes to the aspects of well-being described. However, the contexts of each well-being band contribute to the quality and nature of learning that occurs in community contexts.

The literature review concludes with a discussion of the intersection of learning and aspects of identity, both individual and collective. The role of identity in learning and the role of learning in identity formation are considered. Positive identity is found to have an influence on learning performance and learning is found to have a positive impact on identity formation, in terms of self-esteem and self-efficacy. However, identity formation is seen in education literature more as a by-product than as an outcome, and among most stakeholder groups identity formation is not targeted strategically as an outcome. There is little evidence to suggest that identity formation is built in to training strategies and there was no literature found that discusses the relative importance of identity formation compared to other employment and productivity related outcomes. These identity issues are also linked to leadership, such that leadership can be used to drive learning and learning can be used to build leadership. The discussion on identity and leadership is relevant to the topic of capacity-building because they are both products of learning, which in turn add to individuals’ and communities’ capacity.

1.8.2 Chapter 3—Methodology

Chapter 3 details the research methodology used for this project. In the first section the overall plan is presented along with the theoretical underpinnings used for the project as a whole. The second major section describes the detailed methodology employed for Research question 1. The third major section describes the strategies used for Research questions 2 and 3.

Overall the research can be described as a mixed methods approach. The basis for this is that it combines qualitative and quantitative approaches and uses inductive and deductive logic. It mixes many of the strategies used in a post-positivist paradigm with those used in a constructivist paradigm. It could be better described as being built on a pragmatist paradigm. The largely qualitative approach used for Phase 3, using four socio-culturally bounded case studies as the basis for a grounded theory approach, is also supplemented by quantitative methods. These quantitative techniques are built into the research largely to test the generalisability of the case study results and therefore to determine how applicable they might be outside the savanna regional context.

Phase 1 of the research relies on analysis of a variety of existing Census and survey data to firstly determine the variability of well-being across the savanna region and secondly to build a typology that could be used for site selection in a series of case studies. This is done by first identifying a number of well-being indicators that conform to a broad OECD/ABS based framework of social indicators. Data sources are examined and applied to this framework for communities and subregions of the savanna. The end result of Phase 1 was the development of a typology of savanna communities and a detailed analysis of locational statistics that illustrated the level of well-being and the qualitative nature of that well-being.

The starting point for Phase 2 of the research was the typology developed in Phase 1. Four regions representing four types of communities were selected for case studies: mining communities, Indigenous communities, urban growth communities and peri-urban lifestyle communities. Three sites in the Northern Territory and one in Queensland were ultimately chosen. Stakeholders were identified in Phase 2 and 3 using purposeful sampling strategies. In particular, a version of a ‘snowball technique’ was used so that stakeholders and respondents ultimately referred themselves to each other. A total of 102 interviews were ultimately conducted, which included a total of 132 respondents. A semi-structured interview schedule was designed to capture the data. Interviews were audio-recorded and later transcribed,

The transcribed text files were analysed using qualitative research software for coding and thematic analysis. Standard database and spreadsheet software tools were used for more detailed analysis of the quantized data (qualitative data translated into quantifiable variables).

1.8.3 Chapter 4—Results

Chapter 4 presents the results of the research project. The results are reported for each of three research questions.

The task of Research question 1 was to identify a range of well-being indicators that could be applied to the Australian tropical savanna context and then to show how well-being varied across the region. A total of 16 available and comparable indicators were identified that could be readily applied to communities or at small regional levels. These were spread across seven of the eight well-being bands. The question also aimed to determine how well-being varied across the savanna. The results of the quantitative analysis show that communities have both strengths and vulnerabilities, depending on the type of community. According to the indicators, Indigenous communities tend to be more vulnerable across an array of measures than other community types. Mining, urban and rural communities tend to have a more balanced number of strengths and vulnerabilities, while peri-urban communities tend to have a greater number of strengths than vulnerabilities.

The task of Research question 2 was to identify the link between education and learning and capacity-building in savanna communities. This was done firstly by identifying the beneficiaries of training and secondly by identifying the benefits of training and learning. The largest group of beneficiaries are described as individuals participating in programs. This is followed by communities, ranked second, and industry, ranked third. With regards to what the benefits of training are, the largest group of benefits identified by respondents relate to employment. Some of these benefits are seen to accrue to industry in terms of risk management and productivity. Others are considered to be more for employees: career pathways, work ethic and capacity to perform the tasks required in a job. The second largest group relate to personal identity benefits.

Four main clusters of data emerged in relation to identity formation benefits. The first group relates to the development of the self-concept; the second to self-efficacy or personal capacity; the third to social relationships and the last group relates to the individual’s awareness of themselves and the options they have open to them. However a broad range of other well-being benefits are described that aligned with the eight well-being bands identified in the literature.

The task of Research question 3 was to identify how education and learning can be applied effectively to produce capacity-building outcomes. The findings point to a series of key factors that contribute to the effectiveness of learning programs. Particularly relevant to Indigenous training is a finding that suggests that solid compulsory education and literacy/numeracy foundations are prerequisite for effective training to take place. In addition, respondents felt that addressing some specific barriers would add to effectiveness. These relate to remoteness and access, language and culture and bureaucracy/red tape.

1.8.4 Chapter 5—Discussion, synthesis and implications

The key results of this research can be broadly summarised under three headings. From these statements a number of implications are discussed.

1. The capacity of VET to contribute to well-being is greater than people's perceptions of its contribution

The results show that in terms of the eight well-being bands, respondents' perceptions were clearly focussed on employment as the primary way that learning builds capacity. More than one-third of responses about the benefits of VET described employment outcomes. Very few responses (11 per cent) described how VET contributed to community well-being in terms of health, the physical environment or culture and leisure. The evidence however is that VET can and does contribute to outcomes in the full range of well-being bands. However, because of funding regimes, policy directions and a history of VET that is firmly embedded in industry skill outcomes, the broader options are either not thought of or not available in some areas.

2. Evaluation and assessment of VET programs must extend beyond a simple measurement of outcomes and delivery processes and outputs

The results point to a broad range of factors that contribute to effective VET programs. While much of the emphasis in policy is perhaps rightly on outcomes—especially employment outcomes—when assessments and evaluations are carried out, a broader range of criteria must be drawn on to accurately reflect the value or success of a program. These include an assessment of training precursors: how well the program meets individual, industry and community needs, the extent to which motivators or incentives are applied and used by stakeholders, and the extent to which enablers are applied and used to facilitate the training program. Evaluation should also include an assessment of delivery processes and outputs as well as consideration of the outcomes, whether they be employment or other outcomes. Importantly also, a measure of the effectiveness of a program ought to include an evaluation of the extent to which identities have been shaped in terms of awareness, self-concept, self-efficacy and social relationships.

3. Identity formation is a critical and necessary component of effective vocational learning

The findings suggest that ultimately training is as much or more about what it does for the participant's identity as it is about the skills developed. While it may be difficult to measure identity formation—it is certainly beyond the scope of a training assessor to do this—it is very feasible to build identity forming processes into a training program. The findings suggest that identity is progressively built in effective programs through engagement with the training context: firstly raising awareness or expanding horizons, secondly giving participants the capacity to act, and thirdly empowering participants to make choices. The end result is an emerging self-concept that exhibits itself in higher self-esteem, pride and self-worth.

The discussion goes on to consider the implications in terms of VET and well-being in savanna communities; VET and innovation; VET and skills shortages for industries of savanna communities; VET and enterprise development; VET and identity formation; and VET and training for training's sake.

1.8.5 Chapter 6—Conclusions

The concluding chapter draws the findings together relating them back to the main aims of the study. The implications are summarised and some final reflections are offered.

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 2: Literature review

2 Literature review

> Do not rebuke a mocker or he will hate you;
> rebuke a wise man and he will love you.
>
> Instruct a wise man and he will be wiser still;
> teach a righteous man and he will add to his learning.
>
> The fear of the LORD is the beginning of wisdom,
> and knowledge of the Holy One is understanding.
>
> Proverbs 9:8–10

This project aims to determine how vocational education and training can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the diverse needs of the region. This chapter therefore examines a mix of Australian and international literature relating to issues of learning, community well-being and the intersection between the two. It places this review in an Australian tropical savanna context.

The literature shows that vocational education and training sits within a complex and intertwined social, institutional, economic and individual context. While training is often described as a discrete and isolated unit of activity—a course, a certificate, a unit of competency—the literature reviewed demonstrates that training is very much part of an open ‘system’, contrary to a view that suggests that training is the system itself. While the chapter discusses topics in a discrete, sequential manner, in reality these topics are often inseparable from each other, connected more like pieces of a jigsaw, than in a linear construct.

There are two main sections in this chapter. The first deals directly with the topic of vocational education and training in Australia. The second major section deals with the topic of learning as it intersects with community well-being.

2.1 Vocational education and training in Australia

Post-compulsory education and training can be thought of broadly as those learning experiences beyond the domain of formal secondary education (usually Year 10 and/or between ages 15 and 16 depending on the relevant state and territory laws). It covers a range of learning experiences, which include informal and formal learning, further and higher education sectors, adult education and the many forms of learning that blur the boundaries of these sectors. The field of interest in this research is the post-compulsory sector that excludes higher or university based education. Recognising that there is a wide variation in definitions, it can be broadly placed under the banner of vocational education and training.

ANTA (2005a) defines vocational education and training (VET) as:

> post-compulsory education and training, excluding degree and higher level programs delivered by higher education institutions, which provides people with occupational or work-related knowledge and skills. VET also includes programs which provide the basis for subsequent vocational programs.

This research takes the view that VET can be considered to encompass training that occurs both outside the formal VET sector and outside the specifically ‘vocational’ sector of training to include a range of post-compulsory learning options both for adults and young people. The section begins with a review of both the VET sector and the Adult and Community Education (ACE) sectors. It goes on to examine some of the key issues for education and training for Australia as a whole before progressing to some of the more specific issues relating to the northern Australian context, which forms part of this research. The section concludes with a review of how success is defined for various education and training stakeholder groups in Australia.

2.1.1 Trends in Australian post-compulsory education and training

The publicly funded VET sector in Australia has burgeoned in the past decade. Figure 1 shows that during the 10 years to 2003, participation in VET training increased by 54%. According to the National Centre for Vocational Education Research (NCVER), in 2003 there were 1.72 million people participating in publicly funded VET in Australia (NCVER 2004a) up from 1.16 million in 1993. Figure 1 also shows that participation rates among females, which traditionally lagged behind those of males, are now almost equal with males.

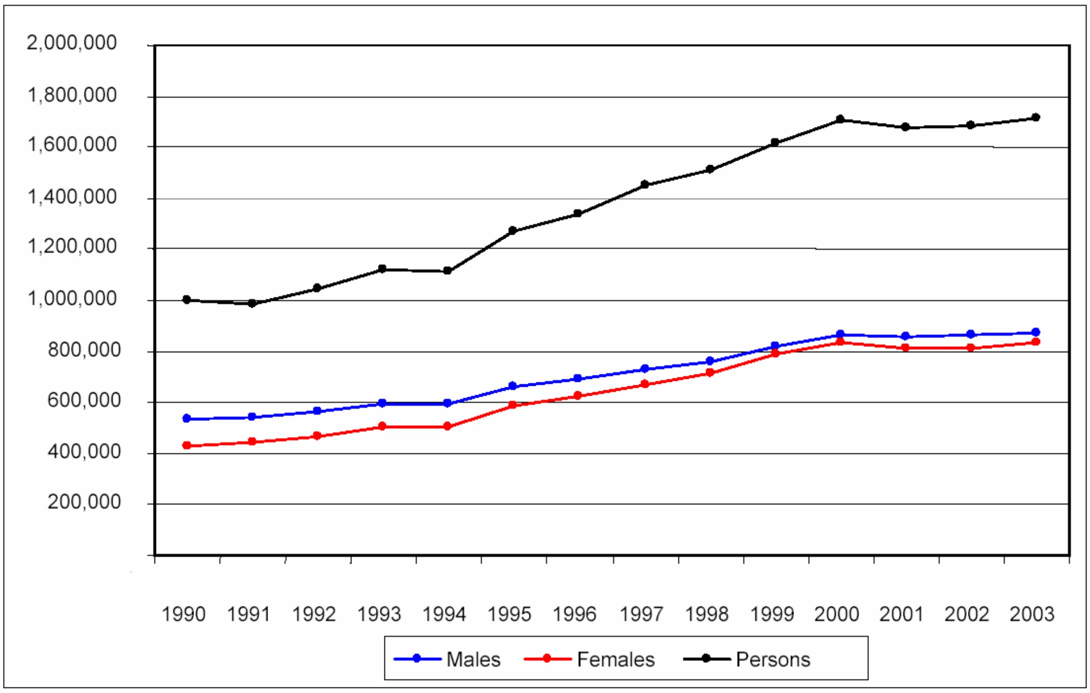


Figure 1 **Participation in vocational education and training, 1990 to 2003 (Source: Karmel 2004)**

The above figures do not take into account training outside the scope of activities reported by the NCVER. These excluded activities cover fee for service delivery by private providers, some VET in Schools activities and courses considered to be non-vocational (NCVER 2004a:3).

A number of factors have contributed to the increase in participation as described in the above chart. Most of these factors, which could be defined as *drivers*, are not directly linked to VET itself. Buczkowsky (2005) for example identifies 10 ‘change drivers’ of VET that have contributed to the past and emerging trends of VET provision in Australia. Only one of these is directly related to VET itself: *Government VET policy*. The others, which include the economic cycle, aging population and technological change, are all external to the VET sector. However, each contributes (mostly positively) to a growing demand for vocational skills and qualifications.

The discussion of trends in post-compulsory education and training will centre on two main areas. The first is often thought of as the more formal sector, which includes apprenticeships and traineeships. The second area is often discussed in terms of non-formal or informal education, best represented under the heading of adult and community education. Within the subsequent sections, discussion will also focus on the drivers of change.

2.1.1.1 Apprenticeships and traineeships

Trades qualifications—'traditional apprenticeships' that lead to occupations such as hairdressing, plumbing and building—as opposed to certificate courses more generally, have been the foundation of much of vocational education and training in Australia for several decades. However, since 1996 the proportional increase of traditional apprenticeships has been relatively small compared to the growth of 'other' certificate qualifications. Table 1 shows a growth of 31.9 per cent in the number of traditional apprentices 'in training', compared to a growth of more than 300 per cent for other apprentices and trainees.

Table 1 Apprentices and trainees 'in training' at 31 December, '000s (Sources: Brooks 2004, NCVER 2006)

	1996	1997	1998	1999	2000	2001	2002	2004
Traditional apprenticeships	101.3	102.2	102.5	107.9	112.7	110.7	115.4	133.6
Other	62.0	83.3	114.3	147.3	182.2	214.4	253.7	256.8
Total	163.3	185.5	216.9	255.2	294.9	325.1	369.1	390.4

Note: Traditional apprentices are defined as those with contracts within the 'trades and related workers' occupational group longer than 2 years at AQF level III or above

As will be shown later (see Supply and demand, page 38) this sluggish growth in traditional trades has significant implications for the skill needs of the Australian tropical savanna region, where demand for trades qualifications is relatively high. However the policy changes, which have opened up the way for the huge growth in the 'other' category shown in Table 1, also have significant implications for the savanna region, particularly in terms of training for Indigenous people. These policy measures introduced since 1990 (NCVER 2001a, Ray 2001) have included the introduction of competency-based training and training packages across apprenticeships and traineeships; the abolition of age restrictions in 1992 to permit people of all ages to participate in apprenticeships and traineeships; the relaxation of the requirement for formal off-the-job training in apprenticeships and traineeships in 1994–95; the extension of traineeships to programs leading to the equivalent of certificate III, certificate IV or diploma level qualifications in 1994–95; the establishment of the Australian Qualification Framework in 1995; and the establishment of an integrated *new apprenticeship* system in 1998, which included the provision of ‘user choice’.

The above changes are indicative of a change in VET delivery structures. However there are other indications that the focus of VET is shifting to a broader-based approach, which includes communities as well as industry. The Australian National Training Authority’s (ANTA) VET strategy for 2004–2010 includes specific mention of community benefit in its third objective (ANTA 2003a:2):

> Communities and regions will be strengthened economically and socially through learning and employment.

There are other indications that VET is being viewed in a somewhat more holistic framework, particularly in the area of Indigenous training and education. ANTA’s (2000a) national strategy for Indigenous vocational education and training includes objectives incorporating cultural inclusivity and lifelong learning, where consultation and respect for cultural traditions are taken into account along with local needs (Catts & Gelade 2002; Henry et al. 1998).

Of note is the inclusion in ANTA’s (2000b) blueprint that community outcomes including “increased resources for community development including communications, business, health and justice and opportunities in the arts, sports, and recreation” are integrated into the plan. Consistent with this framework, the discussion will now move to the less formal sector of post-compulsory education: adult and community education.

2.1.1.2 Adult and community education

Adult and community education has no single nationally accepted definition. However a useful working definition from the Commonwealth Department of Education, Science and Training (DEST 2003a) suggests that adult learning is “learning for vocational, social, civic and personal purposes for people aged 25 and over” (p. 3). Following Knight and Nestor (2001), ANTA (2005a) defines ACE as “intended principally for adults, including general, vocational, basic and community education, and recreation, leisure and personal enrichment programs”.

Each state and territory in Australia treats funding and provision of ACE differently. There is no single peak body that acts as an umbrella for ACE in the way that ANTA or DEST has done for VET or higher education. In Queensland the Lifelong Learning Council Queensland is recognised as the peak body, though several other organisations such as Learning Network Queensland have specific functions within the ACE sector. While in the Northern Territory several agencies play a role in specific aspects of ACE (e.g. Northern Territory Council for Adult Literacy), there is no recognised peak body for ACE. In Western Australia, Learning Centre Link is the state association for Community, Neighbourhood and Learning Centres (Australian Government 2005).

Adult and community education encompasses a diverse array of learning activities. While strictly not under the heading of VET, adult and community education often includes elements typically included in vocational learning such as information technology literacy, communication and problem solving (MCEETYA 2002). It has been described as learner-centred, responsive to community needs, accessible and inclusive, diverse, varied and flexible (Golding, Davies & Volkoff 2001).

Within this broad scope ACE has several functions both for individuals that participate and for the communities that participants to which belong. Falk et al. (2000) note the importance of ACE for community building. Birch et al. (2003) describe a range of qualitative and net economic benefits that accrue to communities, participants and providers. Clemans et al. (2003) identify a matrix of outcomes for individuals, communities and economies across a range of knowledge, developmental, identity forming and social variables. Kearns (2004a) adds that while

> the social imperatives for lifelong learning are central, lifelong learning also serves fundamental economic objectives in the context of the global knowledge economy with its exponential pace of change, converging technologies, and blurring of traditional boundaries (p. 3).

According to NCVER (2003:5) approximately three-quarters of the nearly 21,000 hours delivered as ACE in 2001 were vocational in nature. These figures may distort the true extent of vocational ACE delivery in Australia as the data collected comes only from those providers who are part of the public VET system. Indeed, there are more general concerns about the adequacy of VET/ACE data collections (ABS 2002g). The NCVER estimates that it collects data for approximately half the total number of ACE students, estimated at between 1.2 and 1.4 million (Borthwick et al. 2001). However, ACE, as part of the post compulsory education sector, provides a significant basis for vocational learning and more generally community capacity-building.

Tracking the trends in ACE participation is problematic, partly because of the data collection issues described above, and partly because of a lack of nationally agreed standards and indicators. While there is evidence to suggest fairly steady growth in ACE participation in the early 1990s (SEETRC 1997) from a base of around 750,000 at the beginning of the decade, the figures are at best rubbery. The more recent NCVER data available suggests very little change in participation patterns in the last few years (Borthwick et al. 2001; NCVER 2001a, 2003), and shows fairly consistent reported hours of delivery, between 20,000 and 21,000 from 1998 to 2001. ABS (2003a), in a review of statistics on adult education, concludes that:

> There is a lack of basic national information about ACE participants and their characteristics, which detracts from an ability to assess objectively the extent, nature and impact of adult community education in Australia.

Despite the uncertainties associated with the participation data, there is overwhelming evidence from the existing research that adult and community education contributes significantly to the lives of individuals and communities. It is apparent from research (e.g. Birch et al. 2003, CRLRA 2001a, 2001b; DoE 2003) that indirectly, ACE adds to the economic life of regions by providing foundational skills such as language, literacy and numeracy skills, information technology, first aid and emergency services. There are however, challenges for the post-compulsory education and training sector, which will be discussed in the following section.

2.1.2 Challenges for post-compulsory education and training

While the post-compulsory education and training sector has seen significant growth in the past decade, at least in terms of numbers participating, the adequacy of the VET system to meet the future needs of Australian society in terms of innovation and the so-called ‘knowledge economy’ (Chappell 2003, Curtain 2004, Falk & Guenther

2002) as well as maintaining and building an adequate stock of skills (SEWRERC 2003, TDA 2001) is questioned by some. In response to the criticisms of the system, there have been several changes to VET strategy over recent years, most notably in strategic emphases (ANTA 2000a, 2000b, 2003a). The Commonwealth government's recent move to abolish ANTA from July 2005 and its intention to set up 24 national TAFE colleges (Prime Minister of Australia 2004; DEST 2004) is at least in part a reflection of the wider concern about the efficacy of the system to meet the broader needs of Australia. The challenges for the VET system are here summarised under headings of quality, flexibility, funding and supply/demand issues. These are not the only challenges for VET in Australia. Many of the other issues are particularly significant for northern Australia (such as Indigenous issues, rural and remote access and specific industry issues—see page 41).

2.1.2.1 Quality

The question of what defines 'quality' in vocational learning is multi-faceted and determined to a large extent by the stakeholder's role and is closely related to 'success' in training (see Section 2.1.4, page 69). Not only is the concept of quality multi-faceted, it is evolving with time (Kilpatrick et al. 2001a). The determinants of quality for a learner are different than those for a business/enterprise, an industry group, a provider and a community. Therefore ANTA's (1999) definition of quality should be viewed as just one aspect of quality in training provision:

> the level of satisfaction with and effectiveness of vocational education and training organisations, their products and services, established through conformity with the requirements set by clients and stakeholders.

In a wide-ranging review of international quality indicators, Blom and Meyers (2003) conclude that quality indicators can "be divided broadly into two categories: first, those that focus on the *process* of training, and second, those that focus on *outcomes or outputs*" (p. 47). They describe four interacting VET subsystems, into which these two categories fit: policies, administration, programs and learning experiences. The first two align neatly with Schofield's (2000) dimension of *systemic quality* and the last two align with a second dimension of *quality of training and learning.*

There has been much discussion in recent years about systemic quality issues and quality of the VET system continues to be an issue of concern. ANTA’s 2003 Annual Report, highlighting the challenges facing the VET sector states: “Quality is a key strategic issue facing the system” (ANTA 2004a:85). These systemic quality issues often relate to the Australian Recognition Framework (ARF), the Australian Quality Training Framework (AQTF), Training Packages and reporting systems such as the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS).

The ARF arrangements are largely concerned with quality assurance systems and procedures with a focus on documentation and conformance (Faverro 2003). Providers working within this framework therefore not surprisingly often refer to quality in terms of ‘quality management’ issues (NCVER 2000). The ARF was itself criticised by a Senate Committee Report (SEWRSEBC 2000):

> These deficiencies include inadequacies in the scope and effectiveness of Standards and Evidence Requirements, serious weaknesses in the capacity of the Framework to contribute to national consistency and quality in the VET system, and shortcomings in the application auditing by states and territories of the Principles and Standards for provider registration. (p. xviii)

There was general consensus, following the Schofield reviews of VET quality in three states (Schofield 1999a, 1999b, 2000), on the need to improve the quality of VET programs. This is evidenced by state VET office responses, which include proposals for improving assessment methods (Vallence et al. 2001, Smith 2000). Smith’s critical review of assessment processes in Queensland suggested that there was too much reliance on collection of the maximum amount of evidence instead of relying on a wide range of measures using professional judgment. More recently, Schofield and McDonald (2004) commented on the Australian Quality Training Framework in relation to a high-level review of Training Packages:

> The compliance framework of the AQTF is a necessary but not sufficient means of ensuring good quality teaching, learning and assessment. What is needed is a capacity-building approach that emphasises quality, creativity, professional judgement and growth rather than simply compliance. (p. 28)

These comments echoed those of Smith's (2000) recommendations and suggest that despite the numerous reviews there is at best insufficient progress being made to ensure quality beyond a quality *management* approach. It is apparent from the preceding discussion that from a systemic point of view, quality continues to be an issue.

The discussion about quality of training and learning has been more muted. In terms of client satisfaction, this aspect of quality was by and large given the 'green light' by ANTA (2004a) in its annual review of Key Performance Measures (KPMs). The NCVER (2004b) reported that in 2004, 85 per cent of all graduates and 77 per cent of module completers were satisfied with the quality of their training. The figure for module completers has been almost constant for the past five years while the figure for graduates improved from about 79 per cent in 2000. Similar proportions (81 per cent of graduates and 71 per cent of module completers) achieved the main reason for their study. The NCVER's most recently published Employer Views Survey (NCVER 2001c) reported that:

> Overall, employers' views on VET have remained fairly stable and generally quite positive about the VET system. Employers have become more positive in their views on the relevance of graduates' skills and that the system takes their needs into account.

The survey showed that over the past three biennial surveys, about two-thirds of employers agreed that "the VET system is providing graduates with skills appropriate to employers' needs". However, a closer look at the data suggests that beside this apparent satisfaction there were lingering dissatisfactions with the system. For example in 2001, three-quarters of employers believed that assessment processes needed to be improved; four-fifths believed that employers should have had more input into course content and one-third of employers believed that the VET system did not take employers' needs into account (NCVER 2001c:21).

The NCVER surveys cited above provide a crude indication of quality of training and learning as perceived by clients. The bulk of ANTA's KPMs similarly provide crude indications of performance without a true evaluative framework. Maxwell et al. (2004) suggest that KPMs focus on the system level but are insensitive to issues that need to be addressed at the institutional (delivery) level:

> …what is striking about these key performance measures is both their lack of precise definition… and their purely descriptive nature—with an absence of any reference to the standards or benchmarks or methods of comparison which will enable their evaluative interpretation. That is, the key performance measures specify a database, but lack measurement integrity and an evaluative framework (p. 15).

At best KPMs and current client surveys give a mixed report-card about the training and learning experiences of clients. A ten site study of regional Australian communities conducted by CRLRA (2001a, 2001b) suggested that quality issues were the main detractor from the effectiveness of VET. The research highlighted stakeholder concerns including competition in thin markets, limited resources in rural areas, educational value of qualifications and industry transportability.

While the quality of VET systems and training/learning experiences appears to be acceptable, current methodologies for measuring quality focus more on the systemic than the experiential level of vocational learning. The current data collection strategies to some extent disguise the true picture of quality of VET by answering an inadequate set of questions. They fail to address the issues of comparative benchmarks, by which a better evaluation of the quality and effectiveness of both the system and the training/learning experience could be measured.

A second challenge for the post-compulsory education and training sector is that of flexible learning. It too presents challenges in terms of quality. But it also presents opportunities.

2.1.2.2 Flexible learning

Flexible learning is often thought of in terms of ‘e-learning’—using electronic methods as an alternative to traditional teaching methods. However, as noted by the Flexible Learning Advisory Group (FLAG 2003) there is no one definition of flexible learning. It means different things to different stakeholder groups.

> While there is no universal definition of “flexible learning”, there is wide agreement that the principle of choice is critical to it. Businesses, communities and learners need a broad range of choices about the type of training programs they can undertake, about where and when these are conducted, about the pace of learning, about learning resources used and about how assessment is conducted. A “one size fits all” approach to learning is increasingly out-of-step with expectations that learning will be interactive, collaborative and personalised to match individual needs and circumstances. (p. 3)

The significance of ‘choice’ in vocational learning was embodied in strategic policy well before the implementation of the Australian Flexible Learning Framework (AFLF) in 2000. While flexibility was a key issue for the implementation of User Choice in 1997, it is essentially about a funding strategy (ANTA 2004b):

> User Choice is defined as the flow of public funds to individual training providers which reflects the choice of individual training provider made by the client. (p. 1)

By contrast, the AFLF as a strategic framework is:

> designed to support both the accelerated take-up of flexible learning modes and to position Australian Vocational Education and Training (VET) as a world leader in applying new technologies to vocational education products and services (ANTA 2001:1).

According to AFLF definitions, while flexible learning embodies choice it also includes elements of technology in its goals. Hence, as suggested earlier, e-learning has become a proxy for flexible learning.

The effectiveness of the strategy appears to be somewhat mixed. On the one hand there are strong indications that e-learning opportunities are opening up education and training opportunities for many people who would otherwise be excluded from engaging in learning. On the other hand there are significant numbers of people who are still not able to access e-learning opportunities and are therefore excluded from the emerging opportunities.

On the positive side, an evaluation of the AFLF (I & J Management Services 2004) found that in the four years since the Framework was established, participation in e-learning through institutions had increased exponentially:

> There have been twenty-fold, forty-fold and fifty-fold increases in the use of technology-assisted learning in VET within the space of two to three years. (p. 17)

Further evidence exists that many older Australians are taking advantage of the opportunities offered through e-learning. For example, Hazzlewood (2001) found that chronological age was not a determinant in uptake of e-learning and that learning to use computers and the Internet in older age could help overcome issues of isolation for many older people. Further, access to e-learning opportunities has helped shaped attitudes to adult learning and led to increased uptake of formal and informal learning among users of public online access centres (DoE 2003; Hazzlewood & Kilpatrick 2001; Millar & Falk 2000; RTI 2002). E-learning is seen by some to overcome barriers of distance and remoteness (ANTA 2002a; Kilpatrick & Bound 2002).

On the negative side there are several barriers to the uptake of e-learning opportunities, many of which are particularly relevant to this research. One significant barrier relates to the metropolitan/non-metropolitan ‘digital divide’, which is as much related to demographic/educational differences as it is to infrastructure. Internet activity statistics issued by the ABS (2003b) suggest that rural/urban inequities are not only continuing, but possibly increasing. Subscribers in capital cities download more than 50 per cent more data than those in other areas. This is partly due to the availability and accessibility of broadband services and the quality of conventional dial-up services where telephone lines often restrict download speeds to less than 28 kilobits per second (Kpbs). It is also partly due to the higher proportion of subscribers in metropolitan areas.

Hollwig and Lloyd (2000) suggest that income and education have more to do with Internet take-up rates than geographic location. Guenther and Kilpatrick (2003) suggest that this argument may be somewhat simplistic because of the nature of rural and regional communities. One of the reasons rural areas tend to have lower proportions of people with higher education levels is simply because of the lack of available educational infrastructure. Therefore, if low skill level is an inhibitor to uptake, geography *is* a factor, not only because of the skill levels but because of the lack of educational infrastructure.

The Regional Telecommunications Inquiry report (RTI 2002) identified many of the rural/regional/remote inequities associated with access to information and communications technology (ICT) and these have been acknowledged by the Commonwealth government, which has responded to all of its recommendations with programs such as the Higher Bandwidth Incentive Scheme (HBIS) all designed to relieve the disadvantage. A discussion paper released by the Commonwealth Department of Communications, Informational Technology and the Arts (DCITA 2003) identified several issues that act as barriers to the uptake of Information Technology training in remote areas of Australia.

> There appears to be a range of barriers inhibiting higher levels of participation in IT training by those in remote and very remote regions. These factors include:
>
> - lack of awareness of what training is available
> - high cost, especially related to travel
> - lack of appropriate content/services to engender an individual’s interest to become skilled. (p. 6)

For many Indigenous communities simply gaining access to a telephone can be an issue. For example in the Northern Territory, more than 70 per cent of people living in remote Indigenous communities in 2002 did not have access to a working telephone in their home (ABS 2004a). Table 2 highlights statistics for Indigenous persons in remote areas of five jurisdictions and demonstrates the relative disadvantage for this demographic group compared to Australia as a whole. The table shows that remote Indigenous persons are about twice as likely not to have a working telephone, and half as likely to have used a computer or accessed the Internet in the last 12 months compared with Australia as a whole.

Table 2 **Access to telephones, computers and Internet: Indigenous persons, remote areas (Source: ABS 2004a)**

	Indigenous persons, remote areas only						Australia
Per cent Indigenous persons, 15+	NT	NSW	SA	QLD	WA	Total	Remote and non-remote
Does not have working telephone in home	70.8	39.6	59.1	42.3	53.8	56.8	28.7
Used computer in last 12 months	25.5	33.7	37.9	44.0	38.1	34.3	67.6
Total accessed Internet in last 12 months*	14.1	24.9	23.4	28.4	25.2	21.5	41.0

Note: *includes those who did not state purpose

The barriers are heightened for remote Indigenous communities, partly because of the degree of remoteness but also because of cultural and language differences (Turk 2002), wet season inaccessibility in the tropical savanna region and because of the relatively low socio-economic status of remote communities, which is often associated with overcrowding and poor quality housing. Many of the multiple disadvantages associated with life in Indigenous communities are highlighted by the 2001 Community Housing and Infrastructure Needs Survey (CHINS), which shows for example that 28 per cent of discrete Indigenous communities do not have a public telephone, 39 per cent of communities did not have access (within 10 km) to a primary school and “over two thirds (841 communities or 69%) of all discrete Indigenous communities in 2001 were located 100 kilometres or more from the nearest hospital” (ABS 2002a:28).

In a review of desert region indicators, Guenther (2004a) concluded:

> It is apparent that non-Indigenous people living in remote mining communities have similar opportunities in terms of education, employment (and therefore income) and Internet access [to those] that other non-remote Australians have. By contrast it is apparent that the same opportunities for access to information and communication technology, education and employment (other than CDEP) are not available to Indigenous people in similarly remote places. What this suggests is that remoteness is less of an issue than other factors that contribute to Indigenous disadvantage in the desert.

That review also found strong negative correlations between employment in work (other than CDEP) and household size, speaking an Indigenous language and non-attendance at school—more so than the Accessibility/Remoteness Index of Australia

(ARIA), which was used as a proxy for remoteness. While on the surface it may appear that remoteness and lack of basic ICT infrastructure is the reason why Indigenous people are not accessing e-learning opportunities at the rate of non-Indigenous people, there are in fact a number of other inhibitors experienced by Indigenous people in remote areas that are the underlying contributing factors. As noted earlier, e-learning can indeed overcome problems of isolation that come from being remote, but it does not in itself overcome issues of poor health, low standards of education or language and cultural barriers that inhibit its uptake.

One of the keys to successfully applying flexible learning strategies to Indigenous contexts lies in ownership of the application by the community. TAFE NSW for example, reports successful use of culturally appropriate ICT because of its capacity to broaden a community’s networks and “link with other communities” (Lester & Rickert 2004). In a review of the use of ICT in desert communities, Young et al. (2005) found that ‘culturally appropriate’ means different things to different communities. The range of applications they found differed markedly from those that might be expected in mainstream Australia. They conclude:

> …attention needs to be given to the potential of ICTs to enable expanded livelihood opportunities for Indigenous desert peoples. This does not necessarily mean starting with the delivery of qualifications, but actually creating the types of opportunities such as those emerging through Indigenous media activities, Indigenous art e-commerce activities and Indigenous knowledge and biodiversity conservation practices.

For Indigenous communities then, a simple transfer of the technology and infrastructure is inadequate in itself for the successful implementation of ICT in remote areas. The application of the technology must be relevant to their needs. The motivation for learning will arise from this.

One of the issues that emerges for post-compulsory education and training in remote areas is the cost of training. The other side of the financial coin, and related to this, is funding.

2.1.2.3 Funding and cost of training

Claims of funding cutbacks are sometimes cited as a reason for inadequacies in the system. Not only is the amount of funding sometimes reported to be inadequate, but the models of funding are considered to be inappropriate (TDA 2004). Some have claimed that increased efficiencies have been achieved at the expense of effectiveness and quality (Watson 2002). Other stakeholders contend that, in order to meet unmet demand, funding projections for public providers are grossly inadequate and need to be increased significantly (AEU 2003).

Adequacy of funding is one financial aspect of training. The other aspect is the cost burden to users. Costs affect both employers and individuals and act as significant barriers to participation. In particular, in rural and remote areas cost of travel to access training has been cited frequently as a barrier (CRLRA 2001b; Kilpatrick & Guenther 2003a) both to employers and to individuals who are employment/income disadvantaged (NTCOSS 2004). The Northern Territory government, in its *Workforce NT Report* (DEET 2005b), highlighted cost of training as one of the barriers to employment in the Territory:

> Despite subsidies and low award wages, training new apprentices is costly and time consuming. Getting adequately qualified staff, of the kind required to supervise apprentices, is difficult in regional NT. Turnover of these staff once recruited is also a problem. This acts as a barrier to increasing skills and employment opportunities for regional NT and the Indigenous population.
> (p. 215)

To a large extent the cost barriers can only be overcome with additional funding.

The claims of funding cutbacks should be easy enough to test by reviewing estimates provided in ANTA’s annual reports (ANTA 2004a). To this end a summary of key financial data is shown below in Table 3.

While the table draws on several data sources and therefore does not show corresponding time periods, it gives an indication of the changes in training expenditure from three main sources over a period of several years. The data suggests that there were cutbacks in terms of dollars per student hour in the period from 1999 to 2001, but that these trends have been reversed in more recent years. In nominal dollar terms funding from government sources increased by 21 per cent over the four year period to 2003. Funding from enterprise and individuals increased by 52 per cent over similar timeframes to 2001/02. The table therefore suggests that there has been a shift occurring in the cost burden of training such that a greater share of the cost is now borne by both individuals and enterprises and that overall, expenditure on vocational education and training has increased substantially. Governments' share of this increase is relatively small and has shifted in favour of non-TAFE provision. The assertions of funding cutbacks tend to come from those associated with TAFE and larger government institutions, which have a vested interest in maintaining a larger share of government funding.

Table 3 Expenditure on vocational education and training by sector (Source: ANTA 2004a; NCVER 2004c)

Government expenditure	**1999**	**2000**	**2001**	**2002**	**2003**
Expenditure per publicly funded hour ($/hour 2003 prices)	14.04	13.70	13.00	13.47	13.76
Government funding—nominal ($m)	3,732.3	3,817.5	4,007.8	4,279.4	4,519.3
Public funding for non-TAFE provision ($m)	251.6	267.7	318.7	310.8	316.0
Enterprise expenditure			**1996**		**2001–02**
Net direct training expenditure ($m)			2,396.7		3,652.8*
Individual expenditure			**1997**		**2001**
Total expenditure12—nominal ($m)			275.0		419.0

A fourth challenge for the post-compulsory education and training sector relates to issues of supply and demand, and has gained attention in the media under the banner of 'skills shortages'. This challenge will be the last to be considered in this section but it is by no means the least.

2.1.2.4 Supply and demand: Skills shortages

There is increasing evidence within Australia that demand for skilled labour is outstripping supply in some industry sectors in all states and many regions (ANTA 2004a) and that this is having an impact on the well-being of regions. The Bureau of Transport and Regional Economics (BTRE 2004:26) suggests that skills shortages in certain professions may "limit the capacity of regions to capitalise on their comparative advantages and socio-economic opportunities". Most state and territory governments have set in place strategic plans to deal with vocational training—

addressing specific skills shortages is included in these (DET 2002b; DoT 2002b; DoE 2004; NT Government 2003a).

‘Skills’ here can be considered as both technical and generic skills, where technical skills are industry and enterprise specific and generic skills are those which apply across industry boundaries, such as communication, organisation, teamwork and interpersonal skills (see also Learning and identity, page 132. For particular industry groups (e.g. Child Care, Engineering, Vehicle, Electrical, Health) there are widespread shortages across most or all states (DEWR 2004). Several factors contribute to a reduced pool of skilled labour. In particular, the gap between training entrants and industry need is increasing:

> The poor image of the trades, a community and education sector emphasis on higher education, and the demise of technical high schools in many jurisdictions are all blamed for the smaller pool of suitable applicants for apprenticeships. Increasing school retention rates, which result in later entry to the workforce, are also said to make apprenticeships, with their low wages in the early years, less attractive to young people (SEWRERC 2003:18).

In addressing skills shortages there are two parts to the equation. Skills shortages in certain industry sectors arise from the changing needs of those industries—the demand side of the equation. The growth in the Australian and international economies over recent years is one reason for demands of industries. The majority of skills shortages are in the areas of traditional trades and health and human services. At a regional level skills shortages are created by seasonal demands, initiation of major projects and other localised factors.

Skills shortages also arise from the availability of skilled labour—the supply side of the equation. This is influenced by a number of factors. It is primarily influenced by skilled people entering and leaving the ‘system’. Therefore demographic trends, early retirement trends, re-entry of mature-aged workers (ANTA 2003b, Baldwin 2003), migration trends, people leaving their trades and uptake of trades training more generally all play a role in the supply of trades labour. A further reason for the shortage arises from the cyclical nature of employment change in industries:

> …cyclical downturns reduce the number of training places offered by employers (this affects training completions years later, often when demand for skills is strong); and qualified workers who lose their jobs during downturns often do not return to the industry, leading to a loss of skills. (DEST 2002:4)

Apart from VET initiatives (e.g. national TAFE colleges) announced during the election period of 2004 earlier in 2004 the Commonwealth government announced the National Skills Shortages Strategy (Nelson 2004): “The new Strategy will take an industry approach to skill needs and tackle many of the significant disincentives which can turn young people away from choosing trades as a career”. The Strategy includes a number of innovative skills shortage projects (NSSS 2004) including shorter duration apprenticeships (designed to address concerns about the length of traditional trades qualifications); targeting new entrants to the skilled workforce (such as skilled migrants and Indigenous people); and qualifications in specialised skills in high demand (below trades qualifications levels).

At a Commonwealth government level, targeted migration programs have also been used to address regional skills shortages. Programs such as the Regional Sponsored Migration Scheme (RSMS) and Skilled Independent (Provisional) Regional visas are being used by state and territory governments to address some regional needs (DIMIA 2003, 2004; Vanstone 2002). State and territory governments are also acting to address regional and industry skills shortages. For example in Victoria, the Community Regional Industry Skills Program (CRISP) provides $10 million over four years to provide targeted funding to tackle skills shortages and create sustainable industries and jobs across country Victoria (DVC 2005). In the Northern Territory, the Skill Shortage Trades Employment Incentive provides a financial incentive for businesses in the private sector to employ additional apprentices in areas with identified trade skills shortages (DEET 2005a). Queensland’s *Breaking the Unemployment Cycle* program provides specific provisions for employers wanting to employ apprentices in industries with skills shortages (DET 2003). The New South Wales ‘Industry Skills Training Program’ is yet another example of a state-based initiative targeted at industries with skills shortages (NSW DET 2005).

The question of whether these schemes and programs are indeed effective in meeting skills shortage needs remains largely unanswered. Some are relatively recent and as yet unproven. While there is often strong support for programs there remains some doubt about the effectiveness of others such as the RSMS (DEWR JSCM 2002). Both parliamentary reports, *Bridging the divide* (SEWERC 2003) and *To make a contribution* (JSCM 2004), failed to address the question of whether or not skilled migration programs were in fact making a contribution to remedying skills shortages. A review of Queensland's *Breaking the unemployment cycle* program (DET 2002a)—while acknowledging the significance for meeting skills shortages and the needs of particular equity groups—similarly failed to answer the question of whether in fact the program had been effective in bridging skills gaps.

At this point in time when the demand for skilled labour—especially in traditional trades areas—is outstripping supply, it appears that most of the strategic policy stimulus from Australian governments is being directed at the supply side of the equation. The use of VET in this context is just one of many policy instruments used by governments and industry to fill this gap. The review of literature discussed here shows the attempts of governments, both at a Commonwealth and state/territory level, to address these skills needs through targeted programs. These programs are often designed to stimulate interest simultaneously among potential trainees and employers to facilitate an uptake of training in the traditional trades areas. However, the question of how effective many of these programs have been in achieving their stated goals remains unclear.

The discussion in this section has articulated four key concerns for the post-compulsory education and training sector: quality, flexible learning, funding and cost and finally supply and demand issues. The attention of this literature review now turns more specifically to the northern Australian context, which is the geographical focus of this research.

2.1.3 Education and training in the Australian tropical savanna context

By definition, tropical savannas are landscapes of grass and scattered trees that occur throughout the world's tropics (TSCRC 2005a). The Australian tropical savanna region comprises about one-quarter of the continent's total land area but only three per cent of the total Australian population. Figure 2 shows the region's Statistical Local Areas (SLAs), which are used for statistical analysis throughout this research.

Note that the area excludes the tropical rainforest region around Cairns and the region around Mackay as indicated by the Tropical Savannas CRC (TSCRC 2005b). The map should be treated as a close approximation as SLA boundaries are not exactly the same as the savanna boundaries specified. A listing of all SLAs used is shown at Table 78, Appendix 1 (page 420).

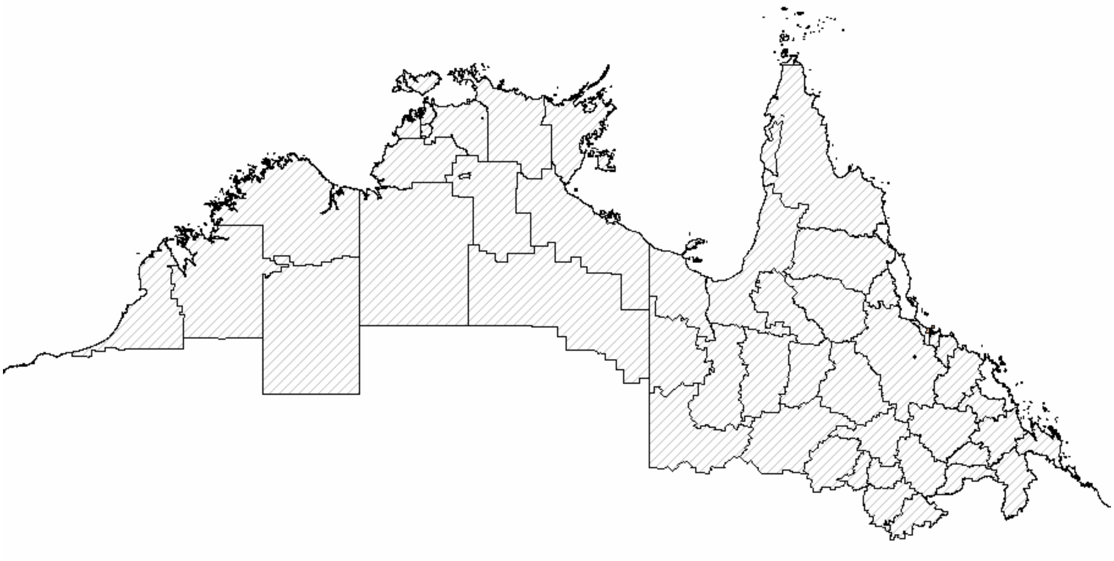


Figure 2 **SLAs used as an approximation of the extent of the Australian tropical savanna region (Map source: ABS 2003c based on boundaries in TSCRC 2005b)**

Table 4 details the area and population statistics for the region. Almost half the population is centred around two main centres: Darwin and Townsville (see also Appendix 1, page 420). The balance of the region's population is scattered across a large number of small communities. Based on analysis by Guenther (2003) at the time of the 2001 Census there were 73 localities in the region with populations between 200 and 999 and a further 47 urban centres with populations of 1000 or more. Nearly three-quarters of the 47 had populations of less than 5000. The table below also reveals that the region contains about one fifth of all Australia's Indigenous people. Approximately 15 per cent of the total population is of Aboriginal or Torres Strait Islander origin.

Table 4 **Population and area for ASGC 2001 SLAs at 2001 Census (Source: ABS 2003c)**

	Area (km^2)	Population (2001)	Indigenous population (2001)
Savanna SLAs	2,104,903.64	561,904	83,908
Australia	7,703,597.22	18,972,350	410,003
Per cent of savanna region within Australia	27.3%	3.0%	20.5%

Table 5 shows for the jurisdictions of the savanna region, the proportion of the population aged 15 and over with qualifications, compared with Australia as a whole. For all qualification levels except certificates, there are proportionally fewer people with qualifications than for Australia as a whole. This is most notable in Queensland where, for example, the proportion of males with bachelor degrees is more than 40 per cent lower than for Australia. However, for certificate qualifications, there are slightly more males with certificates than nationally, though this is due to the relative strength of certificate qualifications in Queensland. Of note too is the certificate qualification differential between males and females, which is 16.3 per cent across the savanna, compared to 14.3 per cent across Australia.

Table 5 **Qualifications by sex for savanna regions by jurisdiction compared with Australia: proportion of population aged 15+ (Source: ABS 2002b)**

Qualification	Queens-land	Western Australia	Northern Territory	Total savanna	Australia
Certificates Male	24.9%	21.3%	22.2%	23.9%	23.1%
Certificates Female	7.2%	7.2%	8.5%	7.6%	8.8%
Advanced Diploma /Diploma Male	3.9%	4.3%	5.1%	4.3%	5.4%
Advanced Diploma /Diploma Female	4.8%	6.1%	6.0%	5.3%	6.6%
Bachelor Degree Male	5.3%	5.8%	6.5%	5.7%	9.2%
Bachelor Degree Female	8.0%	9.1%	9.7%	8.6%	10.2%
Grad Dip/Cert Male	0.6%	0.8%	1.0%	0.8%	1.1%
Grad Dip/Cert Female	1.1%	1.8%	1.8%	1.3%	1.7%
Post Grad Degree Male	1.1%	1.0%	1.7%	1.3%	2.2%
Post Grad Degree Female	0.8%	1.1%	1.4%	1.0%	1.4%

Note: Jurisdictions are based on the summary of SLAs shown in Table 78

The above table highlights the significance of the VET sector, compared to other post-compulsory education sectors, for the savanna region. The characteristics of sparse population and high proportions of Indigenous peoples are two important aspects that shape the context of education and training in the savanna region. This section will explore the issues associated with Indigenous learning and rural/remote access for small communities as they relate to learning. It will also consider demographic trends such as age and mobility as well as the industry profile of the region as it relates to education and training.

2.1.3.1 Indigenous learning

Given the relatively high proportion of Aboriginal and Torres Strait Islander people in the savanna region (15 per cent of the total population), issues relating to Indigenous education and training are important to consider for this research. The issues discussed here encompass language and culture, educational attainment, family structures and employment. Many Indigenous communities are in remote and sometimes isolated areas. However, remoteness will be considered as a factor that contributes to both Indigenous and non-Indigenous people living in the savanna region (see Rural and remote access, page 55). The review of literature will here be divided into two sections that answer the questions: “what are factors associated with Indigenous peoples’ take up of education and training opportunities?” and “what are the outcomes for Indigenous people who engage in post-compulsory education and training?”. Answering both questions will require a review of relevant statistics and research.

It is widely known that, with the exception of the VET sector, Indigenous people in Australia are less likely to attend educational institutions than non-Indigenous people. They are also less likely to complete school, more likely to have lower levels of English literacy and numeracy and less likely to gain higher qualifications (ABS 2004a; CGC 2001; HRSCET 2004; MCEETYA 2000; NTDE 1999). Table 6 compares Indigenous educational characteristics for remote and non-remote Australia with those of non-Indigenous people. While the differences for Indigenous and non-Indigenous peoples stand out, the differences for remote and non-remote Indigenous people are also notable both in terms of overall qualifications and attendance.

Table 6 **Educational characteristics of Australian Indigenous and non-Indigenous people (Source: ABS 2004a)**

	Indigenous proportion (%)			Non-Indigenous (%)
Education	**Remote**	**Non-Remote**	**Total**	**All areas**
Attending post-school institution				
University or other tertiary institution	1.4	4.3	3.5	6.3
Other post-school institution	4.4	8.6	7.4	5.7
Has a non-school qualification				
Bachelor degree or above	1.6	4.5	3.7	16.9
Certificate or Diploma	15.3	27.4	24.1	32.7
Total with non-school qualification	19.1	32.8	29.0	50.1
Does not have a non-school qualification				
Completed Year 12	9.1	11.2	10.7	15.3
Completed Year 10 or Year 11	26.7	26.9	26.9	18.8
Completed Year 9 or below	45.1	29	33.4	15.8
Total with no non-school qualification	80.9	67.2	71	49.9

Within the VET sector, Indigenous people are more likely to gain an AQF level I or II qualification than a higher qualification, they are less likely to gain an employment outcome, and their pass rate for assessed modules is lower (Saunders et al. 2003). Outcomes beyond Certificate II in remote areas, particularly in much of desert Australia where approximately one-fifth of the population is Indigenous, have been shown to be lower than for non-Indigenous people in the same regions and Australia as a whole (Guenther et al. 2005). For example, three per cent of desert Indigenous people had qualifications at AQF IV levels, while nearly 13 per cent of non-Indigenous people living in the desert had similar qualifications.

While it is apparent from student outcome surveys (see Table 7) that Indigenous graduates do gain employment from completing a course and gaining a qualification, there remains a significant gap between Indigenous and non-Indigenous graduates in terms of employment (Guenther 2004a). In the most recent student outcome survey, NCVER (2004b) reported that after graduation, 40 per cent of Indigenous students were unemployed compared to 25 per cent of all students. According to the *Student Outcomes Survey*, Indigenous participants were more likely than non-Indigenous people to engage in training for personal reasons. In a more focussed Indigenous survey reported by NCVER (2005), views of students from major cities, inner regional areas, outer regional areas, remote and very remote regions were captured.

This survey shows that across Australia, just 45 per cent of trainees were employed a year after their training. In very remote regions this fell to just 36 per cent.

Table 7 Student outcome survey 2004 data for equity groups, Australia (Source: NCVER 2004b)

Student characteristics	**Employed after training (%)**	**Difference in percentage points employed before and after**	**Achieved main reason for study (%)**	**Satisfied with overall quality of training (%)**
Graduates				
Age:				
15–24 years	75	10	81	84
25–44 years	75	2	80	86
45 years and over	72	1	80	85
Male	78	6	81	85
Female	71	4	80	86
Indigenous	**60**	**8**	**76**	**89**
With a disability	51	3	69	85
Speak a language other than English at home	61	4	77	86
From rural or remote areas	76	7	82	86
All graduates	75	5	81	85
Module completers				
Age:				
15–24 years	64	2	63	70
25–44 years	73	1	73	78
45 years and over	61	-1	79	84
Male	72	3	72	76
Female	61	-1	71	78
Indigenous	**38**	**1**	**51**	**68**
With a disability	42	1	62	73
Speak a language other than English at home	56	0	70	75
From rural or remote areas	68	1	74	79
All module completers	67	1	71	77

The picture for Indigenous module completers shown in the table above is not as positive as for graduates. Among all equity groups listed, Indigenous module completers were least likely to be satisfied with training, least likely to have achieved the main reason for their study and least likely to be employed after training. One possible reason for this is that 'module only' participants are more likely to come from a non-English speaking background. According to 2001 NCVER VET data, one in six remote area Indigenous non-English speakers were classified as 'module only' participants. This compares to less than one in 20 remote area non-Indigenous participants (Saunders et al. 2003).

The reason for these disparities in outcomes are many and varied and to some extent difficult to separate. The factors associated with relatively low employment and qualification outcomes stem to a large extent from the multiplicity of contextual variables associated with Indigenous disadvantage.

The degree of disadvantage also depends to some extent on how Community Development and Employment Projects (CDEP) are viewed. There is a common perception among a diverse group of people in Australia that CDEP employment is not ‘real’ employment (e.g. Ah Kit 2003; NLC 2003a; Stirling 2003a). For example in a recent media release the Commonwealth Minister for Employment and Workplace Relations stated that:

> under planned changes to the scheme, indigenous organisations that are running successful CDEP programmes would become Job Network providers in a bid to offer real jobs with a real future…. If there is [sic] no real work outcomes, then there might be a range of community outcomes that we want to identify them with including health issues and education of their children (Andrews 2004).

The direct implication of the above statement is that the Commonwealth government firstly does not recognise CDEP as real work and secondly that many of the functions associated with CDEP—health and education—are not real work either. While there is—and has for some time been—considerable debate over the worth of CDEP (e.g. ATSIC 1998; Spicer 1997; Yunupingu 2003), including among Indigenous people, at an official level participation in CDEP is counted as ‘real employment’ even if it does for a variety of reasons complicate analysis of labour force data (Hunter 2004). Altman et al. (2005:12) comment that the effectiveness of CDEP in transitioning people to other work is limited by the availability of jobs.

Questions are sometimes raised in the literature about whether CDEP is an employment program or an *unemployment* program (ANTA 2004c:87). Regardless of these contentions, it can be argued that CDEP has at least a capacity-building function in many Indigenous communities (NTCOSS 2004:61). The *Report of the inquiry into capacity-building and service delivery in Indigenous communities* (HRSCATSIA 2004) identified this function in a number of cases. Much of CDEP activity builds capacity through training and skill development (Misko 2004). In some places where there are partnerships with established enterprises, training and skills learned do lead people into jobs. An example of this is the Jabiru CDEP program, which for several years has facilitated transition from ‘programs’ (such as environmental health work) to employment in mining and hospitality. It continues to do so. (Collins 2000; ERA 2003).

In a review of remote desert communities Guenther et al. (2005:28) concluded that CDEP “forms the backbone of essential public and community services on desert communities”. CDEP is a different form of work than employment in other settings, but whether it can be described as not ‘real’—with a corollary that it is artificial or imagined work—is contestable. CDEP, having been in existence for more than 25 years, is an entrenched and accepted part of life in many remote Indigenous communities, without which there would be very little employment of any kind for Indigenous people (Sanders 2001). While it is described by many as a problem—even a ‘sham’ (Hughes & Warin 2005)—removal of CDEP in itself will not remove the disadvantage experienced by Indigenous people, particularly in remote communities.

One of the most important barriers to advancement through higher education for Indigenous people, beyond AQF levels I and II, is comparatively low proficiency in English literacy and numeracy. According to the ABS (2004a:28) nearly 40 per cent of Indigenous people living in remote areas spoke an Aboriginal or Torres Strait Islander language as the main language at home. In their review of Indigenous desert statistics based on 2001 Census data (ABS 2002b, 2002c) Guenther et al. (2004:4) found that while nearly 55 per cent of Indigenous people in the desert spoke an Indigenous language at home, just 0.2 per cent of non-Indigenous people living in the desert spoke an Australian Indigenous language. If this divergence in spoken language was consistent across much of remote Australia it is not difficult to understand why training outcomes at higher levels, which depend on underpinning English language literacy and numeracy skills, are not accessible for many Indigenous people.

Adding to the language issue in the VET sector is the problem of jargon in training packages. A recent posting to a Desert Knowledge CRC online forum (DK–CRC 2005) reviewing the role of training packages in remote contexts sheds light on this issue:

> Training packages or any training courses may be foreign to Indigenous students from remote communities. So the language used in the package, especially the language used in delivery can have great impact on the training outcomes. Several years ago, I delivered Cert IV in Assessment and Workplace Training to Batchelor staff and students. The training workshop to the students didn't achieve what was required in the package. The main reason for that as I see it is students' lack of English skills on one hand, and the 'bias' in the training package on the other…. By 'bias' I refer to the assumptions that have been taken when developing the training package. If we look into what is required in other training packages such as in sports [re]creation, or in horticulture, we may find that literacy skills are not part of the requirement. When those students complete the training and want to become trainers, they may not have the underpinning educational knowledge and skills required to undertake the Cert IV training. So the major problem with National Training Packages is lack of consideration of Indigenous people's needs and lack of understanding of Indigenous contexts. (Posting to week 2)

These concerns illustrate at least some of the concerns raised by Schofield and McDonald (2004) in their *High Level Review of Training Packages.* Their report contends that the language of training packages is overburdened with and emphasis on 'rules' and should instead be about better 'design'. They comment that: "Many Training Packages are now drowning under their own weight, as more and more delivery advice has been loaded into them." (p. 18) Their views are consistent with views expressed by ANTA (2004a). Under National Priority F: Improved client focus on VET, the 2003 Annual Report stated that:

> The challenge for VET is to improve the focus on clients through the simplification of the language of VET; to provide improved accessibility and navigation for clients to VET information… (p. 64)

Given also that the majority of training organisations operating in remote Australia are non-Indigenous, both ways communication is an issue. There is nothing new in this assertion. Commenting on the issue of literacy and numeracy, the *Collins Report* (NTDE 1999:118) noted:

> The single greatest problem faced by institutions such as Batchelor in providing professional qualifications to Indigenous people is the very low levels of prior academic achievement students have on entry to the tertiary sector.

The reason for this stems back to primary and secondary education where standards for Indigenous people particularly in remote areas have been consistently below the literacy and numeracy standards of the rest of Australia. For example in the Northern Territory in 2000, only nine per cent of Year 3 and 28 per cent of Year 5 remote Indigenous students achieved the national benchmark for literacy (NTDEET 2004:53). The 2004 Northern Territory *Future Directions* (CDU/NTDEET 2004) review commented that:

> The reality for many young people is that English is a foreign language or a different dialect, where school ‘work’ is the main and often the only context for speaking, listening, reading and writing English. (p. 168)

Future Directions identified a number of barriers other than language, literacy and numeracy. These included physical and mental health problems and substance abuse. The Report added:

> Despite a few very positive examples of appropriate secondary education provision for Indigenous young people in discrete locales, the overall picture is grim. Issues of poor attendance, inadequate or inappropriate teaching practices, anti-social behaviour, classroom disruption, trauma and neglect were frequently cited by parents, teachers and students in consultations and submissions as reasons for the poor performance of many Indigenous students in secondary programs. (pp. 161–162)

Further, issues of mobility, gender issues, cultural obligations, lack of qualified training/teaching staff, geographical spread and small community size and community dysfunction all add to the multiple barriers associated with Indigenous achievement in education (Catts & Gelade 2002). These multiple barriers are not confined to the Northern Territory but have been identified as factors contributing to Indigenous disadvantage, across Australia generally and more specifically in remote areas (SCRGSP 2003). They are also closely related to many of the reasons why Aboriginal adolescents feel alienated from school (Gray & Beresford 2002).

Future Directions also highlighted issues of changing pedagogy, policy and practice. For non-Indigenous teachers and Indigenous teachers that come from different ‘country’ than their students, understanding how their students best learn—sometimes described as ‘Aboriginal ways of learning’ (Hughes & More 1997) or ‘Aboriginal learning styles’ (Harris 1980) later developing into ‘both ways’ learning (Harris 1990) or ‘learning styles theory’ (Christensen & Lilley 1997)—is always going to be an issue wherever collaborative approaches to learning are employed in cross-cultural multi-language environments. Taking these ideas of communication a step further, Trudgeon (2000) asserts:

> Apart from language, there is another essential element needed to communicate successfully in a bilingual, inter-cultural situation. This is *an awareness of world-view.* (p. 97)

Conversely, for Indigenous learners, an understanding of the same thing from their own perspective could be a key to unlocking the knowledge resources of individuals and communities (Nakata 2003). Harris (1988:184) argues that “Aborigines need to negotiate from a position of strength”—strength coming from a “culture domain separation strategy” that ensures and confirms an Indigenous person’s identity while at the same time allowing an understanding and effective interface with non-Indigenous culture.

Returning now for a moment to the question addressed partly in the statistical tables presented at the beginning of this section: If education and employment outcomes are lower than might be expected for non-Indigenous people in Australia (see particularly Table 6 and Table 7)—also in the savanna region—what are Indigenous people in remote areas of Australia engaging in training for? If training is thought of in terms of a capacity-building tool—not just a means of meeting the needs of employers for jobs—then there are a multitude of ways in which training can be used to meet this end in remote communities. It has a role in promoting literacy and numeracy (Kral & Falk 2004). There is an increasing understanding that one of the reasons that Indigenous people learn is to better enable them to care for their country. There are several examples of these kinds of projects in literature that do not relate directly to employment outcomes (e.g. Altman 2003; Marika et al. 2004; NLC 2002, 2003b). Related to these sometimes are Indigenous Knowledge Centres (DEH 2004;

Sheehan & Walker 2001) which "complement traditional library services with services based on the oral and visual traditions of Indigenous culture" (Taylor 2004).

Training is sometimes touted as a vehicle for engaging Indigenous people in sustainable employment through enterprise development. For example the Northern Territory government's 2003 *Jobs Plan* (NT Government 2003a) stated that:

> The opportunity for Indigenous involvement in enterprise development is one of the most sustainable forms of employment for Indigenous people…

Similarly, Joseph Elu (2004), chairman of *Indigenous Business Australia* comments:

> Sustainable economic development is the most important long-term option for Indigenous people and must embrace relevant education and training followed by real employment opportunities. (p. 6)

There is some basis for this confidence. There are numerous examples of industry partnerships that are designed to lead Indigenous peoples into employment (e.g. SKM 2003a), particularly in the tourism and mining industries (DITR 2004; Hockey 2004; IBA 2004; NLC 2003a). Flamsted and Golding (2005), in a study titled *About Indigenous Business*, identify several advantages for Indigenous business in remote areas. These include:

- Indigenous people in remote areas tend to have a business advantage if they have access to their own land and cultural resources as well as an identifiable community that can share business capital and risk.

- Some homelands have a commercial product, close to markets and clients, particularly in tourist areas or on tourist routes.

- There are particular opportunities for large joint ventures where a commercial mineral resource or tourist attraction exists on Indigenous homelands (p. 12).

They also identified a large number of disadvantages. These include the remoteness of many isolated communities, the socio-economic disadvantage of many Indigenous people, a lack of basic services, false expectations of viability and a lack of exposure to business and marketing.

In its follow-up report to its 2003 *Jobs Plan* (DEET 2005b), the Northern Territory government, while identifying several examples of successful enterprises and employment opportunities, did not identify one new enterprise that had developed as a result of a training initiative. In Queensland, a new initiative called the *Indigenous Business Establishment Program* was established in late 2004 to support the creation of new Indigenous businesses (DSDI 2004a). There are no reported results for this program as yet.

Finding documented examples of successful Indigenous *new* enterprise development is difficult. One example that has been widely reported is *Nabarlek* (Harrison 2004, NT Government 2005, Peoplearn 2005), a successful Indigenous music industry project, which led to the formation and strategic marketing of a band from a remote community in western Arnhem Land. A second example of note is reported by the Allen Consulting Group (2001), which described the role of a mining company in supporting the establishment of the John Forrest Vocational Training Education Centre in Western Australia that “provides training to assist the school to work transition, support local enterprise development and provide vocational employment” (p. 60). A second example offered by the Group reports on a partnership between the Balkanu Cape York Development Corporation and the Body Shop to establish an Indigenous Business Institute, designed “to provide a place to bring together and explore new business structures and strategies using the best of mainstream and Indigenous community” (p. 83). This partnership, which now continues under the banner of Indigenous Enterprise Partnerships (IEP 2004), has extended its network to include a number of other organisations, including Westpac, the Myer Foundation and the Boston Consulting Group with reported successes in areas of employment and capacity-building. Despite these showcase examples, the Group comments: “Business initiatives are too few, too selective and biased to remote and regional communities” (p. xi).

One of the features of each of the examples cited above is that they each involve a partnership or collaboration of some kind. A second key feature of these initiatives is that they have been heavily sponsored—either privately or through government funding—without which the projects would not have ‘taken off’ or been sustained.

Leadership, strategic direction and engagement of key Indigenous drivers appear to be other important drivers (IEP 2004:13).

From Indigenous learning, the literature review now turns to demographic issues. In some ways these two issues are linked because the Indigenous population are demographically quite distinct from the non-Indigenous population.

2.1.3.2 Demographic issues

A number of demographic factors play an important part in the context of education and training in the savanna region. These will be discussed here in terms of age, population growth and migration, showing how the savanna differs by jurisdiction and how it compares to Australia as a whole. The analysis shown is based largely on Census data (ABS 2002b, 2002c, 2003d) and draws on previous research by the researcher (Guenther 2003). Where ABS data are referred to, these are mostly based on regionally specific data tables.

The age profile for each state/territory is summarised in Table 8, which shows that for each age range up to 44 years there are higher proportions in the Northern Territory. The proportion of retired people in the Northern Territory is approximately half that in Queensland. Placed in the context of Australia as a whole, the age profile of the savanna region is significantly younger than for the whole of Australia. The higher proportions of younger people places additional demands on the VET sector in terms of resources.

Table 8 Demographic profile by major age groups and savanna SLAs by state/territory (Source: ABS 2002b)

Age group	Queensland	Western Australia	Northern Territory	Australia
0–4	7.5%	7.8%	7.9%	6.6%
5–14	15.2%	13.9%	15.7%	14.1%
15–24	14.0%	12.7%	14.3%	13.5%
25–44	30.0%	30.7%	33.1%	29.5%
45–64	22.4%	23.6%	21.0%	22.8%
65+	9.7%	8.3%	4.9%	12.5%
Total	98.7%	96.9%	96.9%	98.9%

Note: Total excludes overseas visitors

The reasons for the younger profile become apparent when the Indigenous age profile is taken into account. Figure 3 shows that the proportion of Indigenous children aged under 15 is about twice that of non-Indigenous children. Conversely in the age groups above 44, the proportion of non-Indigenous people is about twice that of Indigenous people.

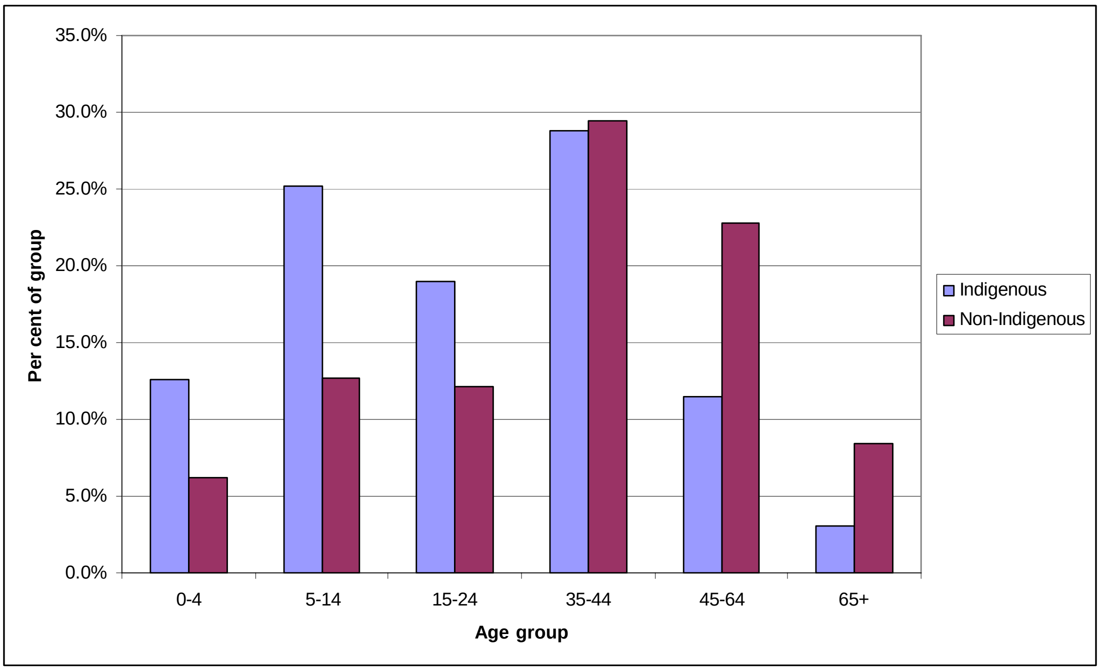


Figure 3 **Indigenous/non-Indigenous age profile, savanna SLAs, 2001 (Source: ABS 2003c)**

Table 9 shows population changes for the broad regions of the savanna. While the average population growth across the entire savanna region was 7.0% in the five years to 2001, all the Queensland regions listed showed below-average growth while the Northern Territory showed growth slightly above the average and the Kimberley region of WA showed the fastest growth rates. The Kimberley figure should be treated with some caution because of the large numbers of people recorded who were visitors (interstate and overseas) and those in ‘Non-classifiable households’, ‘Non-private dwellings’ and ‘Migratory or off-shore collection districts’. This group comprised 41.7 per cent of the total population in the 2001 Census, up from 37.7 per cent in 1996. Removal of this group would bring the population growth of the region down to an adjusted 19 per cent for the five year period to 2001. Overall, the population growth of the savanna region for the period 1996 to 2001 was slightly higher than for Australia as a whole.

Table 9 Population change in savanna regions 1996 to 2001 (Source: ABS 2003d)

Savanna SLAs included in Statistical Division	2001 population	1996 population	Per cent change
Queensland			
Central West	12,310	12,034	+2.3%
Far North	45,432	43,379	+4.7%
Fitzroy	53,468	51,551	+3.7%
Mackay	19,013	20,707	-8.2%
North West	39,021	38,427	+1.5%
Northern	190,410	178,550	+6.6%
Western Australia			
Kimberley	41,969	33,019	+27.1%
Northern Territory			
Darwin	93,333	85,705	+8.9%
Northern Territory—Bal	66,950	61,852	+8.2%
Grand total	561,906	525,224	+7.0%
Australia	18,972,350	17,892,423	+6.0%

Table 10 shows the growth in the Indigenous population for savanna SLAs of each jurisdiction. Growth in Queensland and Northern Territory exceeds that of the non-Indigenous population, while in the Kimberley region of Western Australia the growth rate was slightly less than the adjusted total population growth described above in Table 9. However generally, Indigenous population increases, if sustained, will shift the population mix further in favour of Indigenous peoples.

Table 10 **Changes in Indigenous population 1996 to 2001, savanna SLAs (Source: ABS 2003d)**

Indigenous population	Queensland	*Western Australia*	*Northern Territory*	*All savanna regions*
2001	35,434	13,556	35,032	86,023
1996	31,515	11,470	31,432	76,413
Change	+12.4%	+18.2%	+11.5%	+12.6%

Table 11 demonstrates that the growth in population is generally offset by losses due to internal migration, both interstate and intrastate, which has a significant negative impact on the economic capacity of a region (National Economics 2004). The total loss across the region was more than 26,000 persons; just under five per cent of the total population.

Table 11 **Regional migration in Statistical Divisions of the savanna region 1996–2001 (Source: ABS 2002d)**

Statistical Division	Intrastate (no.)	Interstate (no.)	Total	Rate (%)
Queensland				
Central West	-1,381	-156	-1,537	-12.6
Far North	-6,540	1,001	-5,539	-2.7
Fitzroy	-6,176	556	-5,620	-3.2
Mackay	-5,792	836	-4,956	-4.0
North West	-4,438	-276	-4,714	-13.6
Northern	-271	1,537	1,266	0.7
Western Australia				
Kimberley	-266	-206	-472	-1.7
Northern Territory				
Darwin	2,016	-1,182	834	0.9
Northern Territory—Bal	-2,016	-3,555	-5,571	-6.2

The implications for skills needs in the savanna, taking this table and the previous one into account, are that there will be fewer people with higher skill levels and fewer people of working age, an issue noted by the recent *Workforce NT Report:*

> The NT is losing skilled workers interstate, thus decreasing the size of the labour market and the availability of skills. To compound this issue, the majority of overseas settlers are not bringing in labour market skills as they are coming to the Territory for other reasons. Strategies will need to be put in place to recoup the loss of skills from the NT labour market. (DEET 2005b: 286)

This skills shortage will be added to when the younger age profile of Indigenous people is taken into consideration (see Figure 3, page 55).

The combination of data shown here suggests that in order to address the skills shortages there is a critical need to upskill Indigenous young people, both at school and beyond. This will be particularly the case in areas where there are high proportions of Indigenous people in the population, which according to the map shown in Figure 4 is throughout the entire region except central Queensland.

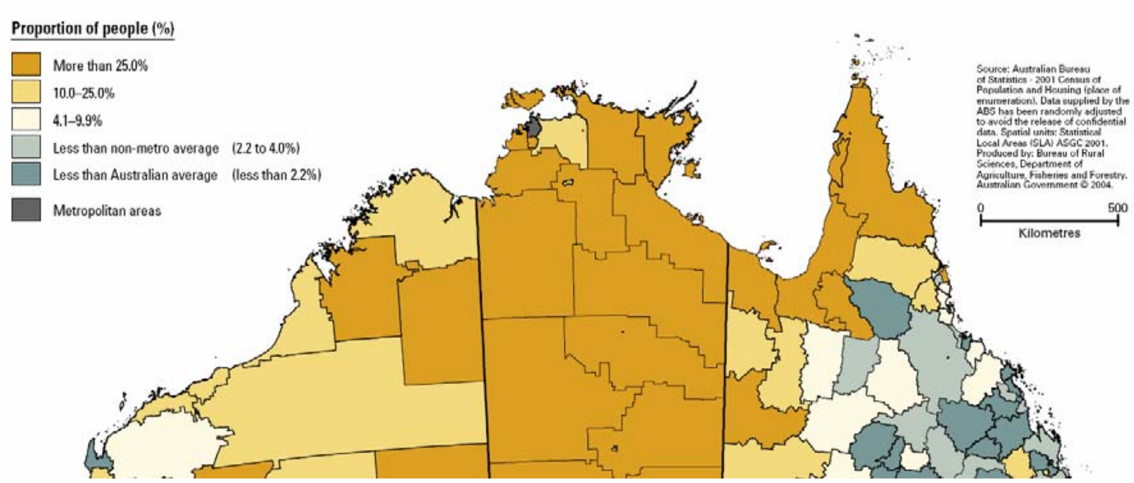

Proportion of people (%)
More than 25.0%
10.0–25.0%
4.1–9.9%
Less than non-metro average (2.2 to 4.0%)
Less than Australian average (less than 2.2%)
Metropolitan areas
Source: Australian Bureau of Statistics - 2001 Census of Population and Housing (place of enumeration). Data supplied by the ABS has been randomly adjusted to avoid the release of confidential data. Spatial units: Statistical Local Areas (SLA) ASGC 2001. Produced by: Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry. Australian Government © 2004.
0
500
Kilometres

Figure 4 Proportion of Indigenous people in the population (Source: Haberkorn et al. 2004)

In summary, the data and analysis of demographic statistics shown in this section point to a number of contextual factors that will influence the nature of VET in the tropical savanna region. Firstly, the growing population—comprised mainly of Indigenous people—will place additional demands on education and training resources, particularly given the remote nature of much of the region. Secondly, the migration patterns of recent years point to a skills drain, which will impact on the capacity of industry to meet the skill needs of the region, which are skewed in favour of certificate qualifications. Thirdly, the growing number of young Indigenous people creates both a challenge and an opportunity for policy makers and practitioners: a) to ensure they are given adequate education opportunities and b) to ensure they are skilled to meet the demands of the region. This latter issue will be discussed in the following section, which considers industries of the Australian tropical savanna region.

2.1.3.3 Industries of the Australian tropical savanna region

Data presented in this section is primarily a collation of Census data at Statistical Local Area level. While the most recent Census data is now somewhat dated, the overall mix of industries will not have changed substantially in the intervening period. The purpose is to give an overview of the main range of business activity in the tropical savanna region, with a focus on employment opportunity particularly as it relates to vocational skills.

Table 12 shows the nature of employment by industry in SLAs of the savanna region in each state and territory. Overall, the table shows that retail and government administration and defence sectors are the predominant employers across the region. Agricultural industries are the second largest employer in the Queensland SLAs of the savanna.

Table 12 Persons employed: Industry of employment by savanna SLAs within states (Source: ABS 2002b)

Industry of employment	Queensland	Western Australia	Northern Territory	All savanna SLAs	Australia
Agriculture, forestry and fishing	15,109	1,491	2,115	18,715	330,782
Mining	11,314	706	1,618	13,638	75,178
Manufacturing	11,069	744	3,360	15,173	1010,179
Electricity, gas and water supply	1,493	133	608	2,234	60,692
Construction	10,940	1,016	4,324	16,280	558,582
Wholesale trade	6,530	439	2,676	9,645	437,134
Retail trade	20,615	1,620	8,406	30,641	1,211,332
Accommodation, cafes and restaurants	8,128	1,144	3,740	13,012	410,589
Transport and storage	7,686	859	34,24	11,969	355,874
Communication services	1,733	150	869	2,752	148,480
Finance and insurance	2,316	191	1,309	3,816	312,396
Property and business services	10,079	1,118	6,276	17,473	920,331
Government administration and defence	15,038	2,546	12,673	30,257	369,855
Education	12,322	1,354	5,531	19,207	595,398
Health and community services	13,233	1,494	5,852	20,579	806,171
Cultural and recreational services	2,840	267	1,950	5,057	202,456
Personal and other services	5,086	1,124	3,171	9,381	300,658
Non-classifiable economic units	678	117	695	1,490	47,906
Not stated	2,963	427	1,162	4,552	144,613
Total employment	159,172	16,940	69,759	245,871	8,298,606

This profile differs quite significantly from the national profile, also shown in the table. While employment in government ranks a close second in the savanna region with 12 per cent of all employment, nationally employment in ‘government, administration and defence’ ranks ninth, with just 4.4 per cent of all employment. This difference is explained partly by employment in CDEP. In the Northern Territory for example, approximately five per cent (5157 people in 2001) of the total labour force is employed in CDEP (ABS 2002c) and about half of all Indigenous employment is CDEP, 50 per cent higher if CDEP National Program Centre data is taken into account (DEET 2005b:195).

Employment in the mining industry within the savanna region is six times more likely than nationally (5.6 per cent of the labour force compared with 0.9 per cent). While agriculture is particularly significant in Queensland—9.5 per cent of the employment is in this industry compared to 4.0 per cent nationally—in the Northern Territory only 3.0 per cent of all employment is in the agricultural sector. Employment is not distributed evenly across the savanna however. Table 13 shows that agriculture is the largest employer in moderately accessible areas and the second largest employer in remote and very remote areas. Mining is the largest employer in remote areas and the second largest employer in moderately accessible areas. Retail industries, while the largest employer in accessible areas, tend to decline with remoteness, while government, administration and defence is the largest employer in very remote areas and second largest in accessible areas.

Table 13 Largest employers: Industry of employment in savanna SLAs, per cent of total employed by ARIA remoteness designation (Source: ABS 2002b)

Industry of employment	Accessible	Moderately accessible	Remote	Very remote
Agriculture, forestry and fishing	2.0%	16.7%	12.9%	12.9%
Mining	1.2%	13.7%	13.6%	5.4%
Retail trade	14.5%	11.4%	11.9%	8.0%
Government administration and defence	12.6%	3.9%	5.5%	22.2%
Total employment	126,605	23,341	46,948	47,903

Table 14 (page 61) reviews changes in employment that have occurred in the intercensal period from 1996 to 2001. While the fastest growing industry in the period was the electricity, gas and water supply industry, this was from a very low base of employment after significant declines in the previous intercensal period. The growth in employment in the government sector, up 27 per cent from the previous Census, is however significant for two reasons. One reason is that if the trend continues government will be the largest employer in the savanna region by the next

Census. The sustainability of employment in this sector is questionable and future growth will be dependent to a large extent on government policies and initiatives for the region. The second reason is that nationally, employment in the government sector is tending to decline, down eight per cent in the ten years to 2001 (ABS 2003d). Continued growth in the government sector in the savanna region is against a background of a shrinking government sector nationally.

Table 14 **Per cent change in employment by industry: 1996 to 2001 savanna regions of states/territory compared to states and territories (Source: ABS 2003c)**

Industry of employment	Queensland		Western Australia		Northern Territory		Savanna region total
	Savanna	State	Savanna	State	Savanna	Territory	
Electricity, gas and water supply	22.9%	21.7%	9.9%	1.8%	73.3%	46.5%	32.1%
Government administration and defence	19.3%	4.2%	302.2%	14.2%	19.4%	27.7%	27.0%
Personal and other services	16.6%	13.1%	45.6%	9.5%	24.3%	31.3%	22.1%
Property and business services	14.2%	16.5%	52.5%	18.9%	22.5%	21.0%	19.0%
Retail trade	16.6%	19.2%	45.3%	19.1%	15.4%	17.2%	17.5%
Manufacturing	11.8%	12.1%	75.1%	9.0%	7.9%	12.4%	13.0%
Transport and storage	10.2%	11.5%	41.7%	6.7%	13.0%	17.2%	12.8%
Education	9.6%	16.3%	32.4%	8.3%	13.8%	16.3%	12.1%
Agriculture, forestry and fishing	7.1%	3.7%	36.8%	-1.8%	13.2%	14.3%	9.6%
Accommodation, cafes and restaurants	8.8%	13.7%	24.1%	17.4%	4.2%	6.8%	8.6%
Construction	11.3%	8.9%	38.6%	13.2%	-17.9%	-9.0%	3.1%
Wholesale trade	2.1%	1.1%	29.5%	-2.7%	0.7%	5.8%	2.7%
Cultural and recreational services	-7.1%	11.6%	23.0%	11.1%	2.1%	7.1%	-2.4%
Communication services	-4.2%	-4.3%	38.9%	-4.1%	-8.1%	-20.6%	-3.8%
Finance and insurance	-8.1%	5.3%	13.7%	-3.0%	-7.4%	-5.5%	-7.0%
Health and community services	5.4%	14.4%	-51.3%	10.9%	-15.6%	-12.7%	-8.8%
Mining	-21.7%	-13.8%	11.2%	1.0%	-28.1%	-23.7%	-21.3%
Average for all industries of employment	9.5%	10.4%	8.2%	8.6%	2.9%	9.0%	7.5%

Changes in two other sectors are worth noting. The declines in employment in the mining industry are the greatest of any industry group shown in the table and may be the result of fly-in fly-out labour resource policies. This has significant implications for the moderately accessible and remote regions of the savanna, where mining is a major employer. It may point to declining capacity for these areas. However, changes in employment in mining are subject to cyclical fluctuations due to changes in prices of raw materials and national/global demand factors and this change in employment may just be a reflection of this cyclical change. There is some evidence that these trends are beginning to reverse with reports of skills shortages in the mining sector in parts of the savanna (DEET 2005b:311; WADET 2003) and expectations of future employment growth. The other observation worth noting is for the agricultural sector, which across the savanna region has grown by almost 10 per cent in the intercensal period, well above the national growth rate of 2.0 per cent for the same period (ABS 2003d). This has positive implications for community capacity in the rural and remote areas of the savanna.

An examination of business locations reveals how employment is distributed in terms of locations and size. Small businesses, by virtue of their structure, are more flexible and adaptable to small communities. The risks for a small community in terms of capacity are not as great if there a number of small businesses as opposed to one or two large businesses. Table 15 shows business locations across the savanna region by remoteness. Consistent with employment in Table 13, the table shows the strength of the agricultural industries in moderately accessible, remote and very remote areas of the savanna. The number of business locations together with levels of employment is indicative of the size of businesses. Hence mining, which is a relatively large employer (see Table 13) has fewer locations than other industries because of the size of operations in discrete locations.

Table 15 Number of business locations by ARIA designation 1998 (Source: ABS 2002e)

Industry classification	Accessible	Moderately accessible	Remote	Very remote
Accommodation, cafes and restaurants	591	179	312	325
Agriculture, forestry and fishing	1,009	1,501	1,896	1,735
Communication services	83	27	51	42
Construction	1,620	260	545	393
Cultural and recreational services	353	69	125	120
Education	321	113	169	264
Electricity, gas and water supply	33	39	52	59
Finance and insurance	392	64	112	53
Government administration and defence	211	38	94	170
Health and community services	906	167	362	302
Manufacturing	682	131	202	130
Mining	112	85	123	53
Personal and other services	726	171	297	356
Property and business services	1,898	215	499	300
Retail trade	2,302	442	878	673
Transport and storage	793	209	427	355
Wholesale trade	967	115	306	144
Grand total	12,999	3,825	6,450	5,474

Table 16 shows business locations by size and industry sector. Note that for both agriculture and retail the size of businesses shown in the table tends to be very small. Not surprisingly also is the way that mining has the largest number of locations where employment is above 100. Medium sized business locations are concentrated in education, probably a result of employment by schools and other educational institutions.

Table 16 Savanna business locations by number of employees 1998 (Source: ABS 2002a)

Classifications	Nil	1-4	5-9	10-19	20-49	50-99	100+	Total
Accommodation, cafes and restaurants	0	696	373	174	138	18	8	1,407
Agriculture, forestry and fishing	3,131	2,725	141	96	40	3	5	6,141
Communication services	0	128	40	19	9	1	6	203
Construction	0	2,251	358	111	68	23	7	2,818
Cultural and recreational services	0	441	111	72	32	8	3	667
Education	0	409	114	115	145	66	18	867
Electricity, gas and water supply	0	116	26	22	11	4	4	183
Finance and insurance	0	410	122	56	25	8	0	621
Government administration and defence	0	165	109	81	88	42	28	513
Health and community services	0	1104	330	173	77	31	22	1,737
Manufacturing	0	663	231	132	83	17	19	1,145
Mining	0	219	38	20	39	14	43	373
Personal and other services	0	1171	229	80	39	15	16	1,550
Property and business services	0	2158	437	184	92	30	11	2,912
Retail trade	0	2,809	994	314	105	37	36	4,295
Transport and storage	0	1360	237	115	53	10	9	1,784
Wholesale trade	0	973	360	149	40	8	2	1,532
Grand total	3,131	17,798	4,250	1,913	1,084	335	237	28,748

Occupations indicate community capacity because they reflect the skills held by employees in communities. Occupations often correlate with industries of employment (ABS 2001c). For example, the health, education and property/business service sectors tend to employ a higher proportion of professionals while manufacturing, construction and electricity/gas/water supply sectors tend to employ high proportions of tradespersons and related workers. Labourers are most likely to be found in manufacturing industries while intermediate clerical, sales and service workers are most likely to be found in wholesale, accommodation/cafes/restaurants, finance/insurance and government administration/defence (ABS 2003j).

The distribution of occupations by remoteness shown in Table 17 is generally consistent with the industry of employment profile shown previously (see Table 13), with some exceptions. The large proportion of professionals and intermediate clerical, sales and service workers in accessible areas is consistent with strong retail, government and health sectors. The high proportion of intermediate production and transport workers in moderately accessible and remote areas is consistent with the strength of the mining industry in these areas. A high proportion of tradespersons and related workers are normally associated with strong manufacturing and construction industries but neither of these industries could be considered strong in moderately accessible and remote areas. The qualification profile does however show above-average proportions of certificate qualifications (see Table 5), suggesting that the demand for certificate qualified persons for industries in the moderately accessible and remote savanna areas is above what might normally be expected for some industries. For example the high profile of defence in the Northern Territory may contribute to a higher demand for tradespersons. It may also be that mining industries in the savanna require greater levels of technical support than they might in other areas.

Table 17 Occupations in savanna regions by ARIA remoteness designations (Source: ABS 2002b)

Occupation	Accessible	Moderately accessible	Remote	Very remote	Savanna Total
Managers and administrators	7.5%	12.7%	10.2%	10.2%	9.0%
Professionals	16.5%	10.6%	12.0%	13.3%	14.4%
Associate professionals	13.3%	9.2%	10.9%	10.1%	11.8%
Tradespersons and related workers	15.2%	14.2%	15.2%	12.0%	14.5%
Advanced clerical and service workers	3.2%	2.2%	2.3%	2.0%	2.7%
Intermediate clerical, sales and service workers	17.3%	10.7%	12.6%	11.5%	14.7%
Intermediate production and transport workers	8.2%	18.2%	14.2%	9.0%	10.4%
Elementary clerical, sales and service workers	9.5%	6.8%	7.4%	5.9%	8.1%
Labourers and related workers	7.5%	13.2%	13.2%	22.6%	12.1%
Inadequately described	0.7%	0.6%	0.8%	1.6%	0.9%
Not stated	1.1%	1.4%	1.3%	1.9%	1.3%
Total occupations	126,575	23,310	47,003	47,806	244,694

The high proportion of labourers and related workers in very remote areas is noteworthy. Nationally, this group make up 8.6 per cent of the workforce (ABS 2003a). Such a high proportion would not normally be associated with a strong government and agricultural sector, as is the case for remote parts of the savanna (see Table 13) but a quick glance at ABS Indigenous profile statistics (ABS 2002c) shows that for many remote areas where government employment is strong, most likely due to CDEP, labourers make up more than half the employees in that sector. Further, given the strength of agriculture in remote and very remote areas of the savanna, it might be expected that managers and administrators would make up a higher proportion of the workforce, especially given that 95 per cent of agricultural enterprises in savanna SLAs employ less than five persons (see Table 17). The issue of remoteness will be addressed further in the next section.

2.1.3.4 Rural and remote access

Most of the savanna region of northern Australian can be considered as rural, regional or remote. The impact of remoteness on the region is undeniable, but in order to effectively quantify the impact an index that objectively differentiates between metropolitan, regional, rural and remote must be used. Regional typologies, such as those used by National Economics (NEIR 1998, NEIR/ALGA 2003) or Stimson et al. (1999) may be helpful in defining the terms but they only partially assist with the analysis of data that pertains to these regions.

The development of the Accessibility/Remoteness Index of Australia (ARIA) was sponsored by the Commonwealth Department of Health and Age Care (DHAC) in 1996. Remoteness was defined in order to be able to “systematically tailor services to meet the needs of Australians living in regional Australia” (DHAC 2001). The initial paper defining ARIA values across Australia was released in 1999 (DHAC 1999) based on 1996 Australian Standard Geographic Classification (ASGC) SLA classifications. The Index was developed to supersede the Rural, Remote and Metropolitan Areas (RRMA) classification introduced by the Department of Primary Industry and Energy in 1994, though RRMA is still widely used as a basis for research and policy implementation, particularly in the area of health (AIHW 2002). While RRMA is also used for classification purposes in VET, the classification structure reveals no significant differences between outcomes for the main bands of ‘capital city’, ‘other metropolitan’, ‘rural’ and ‘remote’ (Golding & Pattison 2004). The provision of ‘viability funding’ for rural and remote aged care service providers (DHAC 2005) is based to a large extent on the degree of remoteness, using an ARIA measure, based on a validated assumption that remoteness is equivalent to disadvantage as well as indications of inequity (Turrell et al. 2003).

ARIA has since been revised to use 1999 ASGC classifications (DHAC 2001) and has been the subject of a review by ABS, which intends to further modify the ARIA definitions based on 2001 ASGC boundaries and to improve comparability with RRMA (ABS 2001a, 2001b). The new scale expands the existing 12 point scale to a 15 point scale. This framework is sometimes referred to as ARIA+. While the revisions are acknowledged, particularly in health where ARIA is most commonly used, the 12 point scale is still the most widely used and for this reason is also used in this research. Descriptors and values for both ARIA and ARIA+ are shown in Appendix 2, Table 79.

It is noted that the validity of RRMA and ARIA/ARIA+ have been questioned. Griffith (2002:2) suggests that these classifications “understate the extent of locational disadvantage and imprecisely define and understate the extent of need of the most disadvantaged in their specific target groups”. The Griffith Service Access Frame (GSAF) uses three elements to determine an “access score”: population size, time/cost/distance and an index of economic resources, based on ABS Socio-economic Index for Areas (SEIFA) values. While GSAF could be useful as a means of determining relative equity of remote locations, it cannot “provide a geographical classification of ‘city’ versus ‘country’” (ABS 2003e). For this reason and for reason of its broader acceptance, ARIA will be used in this research as the basis of measures of remoteness.

Regardless of definitional considerations, remoteness is a factor that impacts on education and training delivery. Remoteness is here distinguished from a rural/urban divide or continuum—the issue is to a large extent about accessibility (Golding & Pattison 2004:110). Given that a large proportion of the savanna region is classified as ‘remote’, the importance of this factor in terms of education and training needs to be considered.

Much of the locational disadvantage associated with living in remote regions is associated with Indigenous communities (ATSIC 1999; HREOC 2000). For example, the Australian Institute of Health and Welfare’s report *Australia’s Health 2002* (AIHW 2002) makes repeated references to Indigenous status as a factor contributing to poor health outcomes in rural and remote areas of Australia. The report for example comments that Indigenous people must be excluded from data relating to remote populations to better interpret the health of the non-Indigenous population.

> For example, death rates for older people (generally older than 65 years, not including Indigenous people) in remote areas are lower than those for their less remote (including rural) counterparts (p. 219).

The ABS *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples* (ABS 2003i) makes similar claims, pointing to health, education and infrastructure issues. Likewise, the ABS (2002g:12) *National Health Survey: Aboriginal and Torres Strait Islander Results* highlights poorer health results for remote Indigenous residents across all health indicator categories: self-assessed health, long-term conditions, health-related actions and risk behaviour/attributes.

Analysis of statistics for both remote and Indigenous regions of Australia reveals that educational disadvantage is related more to the presence of Indigenous persons living in a region than it is to the degree of remoteness as measured by ARIA (Guenther & Falk 2003; Guenther 2004b). This is not to suggest that there is a causal relationship but it is evidenced by the reality that in many remote and very remote mining communities many of the indicators of well-being associated with non-remote regions, such as Internet access/usage and access to services, is not restricted as it would be in Indigenous communities. Remote mining communities in the savanna such as Nhulunbuy, Alyangula, Jabiru, Middlemount and Glenden all show indications of high capacity (Guenther 2003), as do remote desert mining communities (Guenther et al. 2004).

A comparison of Figure 4 (page 58) showing the proportion of Indigenous persons in the population, and Figure 35 (page 218), which maps the Index for relative socio-economic disadvantage, confirms the proposition that disadvantage, as measured by ARIA, is largely associated with remote Indigenous communities, not with remoteness on its own. The majority of regions in central Queensland, where the proportion of Indigenous persons in the population is low, have a higher index value, indicating relatively lower levels of disadvantage. While there are barriers to engaging in learning in rural and remote areas for non-Indigenous people, the SEIFA map highlights the difference between remote Indigenous learners and non-

Indigenous learners. Most non-Indigenous people living in remote communities (including mining communities) live in or near a major service centre or ‘hub’ and it is this accessibility to a range of services together with relative socio-economic advantage that differentiate Indigenous and non-Indigenous remote learners. Consistent with this conclusion and other international research (e.g. OECD 2004:260) a recent House of Representatives report into VET in Schools (HRSCET 2004) commented that:

> In order to ensure the effectiveness of VET in Schools for students in rural and remote areas, the accessibility of services and facilities targeted to local socio-economic circumstances is essential. (p. 82)

In a study of online learners—mainly non-Indigenous—completed in 2002, the Australian Flexible Learning Framework reported that most learners (75 out of 82 surveyed) lived within 30 minutes of a major town and most learners (68) lived within an hour of a computer repair shop (AFLF 2003). While some research suggests that cost is a barrier to learning in rural and remote areas (e.g. ANTA 2002b, Kilpatrick & Guenther 2003a; NTCOSS 2004), the AFLF survey suggests that “cost as a barrier may have been overcome by public provision of services” (p. 22).

A number of other factors have been identified that influence the provision of training delivery more generally in rural communities (CGC 2001; Clayton et al. 2004a; CRLRA 2001b). These include: small numbers of trainees, sometimes insufficient for ‘critical mass’; access to qualified trainers due to geographic isolation; the problem of thin markets and competition; and access to relevant workplaces.

Added to these general barriers associated with rural and remote areas, the savanna region has its own unique set of issues that affect access to service delivery. These include and are in addition to the ones discussed in the section ‘Indigenous learning’, page 44): wet season isolation due to impassable roads; land use considerations such as Native Title Agreements which constrain the range of activities possible on Indigenous lands; environmental considerations and limitations associated with

National Parks; and climatic conditions such as extremes of humidity, cyclones, wet and dry.

Nevertheless, the weight of evidence reviewed here suggests that the main factors associated with rural and remote access are related to socio-economic status and Indigenous status. Those who are able to afford access to technology and quality education are not as disadvantaged as those who do not have the economic resources to ensure access to quality services. Therefore the issue of rural and remote access in the savanna region is more about Indigenous access than it is about isolation.

Having discussed a range of contextual issues related to service delivery in the tropical savanna region, the literature review now moves on to consider what it means for education and training to be 'successful'. The literature in this next major section will draw on both Australian and international research and work.

2.1.4 How is success defined in education and learning?

'Success' in education and training is often considered simplistically and with assumed meanings. For example, the unstated assumption in the phrase 'successful course completion' could be one of a number of possibilities: graduation, passing, moving on to the next phase, competency, regular attendance or getting to the end (regardless of passing or failing). Another unstated assumption of the phrase relates to who determines success—success in whose eyes? 'Successful completion' also assumes a context and a purpose. For example completion of a VET program for one person might mean access to a job; for another it might mean access to higher levels of training; for an employer it might mean a person is competent to do a job, for a provider it might mean access to public funding; to industry it might be part of a broader strategic plan.

If success is more than just passing versus failing or achieving versus not achieving and is thought of in terms of a continuum or mix of processes and outcomes then it may be easier to think of success more qualitatively in relation to the beneficiaries of learning. There are a number of stakeholders in post-compulsory education and training, all of whom have an interest in the outcomes of that training. This section will therefore discuss 'success' or 'effectiveness' of education and training in terms of its various stakeholders. These include individuals, industry, communities, governments, providers and partnerships. Each will be considered in this section.

2.1.4.1 Success for individuals

Success for individuals is often thought of in terms of participants. But there are other individuals present as stakeholders, such as parents, who define success somewhat differently.

NCVER’s Student Outcomes Survey (NCVER 2004b) provides a useful starting point in considering measures of success for training participants. The following measures are used in their report (p. 3): employment after completion of training; enrolment in further training after completion of training; relevance to employment; satisfaction with the quality of training; and achievement of the main reason for doing training.

The implication of these measures is that training is successful when the outcomes described are high and improving over time. If training does not lead to employment or further education; if it is not relevant to employment; if participants are not satisfied and do not achieve their main purpose for engaging in training, then the training is not seen to be ‘successful’. These measures are consistent with a view that sees VET not as an end in itself but as a ‘means to an end’ (Selby Smith et al. 2001). While the Student Outcomes Survey instrument gauges student perceptions and quantitative outcomes it does so from the perspective of ‘the system’—the overarching, controlling government managed and directed organisation.

In terms of ‘the system’ however, a successful completion depends on the type of training undertaken. Where contracts are involved, such as is the case with apprenticeships, there are obligations and certain criteria that must be met before completion can be considered ‘successful’. Robinson (2001:102) summarises these as: completion of formal off-the-job requirements; completion of the indenture period; and notification to the state/territory training authority of completion of the contract. Where formal contracts in an unregulated environment are not involved these determinants are not present and success for an individual is determined differently.

Academic achievement or performance is seldom discussed in relation to vocational education and training. A Senate Committee Report headed *Aspiring to Excellence* attempted to define quality in VET (SEWRSEBC 2000). While addressing issues of outcomes for individuals and industry, it avoided references to student performance or achievement, deferring instead to a definition that discussed the quality of outcomes and processes:

> In considering the quality of outcomes, and of processes, the Committee adopted the five indicators of quality used by Schofield in her reports on the quality of apprenticeship and traineeship training in different states. These are effectiveness, fitness for purpose, efficiency, accountability and ethical practice. (p .12)

Assessment processes have continued to do little to differentiate ‘excellence’ from ‘competence’. This was recognised as an issue in a Senate committee report: *Bridging the skills divide* (SEWRERC 2003):

> A number of witnesses and submissions also identified the benefits of strengthening the consistency and integrity of the assessment process, for example by complementing current approaches to assessment of competency (based on an either ‘competent/not competent’ outcome) with ‘graded performance assessment’ to recognise the achievement of higher levels of competence or a more holistic assessment of skills. (p. 117)

The report goes on to suggest that a graded assessment approach may increase opportunities for individuals who want to move through into higher education. Smith (2000), commenting on this issue in a report on Quality of VET in Queensland, stated:

> The belief is, however, that the lack of “grades” or “performance levels” for those people who have been assessed as ‘competent’ provides little incentive for students to strive for excellence because there is no recognition of their attainment. (p. 14)

With few exceptions (e.g. DoT 2002a) there appears to have been little progress made towards implementing this idea of graded performance in VET and the same arguments are still being put forward in more recent research (e.g. CDU/NTDEET 2004:79).

Parents as stakeholders have a different—though complementary—set of expectations for their children as participants in VET. Parents are influenced by their own experiences of education and training and to some extent project their expectations on to their children. Kilpatrick and Guenther (2000) found that one of the major factors contributing to students engaging in VET in Schools programs in a cluster of schools in Launceston, Tasmania was parental background and perceptions—largely based on their own experiences. Parents who had lower levels of educational attainment were more likely than those who had bachelor degrees or higher to nominate VET in Schools as an appropriate educational pathway for their children. The findings are consistent with other Australian research by the Country Education Project Inc. and Youth Resource Centre (2001:53) which, in a study of 14 rural Australian schools, found that comments such as VET is not ‘real school study’ were frequently stated in one form or another. This is not a uniquely Australian phenomenon. Commenting on the situation in the USA, Lee (2000:54) cites a Florida Department of Education report describing a ‘long-standing prejudice: that vocational education is for youths who cannot make it in college’. The implication of these reports is that VET is seen by many parents as at best a second rate option, but not an option for those who can be considered a ‘success’.

The perspective of industry is different again. Of course, individuals participate in industry as employees and as enterprise owners and there is some overlap of interests.

2.1.4.2 Success for industry

At an industry level, one of the key measures of success in training and education is to meet the skills needs of industry with a supply of appropriately qualified labour. In an industrial environment where employment is at record highs and nationally, unemployment is at 30 year lows—5.0 per cent in March 2005 (ABS 2005a)—an increasing number of industries are drawing attention to skills shortages and strategies to meet these (see also Supply and demand, page 38). Given the significance of mining, particularly to remote areas of the savanna region (see

Table 13), the skills needs in this industry are of particular interest. In both the Northern Territory and Queensland there is evidence that government (as the key public training provider) and industry are struggling to meet demand (Business Roundtable 2004, DSDI 2004b).

Industry in the tropical savanna region has a unique opportunity not available in other parts of Australia. Skilled labour is in short supply and in many remote communities expensive fly-in/fly-out provisions are frequently used to ensure continuity of labour supply in the mining industry (Woolcock et al. 2003) and health industry (Greenwood & Cheers 2002) in the face of declining local populations (Collits 2000). In mining, while these measures are seen to be a ‘cost-cutting measure’ (ABS 2000) designed to avoid the significant costs associated with setting up and maintaining infrastructure in purpose-built mining towns, one of the consequences of these strategies is a general decline in the capacity of the region associated with the mining development. They are also reported to have adverse impacts on employee recruitment, retention and occupational health and safety (Beach & Cliff 2003). Coupled with these issues are significant costs: Beach et al. (2003) for example estimated that:

> Based on conservative cost estimates from other industries, an average turnover rate of 19 per cent at an open-cut mine with 300 employees will cost the company around $2.8 million annually.

The *opportunity* available to industries in the savanna region is the large pool of available Indigenous labour, which lives in the region and therefore does not need to be flown in and flown out (Cunningham 2003). In Queensland, the Queensland Mining ITAB, recognising the issue, have begun to address the issue by developing the concept of a ‘skills eco-system’, in an attempt to build local skills (including Indigenous skills) in regional areas, thus avoiding the costs associated with fly-in fly-out labour supply arrangements. One definition of a skills ecosystem is offered by ANTA’s *Skills Ecosystem Project* (ANTA 2005b):

> Skill ecosystems are networks of businesses, groups and organisations that interact to create clusters of skills and workforce capabilities in an industry or a region.

In conjunction with Queensland DET, a Skills Formation Network has been established to develop the concept (Eddington 2003, 2005).

One attempt to more directly engage the Indigenous communities in and around sites of major projects—such as the Adrail Alice Springs to Darwin rail link—is in the partnership established by the Northern Land Council and the Territory Construction Association (NLC 2003b). The partnership has been used to ensure training and employment outcomes for local Indigenous people. Now in its third year, the partnership is drawing on its combined expertise to build Indigenous skills in the construction industry across a number of projects, including the Wickham Point Liquified Natural Gas (LNG) Plant (Stirling 2003b).

One of the key driving forces behind any private enterprise is the need for profit. Profit ensures sustainability and allows for re-investment in the business and expansion of the business. While there is some discussion about whether training leads to increased productivity or is the result of an already profitable business (Moy 2001; Smith 2001), there is little doubt about the underlying reasons for businesses' desire to upskill their labour force. While there may be altruistic or philanthropic reasons for providing and supporting training (e.g. Allen Consulting Group 2001; IEP 2004) it is apparent that enterprises look for observable productivity improvements: they look "for *proximal* rather than *distal* effects" (Figgis 2001:104)—things that have a direct and immediate impact on the enterprise environment. Consistent with this, Dawe (2003a) defined successful training practices as:

> Strategies which provide tangible and intangible benefits for organisations (for example, increased skills and knowledge, required corporate values and attitudes, increased competitiveness, improved employee morale, and more effective employee–manager relations). (p. 9)

Given that innovation has been described as "a key to competitiveness, employment growth and social well-being" (Batterham 2000:9) it is worth asking the question: 'to what extent is VET a contributor to innovation?'. The Australian chief scientist in his report *The Chance to Change* goes on to say: "As sunlight is to photosynthesis, knowledge is to innovation. Innovation is the process that translates knowledge into economic growth." (p. 15) While the link between knowledge and innovation is perhaps obvious, the link between vocational education and training and innovation is not so obvious. While VET *can* play a role in driving innovation—as discussed in case studies by Curtain (2004)—whether TAFE for example, the public face of VET provision in Australia, *does* play a significant role in learning for innovation is in doubt. Curtain, commenting on a Commonwealth report on innovation, *Mapping Australian Science and Innovation* (Commonwealth of Australia 2003), states:

> However, in relation to vocational education and training, there is little evidence of a significant contribution, with only two pages devoted to vocational education and training in a 400-page report. (p. 30)

While innovation in the report is seen to be the domain of scientists, research and development agencies, industry and governments, it appears that there is a perception that VET's role is limited to providing skills for science and technology (pp. 202–203) or, in other words, training follows innovation. However, innovation is in itself driven by a number of factors that are directly related to a need for effective and successful training programs. VET is seen by industries and enterprises as a way in which they are able to remain competitive in an increasingly global marketplace and thereby be flexible and keep abreast of technology. Training goes hand in hand with innovation. Commenting on a 1995 Australian Workplace Industrial Relations Survey which examined the link between training, innovation and workplace performance, Selby Smith et al. (2001:19) comment that while training in itself was not associated with innovation, "the benefits of innovation were increased by the addition of training".

While it is apparent from the foregoing literature reviewed that successful outcomes for industry are related to meeting skills needs, ensuring productivity and competitiveness, there is little in this literature that suggests what the determinants of success are. Dawe (2003b:9) notes three key determinants: an organisational culture that supports learning; mechanisms to link training to the business strategy; and mechanisms to link training to workplace change.

Dawe (2003a) elaborates on the aspect of organisational culture:

> An organisational culture in which all individuals are respected, a willingness to share knowledge and expertise, and a positive attitude or ‘can do’ mentality among workers, was essential to successful training and learning. ‘Open communication’ and, in particular, cross-functional team consultations, also stimulated learning which led to innovative solutions. (p. 54)

These observations that Dawe makes are an important departure from the rhetoric of outcomes and delivery aspects and speak significantly of the workplace culture, the norms and the values of the enterprise and how learning integrates with this. The issues raised are closely related to those that will be discussed in a later section: Identity formation and learning, page 134.

Success for industries and enterprises is related to productivity, profit, competition and risk management—and to a lesser extent—workplace culture concerns. Community expectations of learning, to be considered in the following section, will differ again from those of individuals and industry.

2.1.4.3 Success for communities

Notwithstanding the definitional considerations of what ‘community’ means (see What is community?, page 85), community in this context will be taken to mean a place/locus where people live. The discussion here will also draw a distinction between Indigenous communities and non-Indigenous communities. Recognising also that there is a diversity of opinion about what defines ‘Indigenous community’, the discussion of literature here defers to the definition given by the ABS in the Community Housing Infrastructure Needs Survey (ABS 2002a:87) which defines a ‘discrete Indigenous community’ as a “geographic location… inhabited predominantly (i.e. greater than 50% of usual residents) by Aboriginal or Torres Strait Islander peoples, with housing or infrastructure that is managed on a community basis”.

Considering first the case of learning in non-Indigenous communities, the literature points to a number of reasons why such communities would want to engage in learning. Success or failure in these instances is often defined at a community level. The Centre for Research and Learning in Regional Australia’s study of 10 regional communities (CRLRA 2001a, 2001b) revealed a number of cases where learning was used for community outcomes. A few examples are drawn from this research to illustrate the ways that learning was used successfully.

In Broken Hill for example, CRLRA found that a number of community partnerships had formed, many of which were designed to use learning as a tool to build opportunities for residents in the face of the decline of mining as a source of employment. The report (CRLRA 2001b) comments that “the most significant contribution of VET to the community is the way it is facilitating the transition of the economic base of Broken Hill as a mining community to that of a regional service centre”. (Vol 2, p. 47) In Port Lincoln one of the main needs identified in the case study was that of social acceptance. “VET was shown to make a difference through programs and events that promoted reconciliation and that broke down barriers between Indigenous and white communities”. (Vol 2, p. 547) A third example comes from the Orbost site where the report commented that even though the infrastructure provided by the players was fairly small, “the shared resources make a significant contribution to the life of each community of the Orbost site”. (Vol 2, p. 440)

In a study of five rural Australian communities—Cowell, Meander, Walla Walla, Cooktown and Margaret River—Kilpatrick et al. (2001) found a number of capacity-building outcomes that emerged from school–community partnerships. The research noted that one of the outcomes was increased youth retention in several of the sites (p. 100).

It is notable that success of learning programs in each case was aligned to the specific needs of the community. One of the common themes that emerged from the CRLRA case studies of the 10 sites was the significance of partnerships at a community level, which led to shared resources and collaboration, building the capacity of the community. The importance of local leadership was also noted. Consistent with these themes, the benefits of learning for regional communities in Australia are reported widely in literature in terms of social capital (e.g. Falk, Golding & Balatti 2000; Golding, Davies & Volkoff 2001; Kilpatrick & Falk 2001).

In Indigenous communities the distinction between ‘community outcome’ and ‘employment outcome’ is more difficult to differentiate than in non-Indigenous communities, where there is both a strong sense of industry and social outcomes.

‘Industry’ as it is described in non-Indigenous communities is almost a foreign term in remote discrete Indigenous communities where employment outside of CDEP and health work and education is virtually non-existent (Kral & Schwab 2003). Exceptions to this might exist in some communities where there is an interface between the Indigenous and non-Indigenous peoples, for example as might be the case in some areas where the pastoral industry, the mining industry or the tourism and hospitality industries are strong. In New South Wales for example, a collaborative project dubbed ‘Cellulose Valley’ has identified a number of economic development outcomes for Indigenous communities in the Northern Rivers area (Training Agenda 2004). This project demonstrates that within a collaborative framework Indigenous communities can effectively work with non-Indigenous industry and education/training partners to produce employment, business mentoring and management related outcomes for Indigenous community stakeholders.

The recently released *Northern Territory Indigenous Economic Development Strategy* (NT Government 2005) identifies several opportunities and examples where Indigenous enterprises can and are being developed. Learning underpins many of the opportunities and training is highlighted throughout the Strategy document. In particular, training is viewed in the Strategy as a means of individual and community capacity development:

> …targeted training support is required to assist Indigenous communities to develop their capacity to establish and implement their own employment and training strategies, including improving individual and community capacity to make informed decisions about the economic development options most appropriate for them. (p .13)

There is evidence, at least in the mining industry, that this is beginning to happen. At some mining sites the proportion of Indigenous people in the workforce is reported to be up to 20 per cent (Barker & Brereton 2004). Indigenous Land Use Agreements are often the basis for inclusive employment policies and strategies and should be further used as a lever.

‘Capacity building’ described above with regard to largely non-Indigenous communities is a term that can be and is applied to Indigenous communities in relation to learning (e.g. Kral & Falk 2004). There is recognition among government agencies that measures of success need to be broadened to include a range of indicators, which include cultural and social outcomes as well as employment and educational outcomes (DEST 2003b).

2.1.4.4 Success for governments

Government is a key stakeholder in VET. As the major source of funding for public VET institutions it has a vested interest in the outcomes of VET. Governments—state, territory and federal—are acutely aware of public perceptions about the need to maintain a healthy economy with maximum employment. In this context, success of education and training for governments is dependent on the ability of the sector to translate training into jobs. An example of this focus is found in the Northern Territory government's Jobs Plan:

> The future prosperity of the Northern Territory (NT) hinges on a skilled and competitive workforce. Economic and social prosperity will be governed in part, by the capacity of Territorians to fill job opportunities and for the Territory to compete with the rest of Australia and the world for future labour markets (DEET 2005b: 4).

The idea of training leading to 'real' jobs is a particularly sensitive issue for government agencies (see also Indigenous learning, page 44). Training outcomes that do not lead to real jobs are not considered to be successful. Similarly, it is training outcomes that do result in qualifications that are seen to be successful (e.g. NT Government 2003b). In its summary of key indicators relating to overcoming Indigenous disadvantage, the Steering Committee for the Review of Government Service Provision (SCRGSP 2003) stated:

> However, participation in itself need not lead to improved employment outcomes. It generally needs to be accompanied by success—the attainment of a qualification or completion of a course of study. (p. 9)

Affirming this view, the Northern Land Council Chief Executive, commenting on a visit to the Northern Territory by the Prime Minister to view the 'success' of the Adrail project (NLC 2003c), stated:

> These are not pretend jobs or training programs—we are talking about sought-after skills and properly accredited training being provided to many Aboriginal people along the length and breadth of the railway project, which will stand them in good stead as the Top End moves into a new era of economic development.

Governments play a key role in policy making and drive the agenda for education and training through the provision of funding. One of the main recipient groups of this funding is ‘providers’. While providers are required to report on the use of their funding allocations, in their position of direct contact with trainees, industry and communities, they have another perspective on what ‘success’ means.

2.1.4.5 Success for providers

While it could be expected that the goals of providers and trainees are at least complementary—success for students implies success for providers—providers have an additional level of accountability that to a large extent determines their view of success. The provider is firstly accountable to his ‘customer’, the organisation that pays for the training. In the case of publicly funded training, in order to be considered successful a provider must satisfy the requirements of the government that provides the resources. In the case of fee for service training, the provider has an obligation to satisfy the needs of the organisation/individual that pays for the training.

For providers, one aspect of success is described in terms of student retention. The following quote from research conducted by Long et al. (1998) illustrates this point.

> To solve the problem of high student drop out staff at the South West Regional College of TAFE in Western Australia changed their approach in 1995 with the result that at the end of the year capacity enrolments were maintained, attrition rates dropped dramatically, and ‘unprecedented numbers of Nyungar students achieved academically measurable outcomes. (p. 25)

The problem—which needed solving—was poor student retention. Success was achieved when student retention/enrolments increased. Regardless of the academic outcomes of the students, it is apparent from the statement that success was determined by the provider in terms of retention.

In a study of high-skilled VET practitioners and high-performing VET organisations, Mitchell and Wood (2001) identified three key characteristics of high performing VET organisations. These characteristics, associated with their success were:

- Their use of a strategic approach to human resource management;
- Their innovative response to challenges arising from the implementation of the National Training Framework; and
- Their development of collaborative arrangements with industry. (pp. 7–8)

Interestingly none of these characteristics of high-performing organisations, which were described repeatedly through the report findings as ‘successful’, relate to training delivery or trainees. In an alternative framework, Maxwell et al. (2004) suggest that the performance of VET institutions can be more effectively determined by taking a series of indicative performance measures of effectiveness for institutional *inputs*, *processes* and *outputs*. By ‘inputs’ they mean management, teacher and facilities considerations; by ‘process’ they mean organisational culture, capacity and delivery considerations; and by ‘outputs’ they refer to student/trainee and employer outcomes. Their model gives priority to process items:

> From the perspective offered here, these process indicators/measures indicate intermediate outcomes—in the sense that they are desirable in themselves and are consequences of decisions about how the resources of the institution are to be deployed and how program delivery is to be managed—and also indicate mediating inputs for reaching the end goals of the institution. That is, they are important in their own right as intermediate goals as well as being the potential agency for reaching the ‘ultimate’ or ‘key’ goals (expressed in terms of outputs/outcomes). (p. 51)

The significance of this framework—setting aside measurement and data considerations—offers a more refined approach to measuring success of providers than current systems, which are more attuned to input measures. It takes into account the role of the provider and its responsibility to its various stakeholders. It may also take into account the possibility that providers form an integral role in strategic learning partnerships, which will be discussed as the final grouping in relation to measures of success.

2.1.4.6 Success for partnerships

The term ‘partnership’ can be interpreted and understood in a number of different ways. ‘Partnership’ implies cooperation, collaboration and working together for a common purpose. Partnerships can be defined in terms of formal arrangements bound by contracts or memorandums of understanding or they may alternatively be informal bound by a loose network of relationships. They are often defined in terms of purpose, function and outcomes and interpreted in terms of the context (Chappell & Hawke 2003; CRLRA 2001b; Seddon & Billet 2004).

Partnerships for education and training arise for a variety of reasons. The complexity of partnerships means that defining success for a partnership can be ambiguous. Regardless of the type or purpose of partnership, one of the key motivators for the formation of partnerships is the possibility for mutual benefit that arises from the collaboration. Seddon and Billet (2004:26) note that the “capacity of the social partnership to develop shared understandings about its purpose is central to the partnership’s continuity and efficacy”. Shimeld (2001), commenting on community partnerships, agrees that such collaboration:

> …develops around an issue of common interest that typically is beyond the ability of one person or existing agency to address. The stimulus to action may have come from within or outside the community with motivation for engagement stemming from altruism to enlightened self-interest.

The breadth of purposes of partnerships internationally is summarised in a recent policy brief to the Organisation for Economic Cooperation and Development (OECD) about the role of civil society in public policy (OECD 2001a).

> Throughout OECD countries, partnerships are being established to tackle issues of economic development, employment, social cohesion and the quality of life. Through partnerships, civil society, enterprises and government at different levels work together to design area-based strategies, adapt policies to local conditions and take initiatives consistent with shared priorities.

Kilpatrick, Fulton and Bell (2001), identified several types of partnerships commonly found in literature. These included:

– Industry-provider partnerships

– Client-provider partnerships

– Community-provider partnerships

– Broker-client-provider partnerships

– Researcher-industry-provider partnerships

– Government-industry-provider partnerships

– Provider-provider partnerships, usually with government

In a review of 117 training partnerships across Australia, Kilpatrick and Guenther (2003b) identified seven reasons why training partnerships are formed. These are: enterprise development; increased access for equity groups; industry development; new pathways and skills; regional development through education and training; state and regional coordination/support; and Structured Workplace Learning (school to work transition programs).

They found that the outcomes of partnerships were to some extent dependent on the type of partnership formed and the value of partnerships was seen more in terms of indirect benefits that arose out of collaboration than in direct benefits such as increased productivity, skill development or meeting specific enterprise needs. Research by the Country Education Project Inc. & Youth Resource Centre (2001:32) similarly identified community support in terms of ‘mutually beneficial partnerships’, as an important factor that drove success of rural VET in Schools programs.

If, as Kilpatrick and Guenther suggest, the measures of success are determined by the partnership stakeholders, we could expect to find a diversity of outcomes depending on the nature of the partnership. The literature review has already cited a number of examples of ‘successful’ partnerships, which reflect the diverse nature of education and training partnerships. Summarising some of these successful outcomes it can be shown that success for a partnership may be about:

- Sharing infrastructure and resources (as in CRLRA's Orbost partnership, p. 77);
- Improving equitable outcomes for Indigenous people (as in the Cape York IEP, p. 53 and the NLC/Adrail partnerships) and building economic capacity (e.g. Cellulose Valley, p. 78);
- Managing labour supply (as in the ERA/Jabiru CDEP partnership, p. 47);
- Managing change processes (as in the CRLRA Broken Hill case, p. 77);
- Breaking down barriers between groups with diverse points of view (as in CRLRA's Port Lincoln example, p. 77);
- Enterprise development (as in the Nabarlek and John Forrest Vocational Training Education Centre examples, p. 53); and
- Youth retention (as was the case in the five rural communities study, p. 77).

According to CRLRA (2000:111), successful partnerships can be described according to four variables: purpose, partnership members, intensity and duration. They state that a "well-understood and well-defined purpose is the linchpin of strong networks"; that high intensity is essential till trust develops; and that while the purpose of a partnership may change with time to adapt to new situations this is only possible because of staff continuity. While each of the examples in this and previous subsections have alluded to the determinants of success, this issue will be dealt with specifically in the following subsection.

2.1.4.7 Determinants of success

With few exceptions the literature reviewed invariably describes success in terms of outcomes or outputs. For example, success for individuals is achieved on completion of a qualification, on a job outcome or achievement of new skills. For industry, successful training is defined in terms of meeting skills needs for a productivity or risk management outcome. Similarly for other stakeholders in education and training, the issue of success is discussed in terms of what comes out of the training.

There is very little literature that describes success in terms of inputs or processes. The CRLRA literature on partnerships is one exception. This considers a number of process variables that indicate success. Dawe's (2003a) discussion on determinants of success for industry and the importance of linking training to the workplace culture is another. A report commissioned by the OECD, titled *Beyond Rhetoric: Adult learning policies and practices* (OECD 2005), concludes that a number of principles underpin successful adult learning practices. These principles drawn from findings in nine OECD countries include adequate financial incentives for learners to engage and organisations to promote training, good coordination in partnerships and integrated policy frameworks. However, the issue of what determines success remains largely problematic because so much of the focus of research is on outcomes, driven by the demands of governments and industries.

Having considered a range of education and training issues, particularly as they relate to the Australian—and more specifically the tropical savanna—context, the literature review now moves on to consider another important aspect of the research: community well-being and its relationship to learning.

2.2 Learning and community well-being

This section will draw together literature that links learning with community well-being. The question of what defines community and well-being, particularly as those issues relate to the tropical savanna region of Australia, will be addressed. The relationship between learning and well-being will then be explored. The section will conclude with a consideration of literature relating to learning and identity—individual and corporate. Australian and international literature will be explored. Where possible, literature and research that relates these issues to the Australian tropical savanna region will also be discussed.

2.2.1 What is community?

There is a diversity of opinion about what constitutes 'community'. The ABS (2004d:9) notes that there "are many other ways of dividing people into groupings with some level of common identity or interest, which may become important from time to time’. Bearing this in mind, communities can be discussed in terms of place where people live (e.g. a rural community); a group of people with a common interest (e.g. the community of academics); an ethnic or religious group, not necessarily bounded by place (e.g. the Jewish community); or more specifically as a particular subset of places/people (e.g. remote communities in Australia has a certain connotation which could imply ‘Indigenous’, or ‘under-serviced’ and ‘inaccessible’). Shaffer and Anundsen (1993) define communities more in terms of function than form:

> Community is a dynamic whole that emerges when a group of people:
>
> – Participate in common practices;
>
> – Depend upon one another;
>
> – Make decisions together;
>
> – Identify themselves as part of something larger than the sum of their individual relationships; and
>
> – Commit themselves for the long-term to their own, one another’s and the group’s well-being. (p. 10)

CRLRA (2001b:3) defined community as ‘a small or large group of people in occasional or protracted interaction for the varying purposes which serve to confirm, consolidate, or extend the identities, values and knowledge shared by the group’. Balatti and Falk (2000:4) described small and large groups in terms of ‘communities of common purpose’. In the context of community development Cavaye (2004) defines ‘community’ more simply as ‘a group of people with a shared identity’. The foregoing definitions appear to suggest a certain homogeneity within ‘community’, but this may not always be the case. As Renshaw (2002) contends (in the context of ‘learning communities’):

> …real communities can be difficult and dangerous places where members battle for power and prestige, where strict conformity is demanded on penalty of exclusion, and where strangers or those who are different are routinely turned away or treated with suspicion.

Consistent with this caution, the House of Representative Report of the inquiry into capacity-building and service delivery in Indigenous communities (HRSCATSIA 2004:17) noted that communities "tend to be made up of loose networks of individuals and families rather than coherent groups of people bound by similar beliefs, shared histories and aligned aspirations".

Guenther and Falk (2000), in an analysis of trust in rural communities, found that the most common perception of 'community' from a respondent perspective was 'the place where I live'. Over 90 per cent of respondents in a survey of 372 individuals adopted this definition of 'community'. While acknowledging a diversity of definitions, community in the context of this research will be taken to mean 'the place of residence'. ABS (2001c) acknowledges that:

> Communities are commonly thought of as being groups of people living within particular geographical areas, such as cities or rural towns and their surrounding areas. (p. 56)

One reason for choosing the above definition is that much of the available data—drawn in this research largely from the ABS—uses location as the basis of measurement. By adopting a residence-based definition, questions of cohesion, common identity, values and norms can be set aside. These issues however, will not be ignored when consideration is given to 'capacity-building' or 'community well-being' (see What do we mean by well-being?, page 102). The nature of community as both a 'place' or a set of social relationships is also vitally important for an understanding of learning and community well-being. This will explored further in the section on 'Learning and identity' (see page 132).

2.2.2 What is community capacity?

If the notions of community capacity and community well-being are related, what is meant by the term 'community capacity'? The term is sometimes 'bandied around' (HRSCATSIA 2004:11) without explanation or definition: "there is a lack of clarity in how one defines 'capacity'. Nor is it clear how you build it" (Rudland et al. 2004:2). Given the frequent use of the phrase, and its linkages with the idea of 'community well-being' which will be discussed later, this section will briefly summarise some of the definitions available in the literature. The ABS (2004d)—

discussing community capacity in relation to social capital—adopts Black and Hughes' (2001) definition of community capacity, which is in turn drawn from the Aspen Institute's (1996) definition of community capacity:

> Community capacity is the combined influence of a community's commitment, resources and skills that can be deployed to build on community strengths and address community problems and opportunities. (p. 1)

Community capacity can be broadly defined in terms of the ability of a community to manage change and sustain community led development (NRE 2001). Balatti and Falk (2000) offer the following definition:

> …community capacity is the community's ability to plan for and meet its social and economic needs in pursuit of a quality of life that is acceptable to its members and to the larger community of region, state, and country. (p. 6)

Taking these definitions into account, a succinct definition of the term will be used here: *community capacity is a community's ability to draw on a range of social, natural, economic and human resources for its own benefit.*

Community capacity is often referred to in terms of *building.* The implication is that capacity is not a static quality but that it changes with time and can, through interventions, be built or reduced. It implies action and participation (NSW Government 2003). The participation typically involves collaboration and partnerships both within and outside the community (WADIA 2002; UN 1997). In the Northern Territory, the *Building Stronger Regions, Stronger Futures* (DCDSCA 2003) strategy is an example of this type of approach.

Capacity building is dependent on the context in which it is done. Questions about whose capacity is being built, and who builds the capacity also arise. Ryan and Rudland (2002) develop the concept in a local government planning context. The implication contained in their assumptions is that government initiates capacity building processes and therefore is a *builder* of capacity. This building may be despite the community's need or desire for it. This type of capacity building has been described as a 'public management' approach, as opposed to a 'community development' approach, which is concerned with 'empowering communities to participate in their own policy-making and implementation' (HRSCATSIA 2004:12). The 2000 McClure Report titled *Participation support for a more equitable society* uses the idea of three fields of the capital, applying capacity-building to disadvantaged communities:

> Building community capacity is a term…used to describe the process of accumulation of human, financial and social capital community capacity within disadvantaged communities (FaCS 2000).

Others see capacity-building more broadly. Cavaye (2004) for example states that the term is "essentially synonymous with community development" (p. 4). Macadam et al. (2004), applying capacity-building to a rural context, add to the earlier suggestion that it is about participation, action and partnerships, notably to build the stock of capital:

> Capacity building refers to 'intervention, consequent enhancement of human and social capital, plus increased motivation or commitment to act or empowerment to act independently and the expectation of an outcome in the form of an improvement of some kind'. (p. 16)

Taking all these ideas of capacity-building together, the simple definition of community capacity-building to be used in the context of this research is that if community capacity is a community's ability to draw on a range of social, natural, economic and human resources for its own benefit, then *capacity-building is therefore the process by which those resources and benefits are added to.*

Consistent with these definitions the view adopted here is that there is a link between social capital, community capacity and social well-being such that social capital has a capacity-building role (Topolsky 1997). There is a dynamic relationship between social well-being and social capital and other forms of capital: physical (produced) human and natural (ABS 2002e; Falk 2001; OECD 2001b:12). This dynamic relationship will be discussed in more detail following a brief review of the kinds of communities that exist in the Australian tropical savanna region.

2.2.3 Communities in the Australian tropical savanna region

Given the foregoing definition of communities—places where people live—reliant as it is on spatial context, how then are communities defined in Australia's tropical savanna region? Many of the demographic and industry factors that describe the savanna region have already been discussed (see Indigenous learning, page 44; Demographic issues, page 54; Industries of the Australian tropical savanna, page 59; and Rural and remote access, page 65).

An important characteristic of the savanna region is its low population density. Figure 5 shows population density by SLA across the region. The population density for Australia at 2001 was approximately 2.5 persons per square km. The map shows that apart from the urban areas around Townsville and Darwin the region is characterised by extremely low population density, much of it less than 0.1 persons per square kilometre.

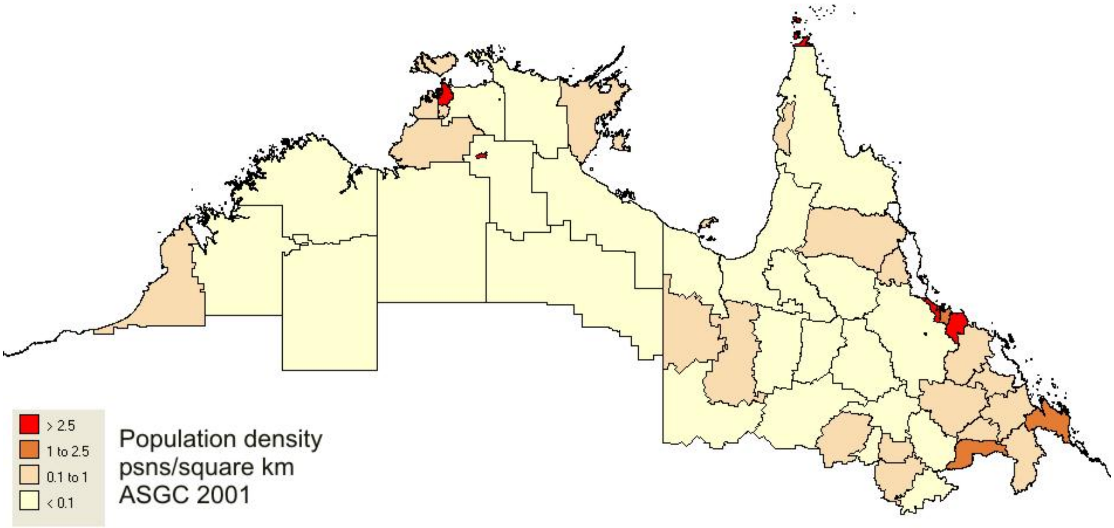


Figure 5 Population density of the savanna (Source: ABS 2003c)

Urban Centres are defined according to ASGC 2004 (ABS 2004b) as population clusters with 1,000 or more people. ASGC has well defined criteria for determining the extent of an urban centre and divides these into population clusters up to 20,000 and those above 20,000. Localities are defined as population clusters with between 200 and 999 people. By these definitions, using data from ABS *Selected Characteristics for Urban Centres and Localities series* (ABS 2003g) there are 150 urban centres and localities in the savanna region, based on SLAs shown in Figure 2

(See Appendix 3, Table 80 for complete list of savanna Urban Centres and Localities along with 1996 and 2001 population data). Table 18 shows the twenty largest urban centres of the savanna region, the largest of these being Darwin with a population of over 70,000. Other major centres are distributed across the three states represented by the region and range in size from about 20,000 (Palmerston and Mt Isa) down to less than 3,000 (Home Hill and Cloncurry).

Table 18 Twenty largest savanna urban centres, showing intercensal population change (Source: ABS 1997b, 2003g)

Locality	Jurisdiction	2001 Population	1996 Population	Population change
Darwin	NT	71,347	70,251	1.6%
Palmerston	NT	20,570	12,233	68.2%
Mount Isa	QLD	20,525	21,751	-5.6%
Broome	WA	15,906	11,368	39.9%
Yeppoon	QLD	10,778	8,810	22.3%
Bowen	QLD	8,550	8,985	-4.8%
Ayr	QLD	8,515	8,697	-2.1%
Mareeba	QLD	6,900	6,874	0.4%
Katherine	NT	6,719	7,979	-15.8%
Moranbah	QLD	6,133	6,508	-5.8%
Deeragun	QLD	5,631	2,314	143.3%
Kununurra	WA	5,485	4,884	12.3%
Humpty Doo–McMinns Lagoon	NT	5,245	4,798	9.3%
Blackwater	QLD	4,928	5,931	-16.9%
Nhulunbuy	NT	3,804	3,695	2.9%
Derby	WA	3,688	3,236	14.0%
Longreach	QLD	3,673	3,766	-2.5%
Howard Springs	NT	3,440	3,207	7.3%
Home Hill	QLD	2,946	3,071	-4.1%
Cloncurry	QLD	2,748	2,459	11.8%

Note: Table excludes localities that had a population less than 200 at either the 1996 or 2001 Census

In terms of industry as a characteristic of tropical savanna communities, the following maps give an indication of the distribution of predominant industries. Figure 6 shows community locations where mining, agriculture, construction and tourism are particularly strong. Not surprisingly the mining communities of Jabiru, Alyangula, Nhulunbuy, Pine Creek, Mt Isa and the Bowen Basin are clearly displayed. Tourism, associated with Kakadu, Mataranka, Karumba and a region around Townsville are responsible for the strength of accommodation, cafes and restaurants. Agriculture, consistent with Table 13, shows up in five Queensland locations. Construction-related industries are particularly strong in centres around the Bowen Basin. The rural area out of Darwin (located around Virginia–Bees Creek) serves as a feeder for regional and remote areas of the Northern Territory. While there are few construction industries in the area, the basis of the map is place of residence of employees.

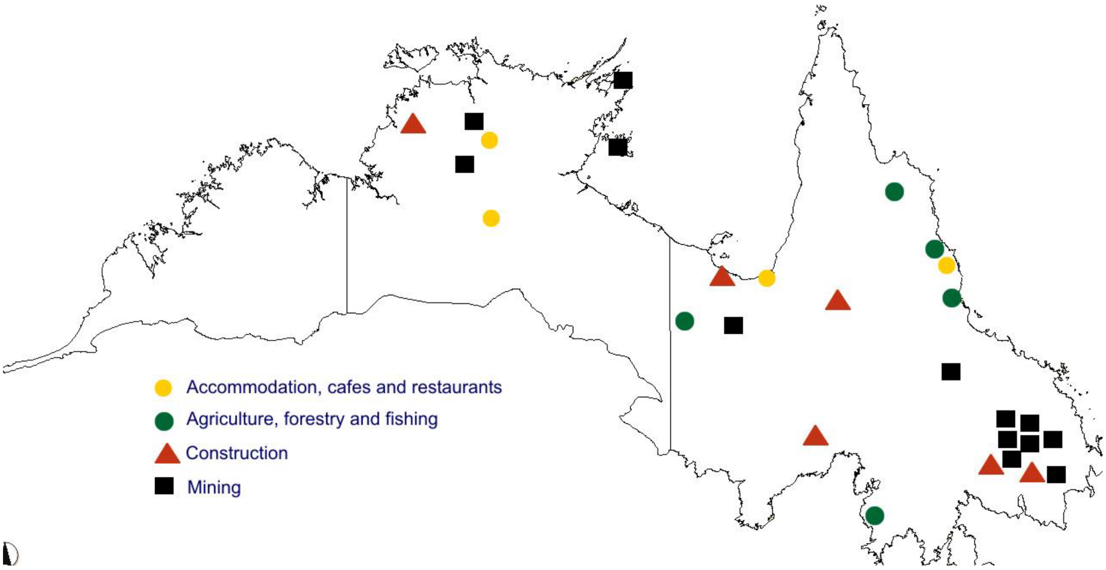

Accommodation, cafes and restaurants
Agriculture, forestry and fishing
Construction
Mining

Figure 6 **Locations where the main industries of employment are accommodation, cafes and restaurants, agriculture, forestry and fishing, construction and mining**
(Source: ABS2002b Urban Centres and Localities, map outline TSCRC 2005b)

Figure 7 shows locations where retail and education are the strongest employers. The map represents retail industry in the major centres of Broome and Kununurra, rural areas of Darwin which serve as feeders for retail in Palmerston and Darwin, several major centres around Cairns and Townsville, and several regional centres in western Queensland. Education is the major employer in Mt Garnet, Normanton and Batchelor.

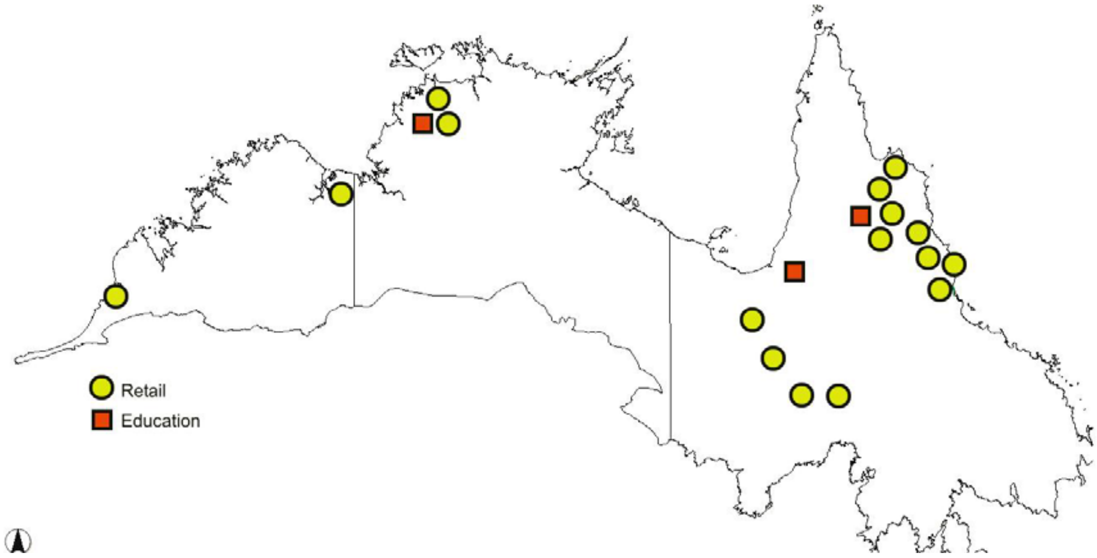


Figure 7 **Locations where the main industries of employment are retail and education (Source: ABS 2002b Urban Centres and Localities, map outline TSCRC 2005)**

Figure 8 shows locations where government and health are major employers. The predominance of employment in government in most Indigenous communities of the savanna is related to work in CDEP. Defence also contributes to the map with strong employment in Darwin, Palmerston and Katherine, reflecting the presence of the armed forces in those areas. Employment in health and community services is strongest in Derby, Wyndham and in a location around Townsville.

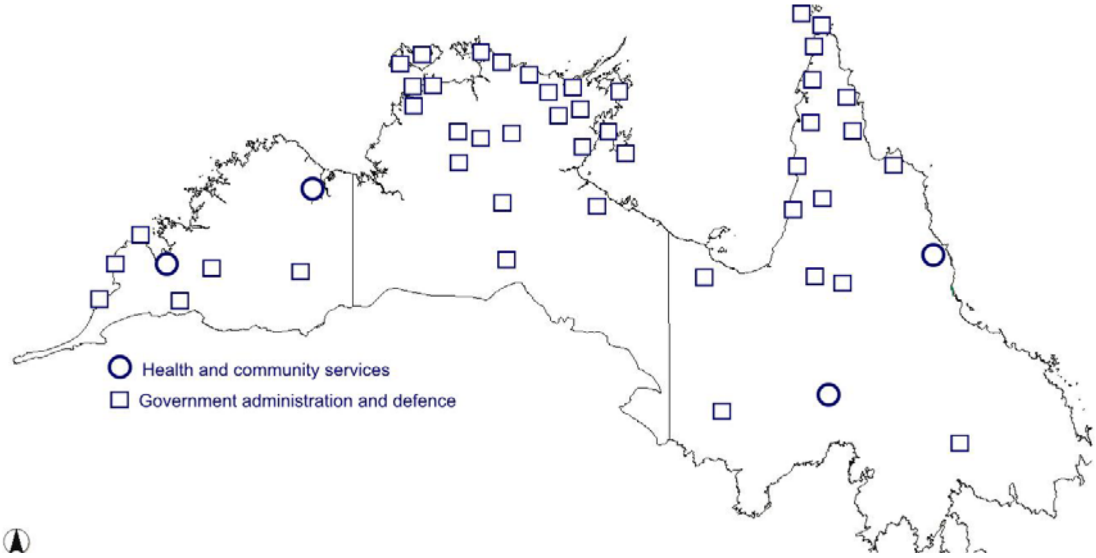

Health and community services
Government administration and defence

Figure 8 **Locations where the main industries of employment are health and community services and government administration and defence**
(Source: ABS 2002b: Urban Centres and Localities, map outline TSCRC 2005b)

Most Indigenous communities in the tropical savanna region are remote and small and as suggested in the map above, there is a high dependence on CDEP for employment. A discrete Indigenous community is defined by the ABS (2002a:87) as

> a geographic location, bounded by physical or cadastral (legal) boundaries, and inhabited or intended to be inhabited predominantly (i.e. greater than 50 per cent of usual residents) by Aboriginal or Torres Strait Island peoples, with housing or infrastructure that is managed on a communal basis.

A summary of discrete Indigenous communities and population distribution is shown in Table 19. Of 652 discrete communities identified in the CHINS data, more than 85 per cent have a population less than 100. More than half of all discrete Indigenous savanna communities are located in the Northern Territory. Figure 9 shows the spatial distribution of discrete Indigenous communities across northern Australia based on CHINS data (ABS 2002a).

Table 19 **Size and distribution of populated discrete Indigenous communities across savanna jurisdictions (Source: ABS 2002a CURF data)**

Population	Queensland	Western Australia	Northern Territory	Total
0–99	94	154	317	565
100–199	3	10	10	23
200–299	2	6	4	12
300–399	3	3	10	16
400–499		4	7	11
500–1000	3	1	7	11
>1000	7		7	14
Grand total	112	178	362	652

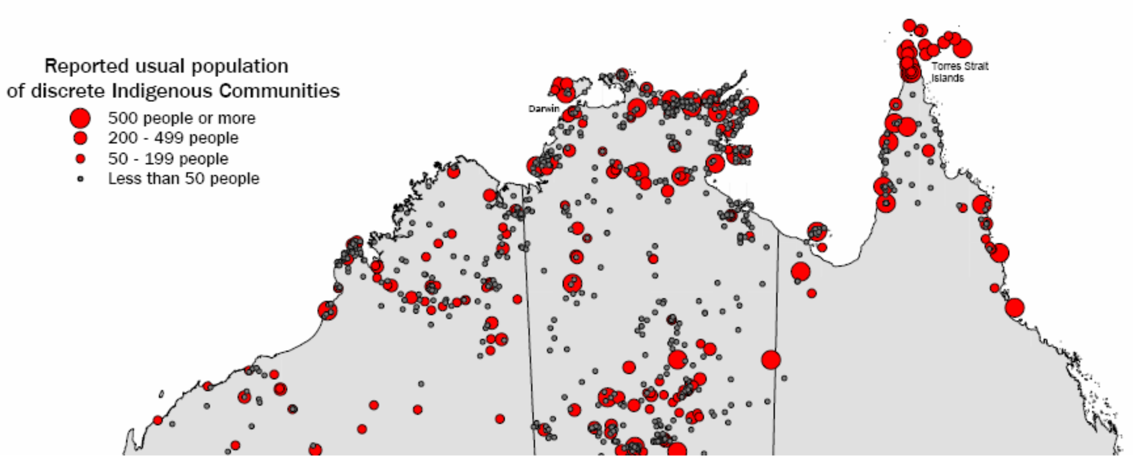

Reported usual population
of discrete Indigenous Communities
500 people or more
200 - 499 people
50 - 199 people
Less than 50 people
Darwin
Torres Strait Islands

Figure 9 **Spatial distribution of discrete Indigenous communities in northern Australia (Source: ABS 2002a)**

Summarising the foregoing discussion it can be seen that savanna communities are characterised by a number of factors: two major urban centres (Darwin and Townsville); key areas of population growth both in Indigenous and non-Indigenous locations (mainly in peri-urban areas at the fringes of Darwin and Townsville); selected areas where mining, rural, tourism and retail industries are particularly strong; strong dependence on CDEP and government employment, particularly in Indigenous communities, but also in key centres of the Northern Territory; and small and dispersed Indigenous communities scattered across much of the remote area of the savanna.

These communities will be described later as *urban*, *peri-urban*, *mining*, *rural* and *Indigenous* communities. The discussion that follows will consider these contexts within a framework of ‘well-being’, a concept that encapsulates a range of economic, environmental, human and social variables. These will be discussed as types of ‘capital’.

2.2.4 Types of capital in a community context

If ‘capital’ is thought of as an asset that can be both used, built up and traded, then these assets in a community context can be divided into at least four different categories: economic; natural; human and social (Black & Hughes 2001:3–4). A useful framework for understanding these four capitals is shown in Figure 10, which is derived from an ABS information paper, *Measuring Social Capital* (ABS 2004d). The four ‘capitals’ shown relate to an understanding of community well-being, which will be discussed in the next section.

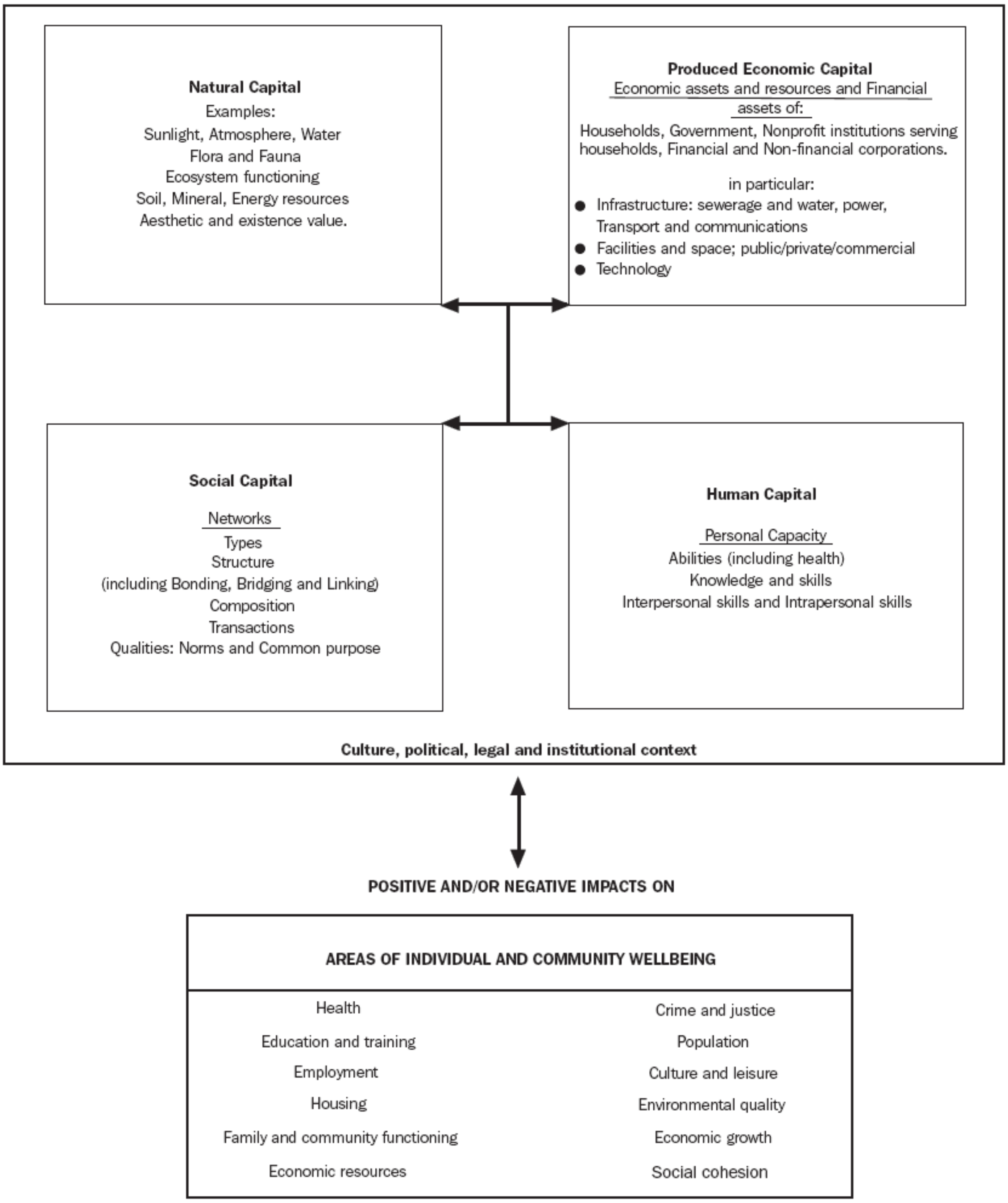

Natural Capital
Examples:
Sunlight, Atmosphere, Water
Flora and Fauna
Ecosystem functioning
Soil, Mineral, Energy resources
Aesthetic and existence value.
Produced Economic Capital
Economic assets and resources and Financial assets of:
Households, Government, Nonprofit institutions serving households, Financial and Non-financial corporations.
in particular:
● Infrastructure: sewerage and water, power, Transport and communications
● Facilities and space; public/private/commercial
● Technology
Social Capital
Networks
Types
Structure
(including Bonding, Bridging and Linking)
Composition
Transactions
Qualities: Norms and Common purpose
Human Capital
Personal Capacity
Abilities (including health)
Knowledge and skills
Interpersonal skills and Intrapersonal skills
Culture, political, legal and institutional context
POSITIVE AND/OR NEGATIVE IMPACTS ON
AREAS OF INDIVIDUAL AND COMMUNITY WELLBEING
Health
Education and training
Employment
Housing
Family and community functioning
Economic resources
Crime and justice
Population
Culture and leisure
Environmental quality
Economic growth
Social cohesion

Figure 10 Relationship between different types of capital as inputs and outputs for community well-being

(Source: ABS 2004d)

A similar but alternative model, shown at Figure 11, is offered by the OECD. The model shows natural and physical capital along with human and social capital (human and social capabilities) as inputs to well-being. This model shows that at the core of well-being is production expressed as Gross Domestic Product (GDP). Just as Figure 10 shows the fields of capital in a political, legal and cultural context, the OECD model shows political, legal and institutional arrangements both drawing from and feeding into the mix of factors contributing to well-being.

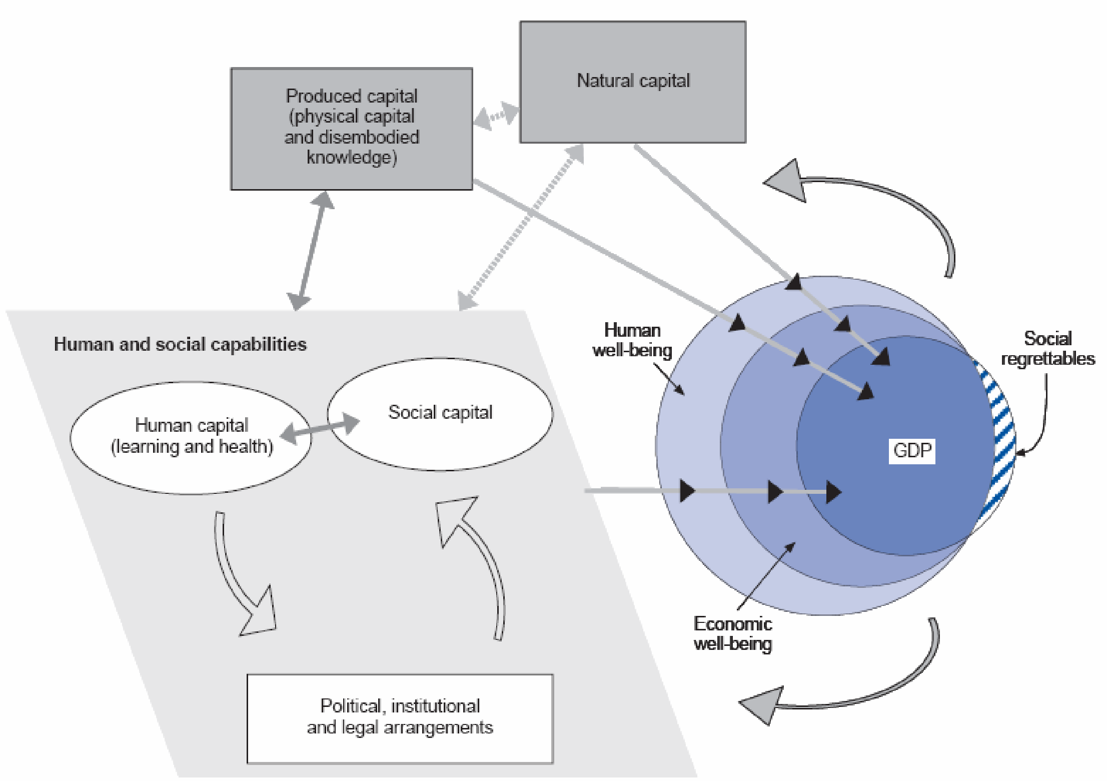

Produced capital (physical capital and disembodied knowledge)
Natural capital
Human and social capabilities
Human capital (learning and health)
Social capital
Political, institutional and legal arrangements
Human well-being
Social regrettables
GDP
Economic well-being

Figure 11 **Inputs to human well-being and inter-relationships (Source: OECD 2001b)**

A final model of these four types of capital is given at Figure 12. Based on work by Hart (2000) the model suggests that produced capital, in the form of buildings, equipment and infrastructure is both dependent on and built on other forms of capital, with natural capital at the base of the structure.

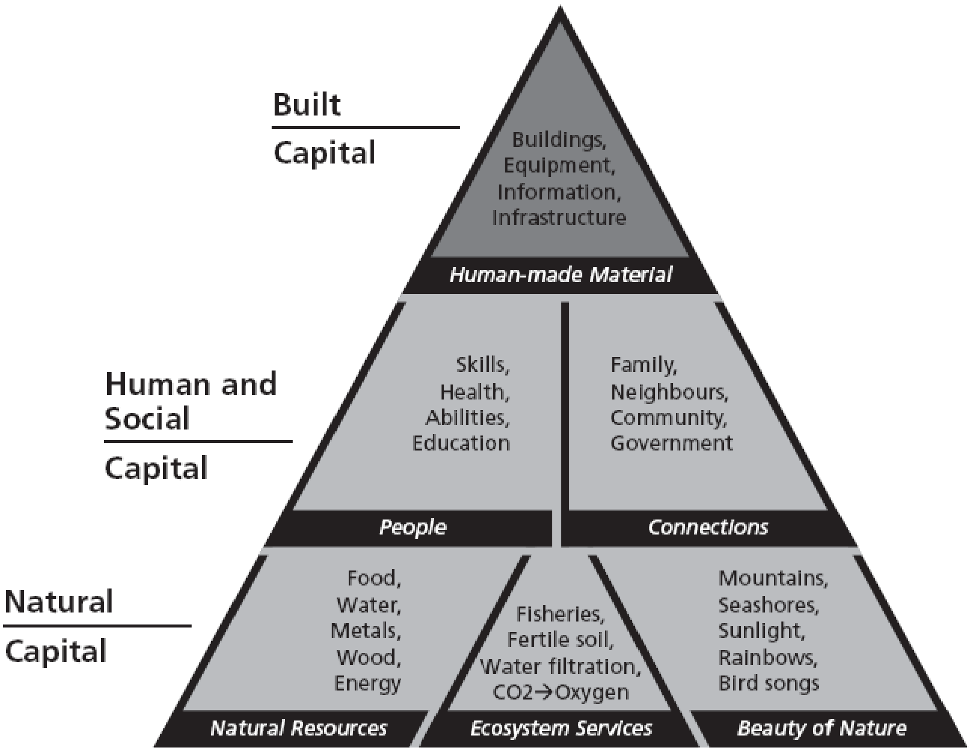

Built Capital
Buildings, Equipment, Information, Infrastructure
Human-made Material
Human and Social Capital
Skills, Health, Abilities, Education
People
Family, Neighbours, Community, Government
Connections
Natural Capital
Food, Water, Metals, Wood, Energy
Natural Resources
Fisheries, Fertile soil, Water filtration, CO2→Oxygen
Ecosystem Services
Mountains, Seashores, Sunlight, Rainbows, Bird songs
Beauty of Nature

Figure 12 **Types of capital in a model for sustainable communities**
(Source: Black & Hughes 2001)

2.2.4.1 Traditional views of capital: economic, human, natural

While it is not intended here to give a detailed review of theory of various forms of capital described in the literature, the idea of ‘capital’ emerged as a factor of production from Adam Smith’s eighteenth century work *An Inquiry into the Nature and Causes of the Wealth of Nations,* alongside land and labour (Smith 1904). David Ricardo later advanced the idea of fixed and circulating capital (Ricardo 1821) in relation to the value of production.

In the 1960s there was an increasing interest in the quality of labour, which gave rise to the term human capital, particularly in relation to education. The view was that skills, knowledge, values and health cannot be separated from a person as can their assets and wealth (Becker 2002). The OECD (2001b) defines human capital as:

> The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being. (p. 18)

Just as 'labour' is now more broadly included in human capital, so too 'land' is included in the notion of 'natural capital', which as Figure 10 suggests, is described in terms of natural resources, ecosystems, sunlight and water, all of which contribute to the well-being—as opposed to the 'wealth'—of communities. According to Hawken et al. (1999), the stocks of natural capital are rapidly depleting and the biological services flowing from the stock of natural capital into society are worth almost as much as the combined annual gross world product.

> Natural capitalism recognizes the critical interdependency between the production and use of human-made capital and the maintenance and supply of natural capital. (pp. 3–4)

Each of these three 'capitals' has a tangible element that suggests that something—natural resources, skills and knowledge, produced goods—can be either built up or used up. Introducing the historical foundations of theories of capital, Lin (2001) states that:

> …capital is resources, twice processed. In the first process, resources are being produced or altered as investment; in the second, the produced or altered resources are being offered in the marketplace for a profit. (p. 3)

The idea of social capital takes the idea of capital one step further in that there is considerable intrinsic value—that can be drawn on and added to just as with other forms of capital—within the fabric of social networks. There is something intangible about this form of capital, which is why it has a somewhat 'slippery' definition.

2.2.4.2 Social capital and identity capital

The concept of social capital has been developed over recent years to the point where it is now widely used, not just in research but also in policy development and implementation (Rossing Feldmen & Assaf 1999) with a variety of definitions, loosely related (Productivity Commission 2003:6). Development of the concept incubated for a number of years prior to Putnam's (1993) discussion of social capital (Bourdieu 1983, 1991; Coleman 1988, 1990), but his definition in terms of trust, norms and networks for mutual benefit remains well supported throughout literature (Falk & Kilpatrick 2000, Glaeser 2001; OECD 2001b; Woolcock 1998). This is despite contrary views that suggest that social capital can be considered a cost and as having a 'down side' (Portes & Landholt 1996), which according to Woolcock (2001:12) is an intuitive recognition that that "social ties can be a liability as well as an asset". ABS (2004d) has adopted the OECD (2001b:41) definition of social capital as:

> 'networks, together with shared norms, values and understandings which facilitate cooperation within or among groups'.

That definition will be adopted for use in this research. That social capital is associated with social and economic development or sustainability (Guenther & Falk 2000; Knack & Keefer 1997; Woolcock 1999), is now widely accepted and has led to many examples of programs that are designed to enhance the well-being of communities and regions (Department of Victorian Communities 2003; DHHS 2003; NSW Government 2003; Tasmania Together 2004). Similarly, many programs both in Australia and internationally, have been designed or reviewed with the intent that social capital might be built in a community or region (Gugerty & Kremer 2000; Falk & Kilpatrick 2000; Krishna & Uphoff 1999; NRE 2001). Much work has been carried out in recent years to determine effective measures or indicators of social capital (Grootaert & van Bastelaer 2001; Grootaert et al. 2004; Knack & Keefer 1997; World Bank 1998).

Indicators of social capital can be included in attempts to gauge levels of social well-being and therefore community capacity (ABS 2002f:7). While separating social capital from community well-being is potentially problematic because of the close relationship between the two, several studies—summarised and brought together by the ABS (2003h)—have sought to identify indicators that measure specific aspects of social capital. However, the concern of this research is more aligned to indicators of well-being rather than indicators of social capital, which could be seen as a subset of the former.

Schuller et al. (2004) add *identity capital* to the list of capitals and place this in a learning framework such that:

> human capital refers to knowledge skills and qualifications; social capital to norms, networks and relationships; and identity capital to self-esteem, self-efficacy and a sense of purpose or direction in life. (p. 6)

They place learning 'capabilities' as building blocks within a triangle framed by those three capitals. They suggest that just as other forms of capital can be built up, so too can stocks of identity, which is measurable by psychological attributes related to self-concept and self-esteem. Their model, which assumes that the capitals are highly interactive with each other, sounds similar to Falk and Balatti's (2003) model of identity in VET, which stresses the importance of interactions and processes. These issues of identity and learning will be discussed more fully in a later section: Learning and identity, on page 132.

2.2.5 What is well-being?

As with community capacity the idea of well-being is somewhat difficult to pin down: the question of whose well-being is being discussed inevitably arises. The term is frequently used but seldom defined. Certainly well-being can be applied to individuals, communities and nations (OECD 2001b). Then there is the question of what kind of well-being is being discussed: economic, human or environmental? Is it 'real' or 'perceived'? In a consideration of the linkages between human and social capital and well-being, Côté (2001) suggests that there are intertwining linkages between economic and other aspects of well-being and that broader 'concepts of well-being include civil liberties, environmental quality and perceived well-being'. The breadth of the scope of 'well-being' is described succinctly by Healy (2001), who summarises a range of opinions:

> …it is clear that a flow of income or economic output is only one contributor to well-being. Changes in the capital stock of society also impact on the future well-being of individuals as do changes in health, education, social status, social ties and relationships and the quality of public governance. (p. 4)

Therefore the definition of community well-being as it is applied to discussions in this research could be summarised as: *the health of a community in terms of its combined economic, human, social and natural resources*. This definition can be equally applied to the different kinds of communities discussed earlier.

2.2.6 Indicators of well-being

Many attempts over recent years have been made to quantify social well-being in terms of a range of measures that describe more than just economic measures of income and wealth. These have included a set of social indicators developed by the OECD (1973, 1982), which have been used as a basis for several studies that have gauged the impact of education and literacy on social well-being (CRLRA 2000, 2001a, 2001b; Falk, Golding & Balatti 2000, Falk & Guenther 2002; Toupin 2001). More recently the validity of these indicators have been confirmed with an update of the OECD indicators with some regroupings (OECD 2001a, 2003b) and the inclusion of a similar set of well-being indicators prepared by the ABS (2001c) that are used in the ABS publication, *Measuring Australia's Progress* (MAP) *2005* (ABS 2005e).

All these indicators can be broadly described under headings of: health; education and learning; employment and quality of working life; time and leisure; command over goods and services; physical environment; social environment and personal safety, as shown in Table 20. They are particularly useful because they encompass variables that relate to social, human, environmental and economic capital and therefore provide a useful basis for determining community capacity. The table shows a selection (not exhaustive) of variables that are offered by the ABS and the OECD for measurement. In the literature reviewed in the following sections, the OECD 1982/ABS 2001 frameworks will form the basis of the discussion on the linkages between learning and well-being. The OECD (2003b) framework has been designed for use with international country comparisons. The ABS/OECD 1982 frameworks appear to be more applicable at a local and regional level.

Table 20 Frameworks for social indicators (Sources: ABS 2001c, 2005e; OECD 1982, 2003b)

OECD (1982) bands	ABS (2001c, 2005e) bands*	OECD (2003b) groupings	Selection of possible measures
Health	Health (Individuals)	Health	Life expectancy Infant mortality Disability Causes of death Hospital separations
Education and learning	Education and training (Individuals)	Self-sufficiency	Literacy and numeracy Educational attendance Qualifications Adult education
Command over goods and services	(The economy and) Economic resources		Individual and household income Income distribution Dependency
Employment and quality of working life	Work (Individuals)		Unemployment rate Labour force underutilisation Working hours Involuntary part-time work Travel time to work Fatal occupational injuries
Time and leisure	Culture and leisure *(No MAP heading for this category)*		Time use Free time/activities Attendance at culture/sporting/leisure activities/events
Physical environment (access and ecology)	Housing (The environment)		Housing, dwelling space Biodiversity, land clearing, salinity Basic amenities Exposure to pollutants, air quality, greenhouse gas emissions Environment and sustainability indicators Access to services (inc telecommunications) General accessibility (ARIA)
Social environment	Family and community (Living together in our society)	Equity indicators	Family types and size Population, demography
		General context	Immigrants and Indigenous populations Suicide rate Child poverty
		Social cohesion	Drug use and related deaths Group membership Voting
Personal safety	Crime and justice (Living together in our society)		Crime/imprisonment rates Fatal and serious injuries

* Note: Where different, ABS (2005e) *Measuring Australia's Progress* (MAP) headings are shown in brackets

The assumption of the following discussion on the relationship between learning and well-being is that community well-being is achieved not as a product of a linear process of utilising and building of capital (from natural through human/social to built capital) as Hart's model (Figure 12) might suggest but more as a dynamic interplay between the various forms of capital, more consistent with the ABS and OECD models (Figure 10, Figure 11). Consistent with these models, a further assumption of the following discussion is that institutions, and legal and cultural contexts are influenced by and influence the production and use of the capitals and therefore also are influenced by and influence a community's well-being. It can be deduced that each of the indicators shown is at least loosely related to one of the 'capitals' described earlier.

2.2.7 Relationship between learning and well-being

This section will explore the linkages between learning and well-being in terms of the eight 'bands' described in the previous section. While much of the rhetoric surrounding education and training—or learning more generally—is focussed on employment outcomes of training, there is a growing acceptance of the broader benefits of education and training.

> …there are still too many who are missing out on the benefits that skill can bring such as personal confidence, better employment pathways, greater economic security and participation in community life. (ANTA 2003c)

Kearns (2004a) notes that

> While consideration of lifelong learning has often focused on an education and training perspective, there is now greater recognition of the wider benefits of learning which can be achieved in a range of sectors such as health, welfare, community building, regional development, cultural development, and the overall quality of life. (p. 4)

Learning is here taken to encompass a range of education and training activities, from foundational literacy and numeracy, cultural activities, vocational experiences through to pursuit of formal tertiary (VET and university) qualifications. While the main focus of learning in this research is post-compulsory learning, some consideration will be given to learning that occurs in childhood, where it is considered to be relevant. Learning is also considered under the broadest umbrella, which includes both formal and informal learning.

The connection between learning and well-being generally is frequently made in the literature in a variety of contexts: at a national/international level (e.g. OECD 2001b) for Indigenous peoples (ATSIC 1999); in relation to environment and sustainability (e.g. EA 2002), and in relation to communities generally (CRLRA 2001b; Falk, Gold & Balatti 2000), learning communities specifically (Kilpatrick et al. 2003), communities of practice (Wenger 1999; Wenger et al. 2002) and the development of social capital (Birch et al. 2003). The importance of being literate and numerate as a basis for successful participation in society is often noted (e.g. Cumming 1997; Falk & Guenther 2002; Kilpatrick & Millar 2004; OECD 2000). Golding et al. (2001), commenting specifically on adult learning, describe the multiplicity of benefits that accrue from learning:

> Research projects have traced a multiplicity of ACE-associated outcomes, including contribution to a learning culture within a community, improvements in learning skills, transformation of dispositions towards learning and community involvement, connectedness to community and improvements to social and economic well-being of families, communities and regions.
> (pp. 10–11)

While there is little contention about the idea that learning has a direct bearing on well-being, in terms of the following eight components of well-being (based on the OECD 1982 social indicator framework), the prevailing view regarding VET at least is that it is more closely aligned with employment than any other factor. This is not necessarily surprising given the implicit meaning of the ‘V’ in the VET acronym. However, the subsequent sections relating learning to all eight social indicators will demonstrate that learning directly relates to a whole range of aspects of community life.

2.2.7.1 Learning and health

Health is linked to learning not just as an outcome but also because according to some models (e.g. Figure 10, Figure 11, Figure 12) health is integral to human capital (ABS 2004d; Becker 2002; OECD 2001b). While it will be argued here that education contributes positively to health outcomes, it is also accepted that poor health standards can limit the effectiveness of learning outcomes, an issue that has particular relevance among Indigenous peoples of Australia’s tropical savanna region and has been widely reported (e.g. ATSIC 1999; CDU/NTDEET 2004; HREOC 2000; HRSCATSIA 2004; NTDE 1999; SCRGSP 2003; Wordsworth 2002) where problems associated with hearing loss, substance abuse, poor nutrition and poor eyesight impede children’s’ ability to effectively participate in school (NTDE 1999:149–154).

On the other hand, the link between health and education is such that better health outcomes in terms of morbidity, mortality rates as well as positive emotional and mental health benefits are associated with better standards of education (Dawe 2004). Introducing the topic of human capital, Becker (1993:13) states that “education promotes health, reduces smoking, raises the propensity to vote, [and] improves birth control knowledge…”.

The OECD (2001b), discussing the linkages between education and well-being, agrees:

> One of the clearest benefits of education is better health. Individuals with higher educational attainment have healthier habits and lifestyles. (p. 33)

There have been limited attempts to quantify the benefits of education to health. One such attempt has been made by the Centre for the Wider Benefits of Learning, a UK research organisation. Feinstein (2002a:34) reports that “the economic and social returns to educational investments that improve mental health are substantial”. He cites a number of possible reasons for this benefit. Part of the reason is explained by the benefits that education brings in terms of higher income and better employment conditions, which raise the propensity of individuals to engage in healthier (more expensive) activities and have more control over their working conditions. He also notes that education levels have an impact on healthy behaviour, such that higher levels of education are associated with moderate levels of alcohol consumption, lower smoking rates and safer sexual practices. He attributes this to greater information awareness and psychosocial benefits “to the extent that education increases individuals' sense of power over their own lives, this may have a direct effect on health related behaviours." (p. 8)

While this is true of the population generally it is particularly relevant to Indigenous communities, such that some suggest that better standards and more appropriate education are not only linked to better health outcomes, they *result* in better health outcomes (Bauert et al. 2001). One of the keys to this in the Indigenous context is the 'appropriateness' of the learning. In the context of a remote Indigenous community, Kral and Falk (2004) for example suggest that in order to overcome the discordance between the goals and aspirations of the community and the literacy requirements of education in the health sector "that education and training [ought to] reflect the 'both ways' socio-cultural values and aspirations of the community".

The evidence base suggests that education initiatives for Indigenous communities need to be multi-directed to maximise health outcomes: building the skills of non-Indigenous health professionals to facilitate appropriate pedagogies and service practices; building the capacity of Indigenous health workers themselves (BHC 2003); and building the capacity of the community generally (HRSCATSIA 2004:177). Supporting this assertion, the Northern Territory's recent *Workforce NT* Report (DEET 2005b) stated:

> Given the high rates of morbidity and mortality among the Indigenous population, the shortages in the Aboriginal health workforce are critical. (p. 309)

The three approaches described above are suggested by the Social Health Reference Group's paper on the development of mental health strategies for Aboriginal and Torres Strait Islanders. The key result areas of the strategies (SHRG 2003:32–43) are summarised below:

1. Enhance resilience and protective factors for mental health and social and emotional well being with a focus on children, young people and families.

2. Build a skilled and confident workforce to provide social and emotional well being services within Aboriginal Community Controlled Health Services.

3 Enhance the capacity of the mainstream mental health workforce to deliver services to Aboriginal and Torres Strait Islander people. (p. ix)

An important aspect of health and education in Indigenous communities of the tropical savanna region is the issue of infrastructure. The 2001 Community Housing and Infrastructure Needs Survey (ABS 2002a) reveals that more than nearly three-quarters (72.8 per cent) of all discrete Indigenous communities in Western Australia, Northern Territory and Queensland did not have access to a hospital within 100 km. Approximately one-third (32.1 per cent) did not have access to a primary school within 50 km. The importance of infrastructure for service delivery and training, especially in the context of remote savanna communities, cannot be underestimated. Educational infrastructure has a critical role to play in the training of health workers and the professional development of health professionals.

While occupational health and safety is largely an employment issue (see Learning and employment, page 112), it is a very important aspect of health that is directly related to learning/training and which has significant productivity and cost implications for industries (Moy 2001). It is so significant that every Training Package includes core units of occupational health and safety.

Much of the foregoing discussion has focussed on the role of learning for the training participant and the concomitant and resulting health benefits. However, learning also directly influences health outcomes through the provision of skilled health professionals and para-professionals. The health and community industry sector is the third largest employer in the tropical savanna region (see Table 12, page 59). There are reports of national skills shortages for a wide range of professions in the health and community sectors (DEWR 2004), particularly in rural and remote areas (INE 2002). In the Northern Territory, DEET (2005b:317) reports that “30% of the Health and Community Services sector’s employees work in skill shortage areas”. Other subregions of the tropical savanna region such as central Queensland are also reporting skills shortages in health (CQRPAC 2002). There is evidence that the demand for Indigenous Health Workers—who provide a critical health care interface with remote communities in remote parts of Australia—is consistently outstripping supply (BHC 2003; DEET 2005b; DHCS 2004) and that this is limiting their capacity to engage effectively in ‘preventative health promotion’ (HRSCATSIA 2004:174).

Health and well-being therefore intersects with learning at several levels. Firstly, there is strong evidence that individuals who engage in learning are likely to be healthier and engage in less risk-taking behaviour. Secondly, the capacity of whole communities is affected by levels of health, which in turn depends on appropriate levels and methods of education as well as education infrastructure. Thirdly, for industries, health and safety training impacts directly on risk management and productivity of enterprises. Finally, education plays a critical role in building the skills of health professionals and para-professionals, that are in short supply. Their role in providing primary health care and preventative education programs is crucial to the well-being of communities generally, and particularly so for Indigenous communities.

2.2.7.2 Learning and wealth/economic well-being

Wealth figures prominently in all forms of capital described earlier (see Types of capital in a community context, page 96). The ABS describes “produced economic capital” as “economic assets and resources and financial assets” (see Figure 10). The OECD shows Gross Domestic Product (GDP) as a product of ‘produced capital’ (see Figure 11) and Hart shows ‘built capital’ at the apex of a triangle representing sustainability in communities (see Figure 12). Other models of well-being, such as the Osberg index (OECD 2001b), incorporate financial measures as part of an overall indication of well-being. Assumptions are often made about the causal relationship of education with economic well-being, such that better education leads to improved economic well-being, as much of the following discussion demonstrates.

While there may be question marks about the value of VET in terms of the so-called ‘knowledge economy’ (Falk & Guenther 2002), participation in VET and learning more generally has been associated with improved employment opportunities and better access to higher paid jobs (CRLRA 2001b; Doyle et al. 2000; NCVER 2004b; OECD 2004). This applies not only to the individual but to the broader community as well. Birch et al. (2004:43) estimate that the net economic benefit of adult education alone is in the order of at least $2 billion per year—and as much as $6 billion—in Australia.

At a foundational level, basic levels of literacy and numeracy have been found to be associated with higher levels of wealth. The Programme for International Student Assessment (PISA) for example states that “literacy skills have a significant impact on economic success” (OECD 2004:36). Indeed one of the motivating factors driving participation in training is to increase individual earning power, described by Long (2001) as a “wage effect” or by Blöndal et al. (2002:8) as a “wage premium”.

The employment outcomes of VET participants (see also Learning and employment, page 112) are such that, because of lower levels of unemployment and the types of jobs available to graduates of training, income levels tend to be higher than for those without qualifications. Robinson (2001) compared the incomes of people with different qualification levels and found that while, as might be expected, university qualified people were about twice as likely to earn $800 plus per week than people with skilled vocational qualifications, those with skilled vocational qualifications were more than twice as likely to earn that level of income than those with no post-school qualifications. In a study that considered patterns of movement in earnings, Carino-Abello et al. (2000) found that those making a transition to a higher qualification (VET or higher education) had a positive impact on earning capacity, particularly among Australian job seekers. These findings are consistent with more recent research carried out by Ryan (2002), who suggests that there is a 10 per cent increment in wages for each level of vocational qualification attained. Ryan also comments that training that does not result in a qualification does not add to an individual’s wage income.

Given the high incomes associated with mining communities and the importance of VET to the mining industry (WADET 2003)—according to ANTA (2004a) 47 per cent of all those employed in the industry have a VET qualification—it would be fair to deduce that VET contributes significantly to wealth and income, at least within this industry. In mining, VET contributes directly to productivity and risk management.

However, it does not necessarily follow that across the savanna region as a whole, VET is associated with higher incomes. Those involved in the retail industry and CDEP participants, categorised as government employees by the ABS, who are also likely to participate in VET are perhaps not as likely to see significant economic benefits from their participation in VET.

While the impact of learning on economic well-being is fairly clear, the reciprocal relationship is not so clear. For example, is access to financial resources a determinant of access to learning? The answer to this question may help us to understand why it is that Indigenous learners in remote areas so readily embrace VET.

2.2.7.3 Learning and employment

Employment is closely related to the wealth and economic well-being ‘band’ described in the previous section. It could be argued that one of the key reasons that people work is to increase their wealth and therefore their ‘produced economic capital’. There are of course several reasons why people work, but it can be argued that few people work without some kind of financial incentive.

There is considerable evidence from research in literature that shows a relationship between learning and the nature of employment and employment status.

Robinson (2001) for example details a number of employment outcomes for individuals who complete apprenticeships and traineeships. These include: high levels (90 per cent plus) of retention in employment three months after completion; low levels of unemployment (three per cent) after completion; self-employment rates more than double that for university graduates and more than 50 per cent above the rate for all employed persons; and long-term career options in a range of highly skilled occupations.

Reporting on findings of the Survey of Aspects of Literacy (SAL), the ABS (1997a) states that:

> nearly a quarter (24%) of people who had been unemployed for less than one year were at Level 1 but this proportion more than doubled (51%) for those who had been unemployed for two years or more. (p. 29)

In other words, people with low levels of literacy—in this case on the ‘prose’ scale of the Survey—are more likely to be unemployed for longer periods of time. Commenting on these findings, Miller and Chiswick (1997) stated that “data from the SAL show that literacy and numeracy skills are inextricably linked to labour market outcomes” (p. 74). Their analysis suggests a relationship such that unemployment rates for those with Level 2 (out of 5) are less than half the rate for those with Level 1 (the lowest level) skills. At Level 4/5 skills (the highest levels) the unemployment rates are again less than half of the Level 2 rates.

There are qualitative differences in employment for people with different levels of education, both in terms of occupation and industry of employment. Table 21, based on ABS (2003f) data, shows that people with diploma and higher qualifications are more likely to be employed as professionals than in other occupations. People with Certificate III/IV qualifications are more likely to be employed as tradespersons and people with Certificate I/II qualifications or no qualifications are more likely to be employed as Intermediate clerical, sales and service workers than in other occupations.

Table 21 **Level of highest non-school qualification by occupation, employed persons 2003 (Source: ABS 2003f)**

Occupation	Graduate/Post-graduate Degree	Diploma/Graduate Certificate	Bachelor Degree	Advanced Diploma/ Diploma	Cert.. III/IV	Cert. I/II	Cert. not further defined (n.f.d)	Without non-school qualification	Total
	‘000	‘000	‘000	‘000	‘000	‘000	‘000	‘000	‘000
Managers and administrators	44.3	32.5	131.5	55.0	104.0	35.4	6.0	212.9	629.5
Professionals	189.9	182.6	808.1	220.7	80.8	30.4	10.2	173.6	1709.7
Associate professionals	23.6	31.7	186.4	151.7	206.5	75.6	24.9	440.3	1156.7
Tradespersons and related workers	2.1	2.0	28.6	47.3	688.1	44.2	14.3	371.7	1208.1
Advanced clerical and service workers	4.7	4.7	33.0	39.6	37.5	52.2	7.7	192.0	375.4
Intermediate clerical, sales and service workers	15	15.5	130.9	149.4	228.5	151.6	47.3	862.0	1613.4
Intermediate production and transport workers	1.5	1.6	29.7	25.6	155.3	36.1	12.3	536.7	807.5
Elementary clerical, sales and service workers	5.5	6.6	45.9	46.3	70.1	60.5	19.2	697.6	959.8
Labourers and related workers	6.0	1.4	30.0	28.0	97.0	55.2	14.8	586.1	821

Note: Values less than 6.0 have a relative standard error greater than 25%

Table 22, based on the same ABS data set, shows differences in level of highest non-school qualification by industry of employment. The data reveals that graduate/post-graduate degree qualified and bachelor qualified people are most likely to be found in the property and business services industry. Diploma/graduate certificate qualified people are mostly likely to be employed in the education sector. Advanced diploma/diploma qualified people are most likely to be employed in the health and community services sector. Certificate III/IV qualified people are most likely to be employed in the construction industry and those with lower certificate qualifications and those with no qualifications are most likely to be employed in the retail industry.

Table 22 Level of highest non-school qualification by industry of employment, employed persons 2003 (Source: ABS 2003f)

Industry of employment	Graduate/Post-graduate Degree	Diploma/Graduate Certificate	Bachelor Degree	Advanced Diploma/ Diploma	Cert. III/IV	Cert I/II	Cert.n.f.d	Without non-school qualification	Total
	‘000	‘000	‘000	‘000	‘000	‘000	‘000	‘000	‘000
Agriculture, forestry and fishing Industry	1.7	2.0	21.6	18.4	44.0	27.6	5.6	194.2	318.7
Mining	2.0	0.9	12.4	3.0	30.2	5.2	1.3	26.4	83.0
Manufacturing	17.9	13.1	116.6	62.1	296.0	55.5	16.2	509.3	1,098.2
Electricity, gas and water supply	1.6	3.2	11.8	7.4	26.9	4.7	0.5	22.1	78.7
Construction	3.0	2.8	34.4	32.0	318.0	30.9	6.0	293.8	730.3
Wholesale trade	6.0	7.6	45.5	40.3	84.6	26.7	4.4	228.9	447.9
Retail trade	12.1	8.7	94.3	74.3	226.3	83.0	24.6	946.0	1,481.4
Accommodation, cafes and restaurants	3.0	2.4	32.4	30.1	65.4	32.2	13.6	266.3	448.3
Transport and storage	1.5	1.5	33.8	33.1	86.2	31.1	8.4	228.9	427.4
Communication services	5.8	3.1	19.0	15.4	30.5	11.7	3.7	84.9	176.6
Finance and insurance	15.7	12.8	84.0	39.1	16.8	17.6	6.3	150.7	345.7
Property and business services	50.9	33.9	285.5	108.7	130.0	66.3	25.5	370.0	1,082.3
Government administration and defence	27.9	24.3	90.8	48.2	46.3	26.8	7.8	140.1	416.8
Education	76.4	93.1	228.6	73.2	41.6	25.3	4.1	112.5	660.3
Health and community services	45.6	51.6	231.2	113.9	114.4	58.8	16.7	243.2	883.4
Cultural and recreational services	6.2	8.4	43.9	20.0	24.0	14.3	4.1	101.8	225.9
Personal and other services	10.0	9.3	38.2	44.5	86.7	23.4	8.0	153.5	376.3
Total	287.2	278.6	1,424.	763.5	1,667.	541.2	156.8	4,072.	9,281.2

Note: Values less than 5.0 have a relative standard error greater than 25%

In terms of this analysis and for savanna industries (see Table 13, page 60), the table shows that certificate III/IV qualifications are associated with agriculture, mining and retail trade. For government, administration and defence, bachelor qualifications are predominant. In terms of the latter, however, the large contingent of Indigenous CDEP workers would likely mean that the profile for the savanna region would be skewed in favour of lower skill levels. In addition to the occupational benefits associated with learning discussed above there are related health and safety benefits. Occupational Health and Safety (OHS) training is driven to some extent by risk management imperatives which are in turn partially driven by legislative demands. The basis of these demands and imperatives can be seen in Table 23, which summarises a selection of 2003 workplace injury and fatality statistics.

Table 23 Australian workplace injury and fatality statistics by industry, 2003 (Source: NOHSC 2005)

Nature of injury or disease	Injury and poisoning	Diseases of the nervous system and sensory organs	Diseases of the musculoskeletal system and connective tissue	mental disorders	Other inc not stated	Fatal	Non-fatal	Total
Agriculture, forestry and fishing	4,714	111	420	47	189	22	5,459	5,481
Mining	1,472	148	67	19	61	12	1,755	1,763
Manufacturing	21,286	1,694	3,181	401	1,508	27	28,043	28,074
Electricity, gas and water supply	484	134	47	28	43	1	735	733
Construction	10,178	632	1,086	129	557	42	12,540	12,579
Wholesale trade	4,661	193	745	182	288	12	6,057	6,067
Retail trade	10,339	202	1,274	564	441	12	12,808	12,819
Accommodation, cafes and restaurants	5,604	80	407	289	174	4	6,550	6,549
Transport and storage	8,646	286	951	535	404	60	10,762	10,826
Communication services	1,156	23	61	69	36	3	1,342	1,339
Finance and insurance	877	38	136	331	33	2	1413	1421
Property and business services	7,490	332	1,249	543	346	17	9,943	9,959
Government administration and defence	3,984	237	452	605	182	15	5,445	5,461
Education	4,515	149	505	1,517	239	8	6917	6932
Health and community services	11,695	209	2,116	1,519	427	5	15,961	15,966
Cultural and recreational services	2,280	39	316	147	71	7	2,846	2,860
Personal and other services	3,954	109	437	852	168	8	5,512	5,515
Not stated	9	–	–	0	12	0	21	16
Total	103,344	4,618	13,453	7,777	5,174	257	134,109	134,360

The human cost of 257 deaths and over 134,000 injuries is hard to comprehend but National Occupational Health and Safety Commission (NOHSC) statistics suggest that the direct costs of workers' compensation claims in Australia is $7.5 billion annually. If indirect costs are included this rises to $34.3 billion or five per cent of GDP (NOHSC 2004). The *NOHSC Annual Report 2003–2004* shows that the industries with the highest incident rates for fatalities, as a percentage of all incidents, are transport and storage, mining and agriculture, forestry and fishing. As noted earlier (see Industries of the Australian tropical savanna, page 59), the latter two industry groups are particularly important for the tropical savanna region.

Training to address OHS issues at a variety of levels (industry, schools, training packages, regulators) forms a key plank in the NOHSC's (2002) *National OHS Strategy 2002–2012*. There is considerable effort being made to coordinate a national approach to training, assessment and certification. While it is apparent that the intention is to use training as a tool to reduce the incidences of occupational injuries and diseases (e.g. OTTE 2002; Workcover Corporation 2002), the impact of training on this is a little less clear, often because of the multiple strategies used by organisation to address safety issues; training being just one. In an attempt to determine the impact of training across a number of variables, Doucouliagos and Sgro (2001) used a series of case studies in seven Australian organisations. Using statistical methods they were able to demonstrate a significant contribution of training to safety, particularly in the number of first aid cases. However in a recent South Australian study examining the long-term impact of training, Pidd (2004) shows that while attitudes to safety—in his case, related to effects of alcohol and drug use at work—were affected immediately after training, the sustained transfer of knowledge was only evident in workplaces with high levels of post-training support or where there was a high level of identification with the workplace. One of the keys to effectiveness that Pidd's study implies is that effectiveness—at least in terms of health and safety outcomes—is largely determined by sustained changes in behaviour. Evaluation of training programs often focuses on the immediate acquisition of skills and knowledge and is assessed accordingly, but in terms of OHS, this is not enough.

This discussion of issues surrounding learning and work has briefly outlined the relationship between learning and employment. It has shown that there are linkages between occupational outcomes and learning both in terms of labour force status and type of level of occupation. The analysis showed that higher qualifications tend to be associated with higher occupational status. The analysis of data also showed that different kinds of qualifications are associated with particular industries. In the savanna region certificate III/IV qualifications are particularly relevant to several key industries. Finally the discussion has shown the importance of training for occupational health and safety, both from an overall strategic point of view and for key industries of the savanna region. The discussion of learning and well-being now moves on to leisure.

2.2.7.4 Learning and culture/leisure

In terms of the capitals discussed previously, the concept of leisure as an indicator of well-being is something of a mixed bag. Engagement in leisure can be social but it can mean employment for those who work in leisure industries. In some cases, those who work in tourism/leisure based industries in turn rely on natural capital as it relates to the environment.

The results to be shown later will review Census data relating to hours worked based on the assumption that with increasing working hours there is decreased opportunity for engagement in social, cultural or personal leisure activities. The relationship between hours worked and well-being is however not linear because to some extent participation in work enhances social engagement through networks established in the workplace and increases an individual’s capacity to access leisure activities that require income. For example, part-time workers are less likely to be stressed, more likely to be satisfied with their work and more likely to be able to better balance work-life issues (Glezer & Wolcott 1998; Gollan 2001; Morehead et al. 1997; WFU 1999).

Maximising the benefits of leisure time for communities requires a balance between work and free time. Therefore while long working hours restrict the ability of individuals to participate in leisure activities, low working hours also inhibit participation because of lower incomes. Therefore the optimal mix of work and leisure should fit within the mid-range of the spectrum of maximum full-time and maximum part-time work.

Figure 13 shows the relationship between participation in full-time work and hours worked. Using the chart as a guide, this balance point could be expected where full-time employment falls between 35 per cent and 45 per cent of total employment. The correlation between the two variables is reasonably strong (r = .70), indicating a positive relationship such that long hours of work are associated with full-time work. This relationship is probably expected, but as ABS community data does not include hours of work, the correlation suggests that full-time work can be used as a proxy for long hours.

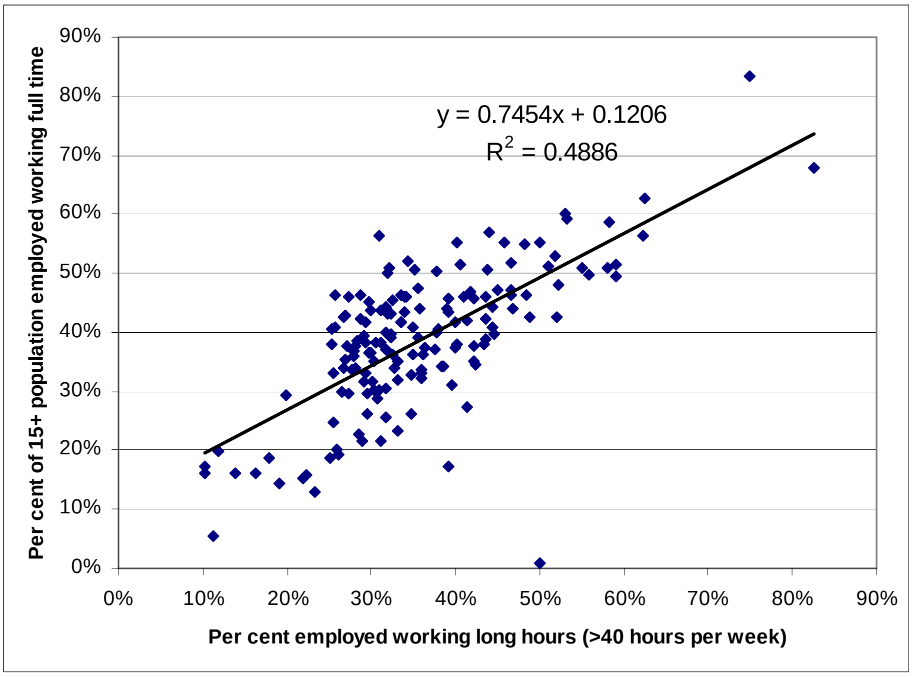


Figure 13 **Relationship between long hours of work and full-time employment as a per cent of all working aged population, savanna SLAs (Adapted from ABS 2003j)**

Figure 14 describes the relationship between mobility and full-time employment. The negative correlation (r = -.64) suggests that mobility increases with higher levels of full-time employment. In terms of social capital, low levels of mobility may indicate an over-reliance on 'bonding ties' in a community, while high mobility ensures that 'social trust' internal community bonds are not strong enough to support a socially sustainable community.

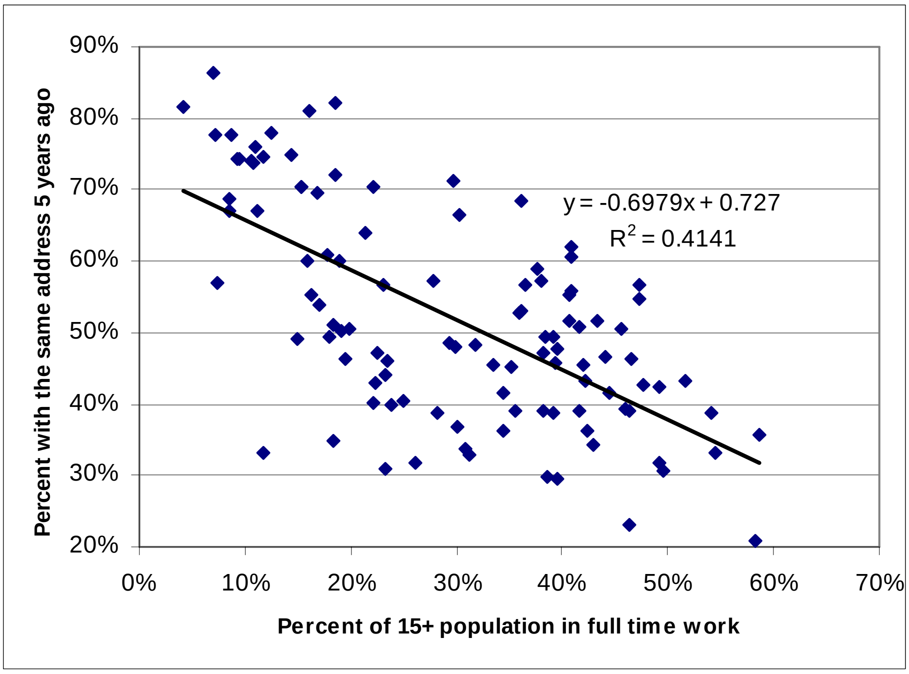


Figure 14 **Relationship between full-time work and mobility, measured as a proportion of the population with the same address five years ago, ASGC 2001 savanna Urban Centres and Localities (UC/Ls) (Adapted from ABS 2002a)**

It is hypothesised therefore that those communities with 'optimum' levels of available leisure time are more likely to have a mix of bridging and linking ties (Woolcock 1999), yet at the same time able to build the necessary internal linkages to ensure the development of social trust. The impact of these characteristics in 'optimum' leisure level communities could be expected to contribute to community capacity and sustainability (ABS 2002f; Guenther & Falk 2000; OECD 2001a). Mobility, as an indicator, may therefore be taken as a proxy for leisure because of the link between it and the capacity of communities to build sustainable social networks.

Leisure has supply and demand sides. On the supply side are those who work in leisure industries and who provide services: for example, tour operators, hospitality workers and transport operators. On the demand side there are those that use those services and products: for example, tourists, sporting club members and people who engage in cultural or recreational activities.

Tourism and hospitality play an increasingly significant role in the economies of the savanna region. In the Northern Territory alone, in the period 1998 to 2004 expenditure by visitors increased by 29 per cent (NTTC 2004a) despite a slight decline in visitor numbers (down 12 per cent in the same period). The significance of World Heritage listed national parks such as Kakadu, the Indigenous cultural heritage of the region and the tropical climate provide the tourism industry with opportunities to market a unique tourism experience both to the more populated southern states of Australia and internationally. An indication of the importance of tourism to the region is given by the relative economic benefit of tourism to the region. In the Northern Territory, tourism accounts for five per cent of the Gross State Product, and contributes about 15,000 jobs to the economy (NTTC 2004b). In tropical north Queensland, 14 per cent of the gross regional product was attributed to tourism in 1998/99 (OESR 2002).

VET has been shown to contribute to culture and leisure aspects of communities in a number of ways (Falk, Golding & Balatti 2000; Birch et al. 2003). This is particularly true if a broader definition, which includes ACE, is used. In regard to 10 regional communities, CRLRA (2001b) for example found that in a number of study sites, VET contributed positively to individuals' well-being in terms of lifestyle interests. ACE participants tend to favour courses in the humanities field of study and visual/performing arts (NCVER 2001b). Even within the formal VET sector the reasons for participation are often related to personal needs. For example, NCVER (2002a) reports that 'self-developers' (respondents who undertook their TAFE training for interest, personal or other reasons) make up the biggest single group of VET module completers.

Learning also has a significant role in terms of information sharing in the tourism and hospitality industries. Tourism and hospitality workers have an important role in sharing local knowledge with clients, especially in a market which is increasingly moving towards 'cultural experiences' and 'eco-tourism' where higher demands for local knowledge, interpretation and information are placed on workers in leisure industries (Ferrier et al. 2003). There is increasing awareness that training needs to reflect this reality. The Tasmania-based Environmental Tourism Training and Employment Program, in its monthly newsletter *Ecotrain* (OPCET 2004), comments:

> When it comes to tourism, sharing compelling local stories and insights is just as important to visitors as quality service and facilities.

These observations are reflected in a Tasmanian report (OPCET 2003:5) on training demand in the state's tourism industry:

> Given the increasing popularity of eco tourism in the state and the developing demand for such activities…tour guides with interpretive skills are in demand. The demand shift to a more entertaining and contextual commentary during guided activities is fuelling the need for increased training in interpretation and 'story telling' in addition to the factual and scientific understanding that guides are required to communicate to visitors.

Issues of 'story telling' and cultural exchange are also particularly relevant to Indigenous tourism ventures where clients are looking for a cultural learning experience and Indigenous peoples are seeking to use their cultural knowledge and share it. The following comment from an Indigenous tourism operator (IEP 2002:5) highlights this aspect:

> We now have an operating tourism venture that allows us to continue to use our ancient and complex knowledge. We are sharing our lives with the world in a way which recognises our cultural and spiritual connection to our country while respecting the sustainable use and management of our land.

However, the extent to which Indigenous communities and individuals participate as entrepreneurs or employees in leisure or tourism based industries is reported to be minimal. Where Indigenous people engage in small business for tourism enterprises, the failure rates are higher than those for non-Indigenous small business operators (Buultjens 2005).

In addition to this aspect of the demand side of tourism, many students participate in training for leisure industries and contribute to the supply side. The growing significance of formal qualifications in the hospitality industry, for example, suggests that VET plays a pivotal role in meeting the culture and leisure needs of local communities and visitors. Table 24 shows qualifications and field of study for Australian VET students in 2003. Approximately half of all those in the ‘food, hospitality and personal services’ field are studying at Certificate III level. Students in this field make up 9.3 per cent of all VET students. This is consistent with the strength of VET qualifications in the industry: overall employment in the tourism sector is about 5.7 per cent of all employment (ABS 2005b).

Table 24 **Field of study by qualification level, Australia 2003, thousands (Source: NCVER 2004a)**

	Natural and physical sciences	Information technology	Engineering and related technologies	Architecture and building	Agriculture, environment and related studies	Health	Education	Management and commerce	Society and culture	Creative arts	Food, hospitality and personal services	Mixed field programs	Total
Diploma or higher	2.8	15.1	28.4	9.8	6.7	6.0	1.5	67.8	32.4	16.5	1.1	0.5	188.4
Certificate IV	0.9	12.6	18.0	8.6	7.4	13.1	34.2	57.8	24.0	9.3	6.5	5.8	198.3
Certificate III	1.5	12.1	107.1	34.2	21.3	5.5	4.3	82.3	61.2	8.3	51.3	11.3	400.3
Certificate II	0.2	24.6	45.7	7.0	26.9	1.8	0.5	64.8	21.3	6.9	42.7	21.9	264.2
Certificate I	0.1	0.1	16.0	2.8	2.5	(a)	0.2	14.3	9.8	1.1	3.1	36.9	86.9
Secondary education	0.0	0.0	0.0	(a)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0
Sub-total	5.3	64.3	215.2	62.4	64.8	26.4	40.8	287.0	148.7	42.1	104.7	84.4	1,146
Non award course	0.5	4.3	16.2	10.3	4.3	20.1	1.5	36.1	17.3	12.6	14.1	22.4	159.8
Miscellaneous education	0.5	3.8	29.5	27.7	13.5	56.9	15.8	44.9	17.2	3.5	40.2	58.2	311.6
Subject only (no qualification)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	100.3
Total all students	6.4	72.5	260.9	100.4	82.5	103.4	58.1	368.0	183.3	58.2	158.9	165.0	1718
% all students	0.4	4.2	15.2	5.8	4.8	6.0	3.4	21.4	10.7	3.4	9.3	9.6	100.0

Note: (a) represents between 1 and 49, shading highlights culture and leisure fields of study

In terms of training for personal or leisure purposes, the table also shows that nearly one-quarter of all trainees were studying in areas where this is likely to occur—mixed field programs, creative arts and society and culture. Taking these two groups together, the table suggests that in Australia, approximately one-third of all VET participation is related to leisure. In the ACE sector, approximately 45 per cent of all activity can be attributed to non-vocational or personal interest activity (NCVER 2003:9).

While this discussion on the intersection of leisure and learning has been brief, the literature and available statistics reviewed show the significance of the intersection for well-being in Australia. From an employment perspective, VET contributes substantially to the skills base required for tourism, hospitality and leisure based industries, and to a corresponding expanding economic base. From a participant perspective, learning facilitates cultural knowledge transfer for visitors to regions. Learning has also been shown to be a leisure activity on its own with large proportions (up to 45 per cent) of training participants in the VET and ACE sectors studying for personal reasons. The review of literature now moves on to the issue of the intersection between learning and the social environment.

2.2.7.5 Learning and the social environment/social cohesion

The OECD (1982) social indicators describe the social environment in terms of social attachment. In reality, ‘social environment’ is somewhat ambiguous. The discussion here will therefore focus on one important aspect of the social environment: social cohesion.

Social cohesion is sometimes related to social capital (ABS 2004d; Putnam 2004a). But it is a contested term (as is social capital) that has several definitions and implications depending on what element of cohesion is the determining factor. Beauvais and Jenson (2002) suggest that there are five elements or components that should be included in definitional considerations:

1. Common values and a civic culture
2. Social order and social control
3. Social solidarity and reductions in wealth disparities
4. Social networks and social capital, and

> 5. Territorial belonging and identity. (p. 2)

At least three of the above elements are included in definitions of social capital (1, 4 and 5). A further connection between social cohesion and social capital is trust. Ritzen (2000), thinking of cohesion at a national level, defines social cohesion as:

> …a state of affairs in which a group of people (delineated by a geographical region, like a country) demonstrates an aptitude for collaboration that produces a climate for change that, in the longer run, benefits all. (p. 8)

Among attempts to quantify the relationship between social cohesion and learning is a study undertaken by the Centre for the Wider Benefits of Learning (Green et al. 2003), which found a negative relationship between educational inequity and social cohesion. In other words, as disparities between educational levels increased at a societal or country level, social cohesion tended to decrease. Whether this was due to education or income inequality, which was closely aligned with educational inequality, was however unclear. Côté (2001:34), in a discussion of the contribution of human and social capital, agrees with the Centre’s thrust: “If too many people feel excluded from the fruits of economic growth or the benefits of learning, there is a risk that social cohesion will erode”.

Putnam (2004a, 2004b) is a little less specific about the two-way influences of education on social cohesion and vice versa. He suggests that there is a direct link between *quantity* of education and social capital and therefore social cohesion, such that increasing retention will effectively increase social capital *and* social cohesion. He also adds that appropriate pedagogy and curricula, participation in extracurricular activities—particularly art, culture and sporting activities—and social integration in schools have a role to play in building social cohesion. There is some contention about this proposition. One Australian study for example highlighted the negative competitive aspects of interschool sport, which if left without appropriate structure served to work against cohesion (Light & Quay 2003).

The concern of this research is to consider social cohesion more in a localised and community setting. Participation in learning has been shown to influence perceptions about social attachment. CRLRA (2001b:113) found a number of ways in which VET contributed to the social environment:

- VET programs can be an effective part of a strategy to address social issues such as suicide, domestic violence and racial tension.
- VET programs can form an integral part of community / capacity-building projects.
- Participation in programs has the capacity to improve self-esteem, self-confidence and consequently improves social attachment.
- Participation in programs was also described as self-empowering and resulted in increasing value in a family and community organisation environment.
- VET has the capacity to break down social divisions that exist in communities because of the bridging links that are built between diverse social groups.

One reason for this contribution is explained neatly by Schuller (2002:5) citing research into the wider benefits of learning, which showed “how important educational institutions are as places where learners meet people from different backgrounds and learn to understand other values and perspectives”. He goes on to suggest that “one major outcome of education is precisely that it endows people with this confidence to use networks…” (p. 6).

In terms of indicators of the social environment and social cohesion, a number of possibilities exist. These will be presented in detail in the Methodology (see page 163). The rationale for the use of lone person households as an indicator of social attachment relates to families’ role within the structure of communities. Using the ABS (2001c:65) model of social attachment it can be argued that lone persons are less likely to have a range of social transactions with their ‘core community’. The 1997 Time Use Survey (ABS 1998a) showed that people living alone were likely to spend more time alone. While to some extent the informal and formal networks of the wider community may replace those of the core family unit, there is evidence to suggest that people who spend more time alone are more likely to be socially isolated. A definition of social isolation is offered by the ABS (1999):

> Although definitions vary, social isolation is generally understood to occur when a person has low levels of social participation and a perceived inadequacy of social activity. This can happen when a person spends a lot of time alone and little time in social contact with family, friends and other people. Social isolation is associated with feelings of loneliness, boredom and lower satisfaction with life.

While it is acknowledged here that living alone does not on its own indicate social isolation or a lack of social attachment, the case for the use of lone households is built on the increased probability that social attachment will decrease with increasing proportions of lone households in a community. In terms of community capacity the strength of a community with high levels of core community social interactions lies in the strength of the community's 'bonding ties' (Woolcock 1999) and the resulting mutual support and social identification that arises.

Population, population density and population change form an important backdrop to the social environment. Areas with higher population and higher population density usually have access to a greater range of services and the opportunity for building extensive social and extended family networks is greater than in areas of sparse population distribution. Where population declines occur these changes are often associated with declining service levels, particularly in areas where rural industries predominate (NEIR/ALGA 2001). The converse does not necessarily apply, particularly in the savanna region where high population growth rates have been recorded in Indigenous regions. For example, in the ten years to 2001 in the Northern Territory, the Indigenous population grew at a rate 27 per cent faster than the non-Indigenous population. In Western Australia the Indigenous population grew 40 per cent faster than the non-Indigenous population (ABS 2003d). However, increases in population do create opportunities for communities (because of an expanding base of skills, social interactions, new ideas, etc.) that are otherwise a potential problem for declining communities. Therefore, population growth is one measure that can be used to determine a community's economic and social capacity.

The literature on social cohesion and learning suggests two possible linkages that influence the impact on the social environment of communities. The first relates to the quantity of learning: some research indicates that *more* learning is better for the social environment. The second relates to the quality of learning: engagement in learning activities that enable them to people with different groups promotes a more tolerant and accepting community. There is some evidence within Australia that VET does have these impacts. From the social environment, the discussion of the literature moves on to the physical environment.

2.2.7.6 Learning and the physical environment

The physical environment can be thought of in several ways. The 1982 OECD indicators focus on housing, accessibility to services and environmental nuisances. The more recent ABS social indicators focus particularly on housing, though there is some acknowledgement that pollution and environmental considerations are determinants of health (ABS 2001c:95–96). The discussion of the literature here will consider learning in the context of a broader definition of physical environment, which includes housing, ecology and accessibility—all of which shape the physical environment of learners. The ecological part of the definition is related to natural capital resources, while the housing and accessibility aspects are related to both social and economic capital.

Housing is a fundamentally important indicator of a community's capacity, primarily because of the basic human need for shelter. ABS (2001c:214) states that:

> The quality of housing predominant within a neighbourhood contributes to the quality of the social environment. A poor standard of housing is often associated with problems in other areas of concern such as poverty and crime... Social capital is increased when people work co-operatively in providing suitable housing for those with special needs.

A number of measurements relating to housing may indicate housing's contribution to community well-being. OECD (1982) suggests that dwelling space is a key indicator. ABS (2001c) suggests a range of indicators such as affordability, home ownership rates, homelessness and costs associated with rent or mortgages. Increasing levels of home ownership may be associated with higher levels of community capacity, possibly because of the combined wealth retained within the community and possibly because of greater identification with the community among home owners. However, these assumptions may not always apply in all communities or regions.

There are some difficulties associated with interpreting ABS housing indicators for several reasons. Rent paid will depend to some extent on demand, on the availability of government/subsidised housing and on the values of properties available for private rental. Further, the value or importance of home ownership differs from region to region based on cultural differences, seasonality of work (for example, for casual agricultural workers) as well as affordability differences.

However, as one of many indicators of the physical environment, home ownership is readily available and comparable with other regions in Australia. It therefore fits neatly in a suite of indicators relating to the physical environment.

It has been noted previously that the flexible nature of VET means that it can be applied easily to remote and rural communities. Participation in VET is also less affected by remoteness than is participation in higher education at universities. Therefore accessibility is not so much of an issue for potential VET students as it might be for higher education. It has already been noted that VET is widely used in remote areas, with 58 per cent of VET students coming from rural and remote areas of the Northern Territory (DEET 2002). Accessibility however is an issue that does affect the level and quality of learning, particularly for remote Indigenous learners where access to basic telephone communications—an essential underpinning requirement of e-learning and flexible learning—is a major issue (see Table 2).

A converse argument may also apply: learning may have a direct impact on access to services, particularly in remote areas, and particularly where that learning allows people to use technology. For example, learning that facilitates access to online banking services, government information, higher education and job searching facilities, will have a direct effect on access (DoE 2003; Hazzlewood & Kilpatrick 2001; Millar & Falk 2000). A number of other accessibility issues have already been discussed in the section; Flexible learning, page 31.

Relatively little is written about the contribution learning makes to environmental sustainability. Huckle (2001) suggests that—in Europe at least—environmental sustainability has been largely sidelined from curricula in the education system and that government policies, current governance structures, pedagogies and philosophies of education, built on assumptions of modernity, limit teachers' capacity to build environmental issues into learning. He argues for a post-modern framework suggesting that current capitalist interests inhibit education for sustainability:

> Concentrations of economic, political and cultural power in capitalist society generally act against the majority interest in sustainable development and any realistic form of education for sustainability will need to critically examine the limits to the 'greening of capitalism'. (p. 3)

In contrast to Huckle's analysis, Rhodes and Scheeres (2003) suggest that learning and environmental sustainability belong to a pre-modern learning discourse where people were not differentiated from their social or religious roles. They argue that

> This discourse continues to exist today in various forms of anti-capitalist movements that focus on spirituality and environmental sustainability and the desire for a communal order. (p. 2)

Hawken et al. (1999) make a connection between human capital and natural capital, suggesting that as learning integrates with restoration of natural capital, sustainable community well-being outcomes are possible. Drawing on a Brazilian case study in the city of Curitiba, they state:

> As education rejoins nature and culture to daily life and work, myriad forms of action, learning and attitude reinforce the healing of the natural world—and with it, society and its politics. (p. 307)

While ANTA's (2003a) *Shaping our future* strategic direction of VET document draws attention to 'environmental development and sustainability' (Objective 3) in the Australian VET system there are few industry Training Packages that relate directly to addressing environmental issues—the Conservation and Land Management Training Package being the one major exception. The Water Industry and Local Government Training Packages do have indirect linkages with issues of environmental planning and management but there is considerable scope for further application of VET to issues of ecological sustainability, especially where environment and heritage management are important in the savanna region. There are however some good illustrations of how VET is being used for ecological sustainability in regional Australia. In particular the use of VET as a tool by LandCare groups and Green Corps is noted in literature (CRLRA 2001a; Macadam et al. 2004; Marika et al. 2004; Schofield & Smale 2002).

Another related area, particularly important to the tropical savanna region, is that of fire training, which to a large extent is the domain of volunteers. Training is competency based and conforms to standards of Australian Fire Competencies (TSCRC 2001:97–98).

Learning contributes directly and indirectly to housing needs. The direct impact is by providing skills to the building and construction industry, where certificate qualifications—particularly AQF levels III and IV—are associated with occupations in construction (see Table 21 and Table 22). Indirectly, education as a means to accessing employment and command over goods and services allows people to access quality housing services. While there is some debate about the impact of the cost of education impacting on young persons' capacity to afford a mortgage (Hillman & Marks 2002; Merlo & McDonald 2002; Productivity Commission 2004; Shelter NSW 2004), the contribution of learning to wealth and economic well-being adds to the probability that in the longer term, people who attain higher qualifications will be more likely to own a home.

Summarising the literature related to learning and the physical environment it can be argued that access to vocational learning is not affected by remoteness, but the type of learning available is impacted, such that people in remote areas—particularly Indigenous people—are often limited to lower levels of qualifications. However, learning that facilitates use of Internet technology may indeed increase accessibility to information and services. In terms of ecological aspects of the physical environment, notwithstanding some of the historical and pedagogical constraints that influence the way that curricula are developed in relation to teaching sustainable development issues, there is good evidence within Australia that learning, particularly VET learning, can and is being used to further conservation and land management goals. In terms of housing, VET contributes to the skill base of the housing industry but there is some debate about the impact of higher education on housing affordability. The last area of literature relating to the social well-being indicators will now be discussed: the intersection between learning and personal safety.

2.2.7.7 Learning and personal safety

In its 1982 list of social indicators, OECD defined 'personal safety' in terms of threats and risks; that is risks of injury and threats from victimisation or fear about personal safety. The indicator is closely aligned to the ABS (2001a) category of 'crime and justice' (see Table 20). An associated indicator of fear of personal safety can be described under a heading of 'trust', an indicator of social capital.

Feinstein (2002b:7–8), in a quantitative assessment of the benefits of learning on crime, describes a number of 'channels' by which education impacts criminal activity. He suggests that higher levels of income, derived through education, 'raises the opportunity cost of time spent in criminal activity'. Further, higher levels of patience/risk aversion associated with higher levels of education reduce the propensity to commit crime due to risk assessment decisions on the cost of punishment and the duration of the punishment. Feinstein suggests that while higher levels of education can potentially increase the earnings from crime, studies have shown that males with higher mathematics scores are less likely to commit crimes. He goes on to assert that students engaged at school are less likely to have opportunity for gaining pleasure from criminal activities and that intergenerational patterns of learning are related to intergenerational transmission of criminal behaviours.

In terms of the 'fear about personal safety', which is associated with trust, there is evidence from research that learning communities can and do build trust (Kilpatrick & Bell 2001; Kilpatrick et al. 2003) and trust 'opens up opportunities for learning (OECD 2001b:24; Schuller 2002). It would appear that there is a two-way street between trust and learning. Côté's (2001) claim of an association between several factors implies this:

> Education, learning and training is associated with greater trust, co-operation, reciprocal engagement and social cohesion. (p. 32)

This relationship between education/learning and trust appears to apply at a local level (Kilpatrick 2003), at a national/international level (Healy 2001; Knack & Keefer 1997; Productivity Commission 2003) and at an organisational level. Commenting on research into employability skills conducted by the Australian Chamber of Commerce and Industry and the Business Council of Australia (ACCI/BCA 2002) Kearns (2004b), contends that there is a strong relationship between sought after employability skills and trust in workplaces:

> Personal attributes identified in the ACCI/BCA study, such as loyalty, commitment, honesty and integrity, and reliability contribute to building trust in the workplace, and so are relevant to building social capital in firms. (p. 15)

At a more pragmatic level, the links between personal safety and learning are also present, particularly in terms of workplace health and safety, which has been discussed in relation to learning and employment (see page 112). However the literature reviewed here has shown links between feelings of personal safety—most often referred to in literature as ‘trust’—and learning as well, at a national level, local level and an organisational level. Having discussed the implications of learning for a range of social well-being indicators, the literature review now moves on to consider the issue of identity and its relationship to learning.

2.2.8 Learning and identity

This section will explore the relationship between learning and identity as it is discussed in the literature. Firstly the question of what identity is will be addressed. This will be followed by a brief discussion of issues around individual and collective identity formation and their relationship to learning. The section will conclude with a discussion of related issues about leadership and learning.

2.2.8.1 What is identity?

In the psychology literature there has been a rapidly growing body of work concerning self and identity. Ashmore and Jussim (1997) suggest that in the previous four decades the breadth of research had expanded in the order of ten-fold and the volume of works published on the topic had more than doubled in the two decades to 1993. The topics covered under the subject heading of self and identity includes: self-concept, self-evaluation, self-perception, self-esteem, self-reinforcement, self-confidence, self-efficacy, self-narrative and self-report among many others. While recognising that philosophically there is more than one way of answering the question: “what is identity?” one answer to the question can be determined by an individual’s self-consciousness (Garrett 1998:4–5).

Identity can be also thought of in terms of the personal or the collective: as ‘individual level phenomena’ or ‘societal-level phenomena’ (Ashmore & Jussim 1997:5). Among the terms they associated with the societal-level aspects of identity are: cultural conception of person; cultural conception of self/identity, cultural arrangements that constrain personhood and self of individuals; and selves of individuals in a particular culture (p. 6). While it is not the intention here to fully unpack these terms summarised neatly by Ashmore and Jussim, phrases such as: ‘corporate identity’; ‘national identity’, ‘occupational identity’, and ‘community identity’ are encompassed under these societal-level phenomena.

Identity—individual or collective—involves who we are and who we think we are: knowledge and perception (Purdie et al. 2000). It is also interactive. It is influenced by interactions with other individuals and other collectives; that is, we define ourselves on the basis of our perceptions and interactions between peers, parents and others. The question of ‘who am I?’ presupposes norms, values and traits, which mean that the question cannot be answered simplistically (Jopling 2000). Elliott (2001), commenting on a sociological view of self-formation in relation to the impact of relationships with people, cultural norms and forms, states:

> Particularly for sociologists interested in the dynamics of interpersonal interaction, the self can be thought of as a central mechanism through which the individual and the social world intersect. (p. 24)

Citing Mead’s 1934 work titled *Mind, self and society*, Elliot asserts that language and communication are “pivotal’ for ‘symbolic interaction’ and hence ‘reflective thinking and autonomous agency”. He defines “self as the agency through which individuals experience themselves in relation to others” (p. 26).

Drawing on the work of McCall and Simmons, Thoits and Virshup (1997) argue that there may be a need for one to validate one’s own identity because of discrepancies between one’s ‘ideal’ and one’s ‘situational’ self; put another way, the difference between what you think you are and what you think you out to be.

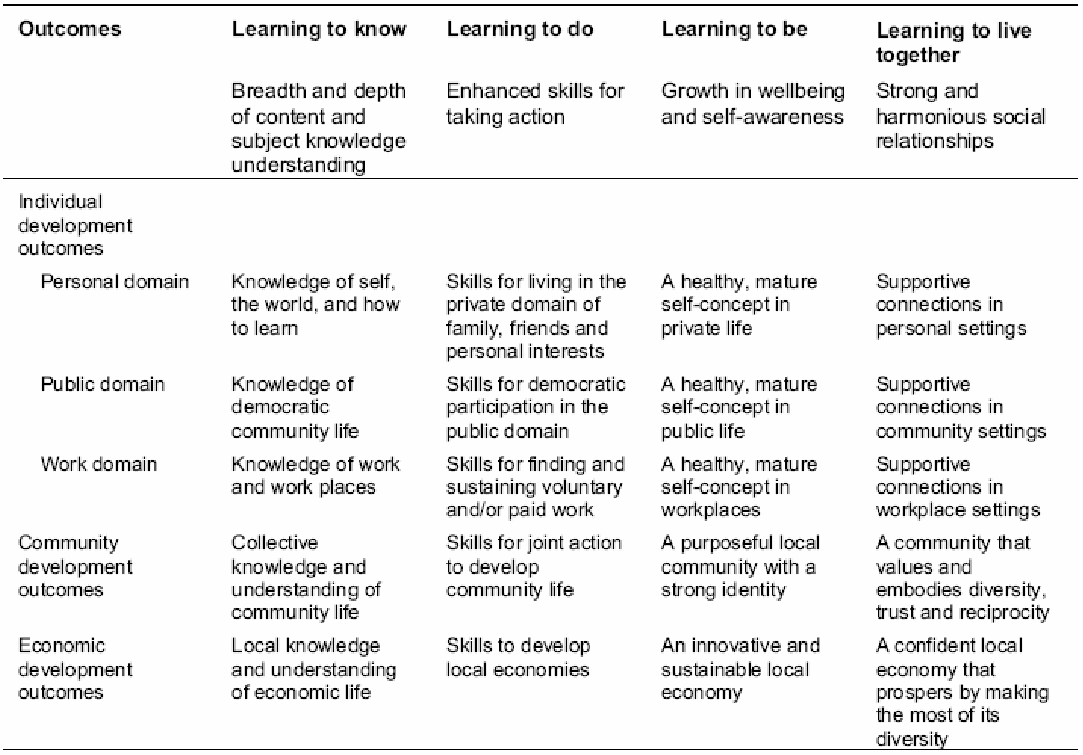
> An efficient means of meeting this need for identity legitimation is through establishing durable interpersonal relationships: finding role-identity partners who can be relied upon for dependable mutual exchanges of support and rewards. (p. 110)

Individuals have more than one, single identity. The social identity of an individual may also be related directly to the multiplicity of roles he or she plays in society. For example, an individual may be concurrently a mother, a teacher, a scout leader and a hockey player, and in each role the self-concept will be somewhat different. Associated with this is the notion of ‘identity commitment’, developed by Sheldon Stryker, which suggests that “identities that are based on more relationships or intense, emotionally positive relationships will be placed higher in the commitment hierarchy” (Thoits & Virshup 1997:112). This suggests more that roles help individuals define who they are more than how they feel about themselves, for example in terms of self-esteem (Jackson 1981).

Based on the foregoing discussion, the definition of identity to be used in this research can be summarised as *that which defines the individual (or collective), expressed through perceptions of self-concept that include self-esteem and self-confidence and which is constructed, reaffirmed and changed by the social interactions, relationships and the norms and values in which the individual is situated*. While recognising that there are complexities and problems associated with these various theoretical bases of identity definitions (Stryker 2000:26) they do provide a useful frame in which to consider the way that learning both influences and is influenced by an individual’s or a community’s identity.

2.2.8.2 Identity formation and learning

The outcomes and outputs of education and learning are infrequently described as ‘successful’ in terms of identity formation. The earlier discussion on ‘success’ in learning (see How is success defined in education and learning?, page 69) demonstrated that traditionally, successful learning has been related to outcomes such as employment, skills competence, academic achievement, satisfaction with training, work performance and completions. While these things are of some importance they largely ignore the influence learning has on personal and social identity. Clemans et al. (2003) identify a number of ACE outcomes, shown in Figure 15 below, many of which are directly related to identity formation.



Outcomes	**Learning to know**	**Learning to do**	**Learning to be**	**Learning to live together**
	Breadth and depth of content and subject knowledge understanding	Enhanced skills for taking action	Growth in wellbeing and self-awareness	Strong and harmonious social relationships
Individual development outcomes				
Personal domain	Knowledge of self, the world, and how to learn	Skills for living in the private domain of family, friends and personal interests	A healthy, mature self-concept in private life	Supportive connections in personal settings
Public domain	Knowledge of democratic community life	Skills for democratic participation in the public domain	A healthy, mature self-concept in public life	Supportive connections in community settings
Work domain	Knowledge of work and work places	Skills for finding and sustaining voluntary and/or paid work	A healthy, mature self-concept in workplaces	Supportive connections in workplace settings
Community development outcomes	Collective knowledge and understanding of community life	Skills for joint action to develop community life	A purposeful local community with a strong identity	A community that values and embodies diversity, trust and reciprocity
Economic development outcomes	Local knowledge and understanding of economic life	Skills to develop local economies	An innovative and sustainable local economy	A confident local economy that prospers by making the most of its diversity

Figure 15 Summary of ACE outcomes (Source: Clemans et al. 2003:39)

The recent NCVER (2005) publication, *Indigenous Australians' training experiences 2004*, showed that nationally the two most important benefits of training reported by respondents were 'more confidence/feel better about self' (91 per cent of respondents) and 'communicate or relate to people better' (89 per cent). These items rated ahead of work related benefits and point strongly to the likelihood that identity formation outcomes are at least as important—if not more important—than employment related outcomes. Other more specific studies show similar findings in other population groups. Kane and Warton (2002) for example, in a study involving three VET in Schools programs, found that VET had an impact on developing the self-concept of academically low achieving students.

While much of the focus in the discussion here will be on identity formation as a product or outcome of learning, the literature suggests that identity is both a product and an ingredient for effective outcomes (de Moulin 1998). This is consistent with a view of identity formation described by Josselson (cited in Chickering 1993:177), that the way individuals approach learning is dependent on where their relationships are ‘anchored’. Somewhat related to this, Youdell (2003) found that in African-Carribean subcultures of the UK, in the context of a learning environment, the context itself may constrain or ‘trap’ individuals so that it is counter to the desire of the individuals. In other words, the context in which learners find themselves, and the concomitant identity, dictate to a large extent the outcomes of learning.

An example of this is found in the report on the initial findings of PISA 2003 (OECD 2004:120), which comments that one aspect influencing students’ capacity to regulate their learning is “a positive self-concept since an important factor in learning successfully is having confidence in one’s own abilities”. The report claims that students’ “academic self-concept is both an important outcome of education and a powerful predictor of student success” (p. 132). Indeed findings from the earlier PISA 2000 survey suggest that the results “give strong reason for assuming that confidence helps *drive* learning success, rather than simply *reflecting* it”. (OECD 2003a:41). The same principles apply to adult learners. Boud (1994) suggests for example that adult “learning is always rooted in prior experience” and that this learning is in the context of a milieu: “the social, psychological and material environment in which the learner is situated”.

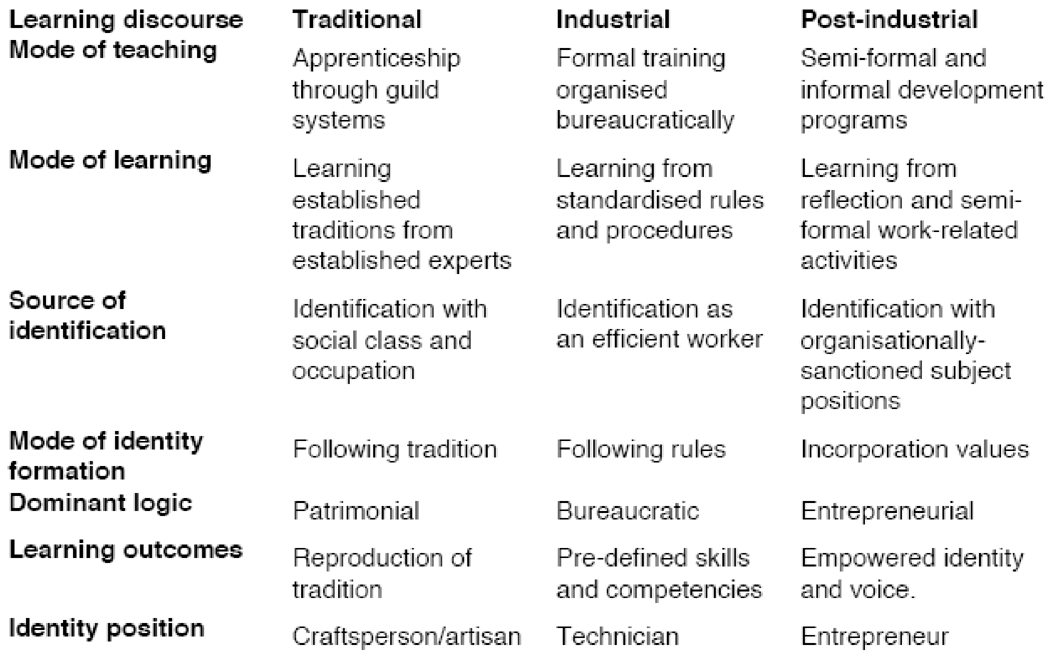
Falk and Balatti (2003), in a broad analysis of international literature, propose a framework for articulating identity in learning. They describe three dimensions of identity in learning that work interdependently to both draw on and build on each other: processes (interacting and ‘storying’), categories of experience (individuals, groups and place) and identity resources (behaviours, beliefs, feelings, knowledge). The latter is related to identity resource elements of social capital (Falk & Kilpatrick 2000). The relationship between VET and social capital is frequently discussed in literature, often in terms of VET’s contribution to building social capital. Kearns (2004b:13) for example cites eight different ways in which VET contributes to social capital but fails to make a connection between the processes of identity formation that occur during training as a reason for building social capital.

Aspects of identity formation such as self-esteem, self-confidence and motivation are frequently reported in research as personal outcomes of participation in VET (Dawe 2004; Dumbrell 2000) and are often described under the umbrella of generic skills (Gibb & Curtin 2004), soft skills (SEWRSEBC 2000:31) or employability skills (ACCI/BCA 2002; DET 2004). There have been attempts made to quantify these ‘skills’ so that they form part of the assessment of training package units like standard competencies, which form the basis of assessment of most units (Down 2004). However, as Curtis (2004:148) acknowledges: “Some of the elements of generic skills more difficult to measure include personal and interpersonal skills”.

‘Generic skills’ then are a recognised outcome of VET. However, there is little information in the literature that suggests how important these generic skills are relative to other aspects of the learning process. While improved self-confidence and self-esteem are often cited as by-products of learning, questions remain about the role of learning in identity formation. For example, how significant is identity formation in the learning process, relative to other products of training? It is apparent from the earlier discussion on learning and success, that while there are suggestions that identity formation may be significant for individuals—student outcomes surveys for example show the importance of personal development—there is little indication that for other stakeholders, identity formation ‘outcomes’ are treated as a priority. Nor is there any evidence to suggest that programs are designed with identity formation outcomes or processes in mind.

The link between learning and identity is made directly by Wenger (1999), specifically in the context of ‘communities of practice’ such that the community is a temporal ‘field’ within which learning takes place. Wenger distinguishes between the doing, becoming, belonging and experiential aspects of learning. He places identity as a kind of bridge between the individual and the group, describing the concept of identity as “a pivot between the social and the individual so that each one can be talked about in terms of the other” (p. 145). Similarly he describes ‘practice’ as a negotiation of a way of being a person in the context of a community; identity and practice being mirror images of each other.

Similarly, Brown (2004), in an exploration of the dynamics of occupational identity and learning. describes a series of interactions between the workplace, its members and its activities as part of a model for building identity or the 'becoming' of the individual. Brown's model quite properly fits into a pattern of post-modern discourse postulated by Rhodes and Scheeres (2003). Their contribution to the discussion on organisational identity formation is useful in that it recognises that there are several ways that learning can act as a medium for identity formation. Figure 16, which summarises their research, shows three very different approaches to learning and three very different modes of identity formation. While the post-industrial model suggested allows for processes of reflective thinking and validation through experimentation with roles, as discussed earlier, the traditional and industrial modes of identity formation appear to deny these processes.



Learning discourse	**Traditional**	**Industrial**	**Post-industrial**
Mode of teaching	Apprenticeship through guild systems	Formal training organised bureaucratically	Semi-formal and informal development programs
Mode of learning	Learning established traditions from established experts	Learning from standardised rules and procedures	Learning from reflection and semi-formal work-related activities
Source of identification	Identification with social class and occupation	Identification as an efficient worker	Identification with organisationally-sanctioned subject positions
Mode of identity formation	Following tradition	Following rules	Incorporation values
Dominant logic	Patrimonial	Bureaucratic	Entrepreneurial
Learning outcomes	Reproduction of tradition	Pre-defined skills and competencies	Empowered identity and voice.
Identity position	Craftsperson/artisan	Technician	Entrepreneur

Figure 16 Learning discourses, pedagogies and identity formation (Source: Rhodes & Scheeres 2003)

The literature reviewed in this section points to some strong connections between identity formation and learning, both for individuals and collectives. These links can be seen in terms of the influence of identity on learning and vice versa. In the case of the former, the literature shows that a person's identity, in terms of self-concept, confidence and personal and social relationships, has a bearing on a learner's capacity—or at least their perception of their capacity—to learn and achieve. In terms of the latter it is apparent that engagement in learning, whether individually or as part of a ‘learning community’, leads to a developing identity. The evidence of surveys, especially among Indigenous learners, suggest that aspects related to identity—self-esteem, self-confidence and relationship building—are just as important, if not more so, than work related or academic outcomes. However, identity formation appears to be treated as a by-product of training, not as a targeted outcome of training. There is little evidence to suggest that training strategies incorporate identity building components to either complement or add to existing targeted outcomes, such as employment and productivity related objectives.

The topic of leadership, which is an important aspect of an individual’s perception of self-efficacy and therefore identity, will be explored in relation to learning in the final section of the literature review. The link between identity, learning and leadership is encapsulated in the following illustration from Falk and Mulford (2001):

> If people with the ‘non-leader’ identity undergo, for example, a further education course on self-confidence and leadership skills, they may well then have additional knowledge which affects the resources they have to draw on in the presentation of their own identities. Alternatively, they may experience a crisis of some kind, and ‘without thinking’ take a leadership role. By so doing, they ‘learn’ something about themselves, which allows their self-perception to alter and so affects their identity formation and presentation. (p. 220)

2.2.8.3 Learning and leadership

This section is concerned with why leadership is important for the processes of learning and why learning is important for the processes of leadership. If learning is about building new knowledge and skills; about building capacity of individuals and collectives; about changing identity and invariably about relationships with teachers, other learners, employers, communities and peers, then there is likely to be a strong connection between leadership and learning.

Before exploring this connection, a working definition of leadership must be considered. It is widely recognised that there are several ways leadership can be approached. Kilpatrick et al. (2001d:12) for example summarise the various paradigms of leadership in terms of *ability*—a set of skills, *relationship*—the result of interactions between people, and *process*—where leadership is created through collaboration and interaction. However, these paradigms do not explain the role of the leader, which most scholars would agree involves influence. Antonakis et al. (2004) define leadership as:

> The nature of the influencing process—and its resultant outcomes—that occurs between a leader and followers and how this influencing process is explained by the leader's dispositional characteristics and behaviors, follower perceptions and attributions of the leader, and the context in which the influencing process occurs. (p. 5)

Their definition neatly describes leadership in terms of influence, outcomes, followers and context, all of which are important considerations. These key 'components' are generally agreed upon (e.g. Northouse 2004:3). Antonakis et al. also differentiate leadership from *management* and leadership from *power*. Management is seen as 'the fulfilment of contractual obligations', while leadership is seen in terms of change. Power is described as the means a leader can use to influence others.

Other ways of looking at leadership are to consider the traits of the leader (Zaccaro et al. 2004), the styles and behaviour of a leader and the factors that contribute to success in leaders (McCauley 2004). Northouse (2004:2) claims that in the past 50 years 'there have been as many as 65 different classification systems developed to define the dimensions of leadership'. Despite these multiple classifications, distinctions and paradigms, for the purpose of this discussion the definition above with the four key components listed will suffice to form the basis of a discussion on leadership and learning.

Leadership intersects at a variety of points in the processes of learning. The context of leadership is critical to its application and to the 'interventions' or events that occur in the process (Falk & Smith 2003). The nature and the extent of influence is highly dependent not only on the individual leader but on the organisational and environmental context in which change occurs. Therefore the way that leadership looks in the context of large public VET providers, as was the subject of Falk and Smith's study, will be quite different from leadership in the context of small, private providers.

Managers in these contexts can provide leadership within their organisations but training practitioners and other partners in an intervention process, working for example in community contexts or enterprise contexts, can offer different kinds of intervention to effect changes that impact directly on the multiple aspects of well-being described earlier. Several 'capacity-building' examples from literature serve to illustrate this role of leadership in learning processes (Country Education Project Inc. & Youth Resource Centre 2001; Guenther & Millar 2004; Kilpatrick et al. 2001d; Kral & Falk 2004; Millar & Kilpatrick 2004). Kilpatrick (2003:20) comments: 'Educational institutions in rural communities are well placed to act as enabling leaders'.

Education and training can also assist in the formation of leaders in a variety of contexts (DPIF 2005). While this formation could take the form of skills required *to lead* or skills required *for the leader*, the resulting impact in a capacity-building context may be similar (Black & Hughes 2001:18; Kilpatrick et al. 2001a). Indeed learning in this context may serve both purposes and may be described as 'facilitative leadership' (Macadam et al. 2004:21). It is particularly relevant if not critical to Indigenous community contexts (Dodson 2004), where training 'in the area of leadership, finance or management may provide those who trained in these areas with a greater understanding of the modern world and its operations' (SCRGSP 2003:11.22). The report, *Many ways forward* (HRSCATSIA 2004) warned that a:

> potential leadership crisis was seen as looming in many remote communities as older, often mission educated people are replaced by a younger generation, insufficient of whom were being groomed to take up leadership roles. (p. 136)

To this end, the Australian Indigenous Leadership Centre (AILC) is widely recognised as playing an important role in facilitating this kind of leadership development (Allen Consulting Group 2001; The Prime Minister's Community Business Partnership 2003). While there are many other organisations—some of which are Indigenous managed—that provide Indigenous training, this organisation has an almost unique role in providing training for this purpose.

This brief discussion of leadership and its relationship to learning has highlighted several points. Firstly, leadership is intrinsically linked to identity formation and it is in this context that the discussion of leadership and learning are here framed. Secondly, leadership can be and is being used to drive and facilitate learning in a number of contexts: from the organisation, to the community, to the enterprise. Thirdly, training can facilitate the development of leaders. Finally, the combination of leadership, learning and capacity-building fit neatly together in a variety of contexts, but particularly in Indigenous contexts.

2.3 Summary of the literature

The literature reviewed in this chapter has focussed on two main areas: vocational education and training in Australia and learning and community well-being. The discussion in each main section has drawn on international and Australian literature drawing special attention to the Australian tropical savanna context.

The first main topic was set against a context of increasing demand for both the formal apprentice and traineeship sector and the non-formal adult and community education sector. Four main challenges for the post-compulsory education and training sector as a whole were presented. Firstly, issues of quality were discussed in terms of definitions, indicators and outcomes. Secondly, the challenges of flexible learning were presented. While this was considered as potentially an opportunity, particularly for remote areas of Australia, potential problems related to infrastructure, literacy and numeracy and some of the unique contextual issues of flexible delivery in the tropics were identified. The third challenge considered was related to funding and cost of training provision. The evidence of the literature suggested that while overall funding had not changed in recent years, the cost burden was shifting away from government to private expenditure. The fourth challenge considered was that of supply and demand. At a time when skills shortages are frequently discussed in the media, the recent literature suggested that most government strategies are aimed at addressing labour supply issues related to these shortages. The effectiveness of these strategies has not as yet been determined.

The literature review then considered some of the unique contextual issues facing the provision of education and training in the Australian tropical savanna region. The impact of a high and growing proportion of Indigenous people in the population was considered. There are a number of implications for training provision related to language and literacy, health, culture and access. Partly as a result of the growing Indigenous population, the demographics—particularly in terms of the age profile—are quite distinct in the region. The industry profile of the tropical savanna region is also distinct from that of the rest of Australia. The high proportion of government employment noted in the Census data reviewed is a reflection of engagement with CDEP. Mining, agriculture and tourism all play an important and significant role in the economy of the region, all of which affect the training environment. A fourth contextual issue considered was that of rural and remote access. The great majority of the region is considered to be ‘very remote’ and the region overall is sparsely populated with the exception of a few major regional centres, most notably around Darwin and Townsville. Remoteness and access remain a significant issue for effective training delivery into the area.

The third major subsection in the discussion of literature relating to education and training focussed on issues of success: how it was defined and how different groups perceived success in training. The different perspectives of individuals, industry, communities, governments, providers and partnerships were considered. There is, given this array of stakeholders, no singular definition of success. However it is often described in terms of some kind of employment related outcome. Some inadequacies in measurement and reporting of outcomes were noted. The question of what determines successful training remained largely unanswered, with very little literature uncovered that shed light on this. There are indications from limited research reviewed that success is determined to a large extent by the nature of relationships within partnerships and the culture and values within organisations that supports learning, but the issue remains largely unexplored.

The focus of the second part of the literature review was on the intersection between learning and community well-being. While a variety of definitions of community were reviewed, the basis of the definition to be used in this research relates the term simply to the location where people live. Definitions of related terms—community capacity and community capacity-building—were also considered. The view taken here is that community capacity is a community's ability to draw on a range of social, natural, economic and human resources for its own benefit. Capacity building is therefore the process by which those resources and benefits are added to.

Given these definitions of community, capacity and building, the next step in the review was to examine the nature of communities in the savanna region. A series of maps and tables were used to illustrate the size, growth and density of population groups in the region. The characteristics of population groups in terms of predominant industries were also shown. Of note in these maps was the way that certain types of communities were either clustered or dispersed across the region. For example, mining communities were scattered, with a notable cluster in the Bowen Basin. Communities based around retail industries were clustered predominantly around Townsville and scattered in regional centres of western Queensland, around Darwin and in major centres of the Kimberley. Government and defence dominate Indigenous communities across the entire region.

A framework for discussing well-being was developed next. This focussed on an understanding of the relationship between well-being and the notion of capital, described in terms of human, social, economic and natural 'types of capital'. This framework is important for an understanding of the nature of well-being, which in literature is described in terms of a range of indicators under headings of health, wealth, education, employment, leisure, social environment, physical environment and personal safety. Each of these 'bands' intersects with learning at some point. In each case learning contributes to the aspects of well-being described. However, the contexts of each well-being band contribute to the quality and nature of learning that occurs in communities.

The literature review concluded with a discussion of the intersection of learning and aspects of identity, both individual and collective. The role of identity in learning and the role of learning in identity formation were considered. Positive identity was found to have an influence on learning performance and learning was found to have a positive impact on identity formation, in terms of self-esteem and self-efficacy. However, identity formation was seen in education literature more as a by-product than as an outcome and among most stakeholder groups, identity formation was not targeted strategically as an outcome. There was little evidence to suggest that identity formation was built into training strategies and there was no literature found that discussed the relative importance of identity formation compared to other employment and productivity related outcomes. These identity issues were also linked to leadership, such that leadership can be used to drive learning and learning can be used to build leadership. The discussion on identity and leadership is relevant to the topic of capacity-building because they are both products of learning, which in turn add to individuals' and communities' capacity.

Having now considered literature relating to learning and community well-being, the next chapter will focus on the methodological aspects of this research.

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 3: Methodology

3 Methodology

> When I applied my mind to know wisdom and to observe man's labor on
> earth—his eyes not seeing sleep day or night—
> then I saw all that God has done.
> No one can comprehend what goes on under the sun.
> Despite all his efforts to search it out, man cannot discover its meaning.
> Even if a wise man claims he knows, he cannot really comprehend it.
>
> Ecclesiastes 8:16–17

The project aims to determine how vocational education and training (VET) can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the well-being of communities and regions. As such, it explores the linkages between education and training and indicators of well-being including economic, social and cultural needs as well as the sustainable management of natural resources of communities and regions within the savanna.

The project's regional focus of the 'Australian tropical savanna region' (see Figure 2, page 42) was chosen to provide a geographical boundary consistent with the activities and goals of the funding organisations—the Tropical Savannas Cooperative Research Centre and Charles Darwin University. The regional focus also places the research in a socio-cultural context with its own unique set of characteristics, which provide a framework within which to consider the aims of the project. These unique characteristics have been discussed in some detail earlier (see Education and training in the Australian tropical savanna context, page 41).

3.1 Introduction

The purpose of this chapter is to firstly present the methodological framework for the research and to describe the procedures used. It will therefore firstly consider the theoretical basis of the research methodology employed. Secondly, the detail of the methods used will be described with reference to each research question. The research questions are restated here for the convenience of the reader.

Research question 1: How is well-being defined across the savanna region?

(a) What are indicators of well-being across the savanna?

(b) How does well-being vary across the savanna?

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(a) Who benefits from education and learning?

(b) How does training build capacity and well-being?

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

(a) What makes training effective?

(b) What role do partnerships play in effective delivery?

(c) What are indicators of successful delivery?

The chapter will now move on to firstly consider some of the more general aspects of the research design, relating them to theoretical frameworks. It will then proceed to consider some of the more specific issues of the methodology as they relate to the research questions.

3.2 Research design

The research design for this project could be described as a mixed method or mixed model study (Creswell 2003; Tashakkori & Teddlie 1998). The project included three phases and ran from October 2002 until December 2004. Table 25 briefly summarises components of the research design used for the project. These components will be discussed in detail in the sections to follow. The aim of the first phase was to identify indicators of well-being for the communities of the savanna region using existing data sources and literature. This process would then lead to the identification of ‘high’ and ‘low’ capacity communities/regions which in turn could be used as ‘cases’ to determine how learning intersected with community well-being in Phase 3. Phase 2 was essentially an exploratory, consultative phase designed to create a purposeful sample of VET stakeholders for Phase 3 case study sites. The main activity in Phase 3 was conducting interviews in each site and included concurrent coding, categorising, quantitative summation (quantization) and analysis together with emergent theory building.

Table 25 Summary of project research design components

Design element	Phase 1	Phase 2	Phase 3
Research question	RQ1: Indicators of well-being	RQ2: Links between education/learning and capacity-building RQ3: Effective capacity-building outcomes of education and training	
Key strategic elements	Review of existing literature and analysis of statistics and indicators of well-being	Consultation with stakeholders, confirmation of sites	Semi-structured interviews with identified stakeholders
Approach to research method	Quantitative	Qualitative	Qualitative
	Mixed method sequential explanatory strategy		
Logic applied	Deductive	Inductive	
Strategy of inquiry	Use of existing surveys, censuses	Case study Grounded theory	
Inquiry paradigm	Pragmatist/Post-positivist	Pragmatist/Constructivist	
Data sources	Publicly available statistics including: ABS Census statistics, surveys, NCVER surveys NEIR State of the regions ERIN database Government departmental statistics	Peak body agency representatives from industry and government (e.g. Industry Training Advisory Committees (ITACs), government departments, Indigenous organisations, training providers), collection of reports and other documentation.	Identified stakeholders from: education and training, industry, community and government sectors. Interviews Observations Documents
Analysis techniques	Agglomeration and consolidation of survey and Census results at UC/L, SLA, SSD and SD levels: descriptive statistics, regression analysis	Theme identification, coding, categorisation, content analysis, quantizing techniques	
Analysis tools	Software including: IRDB and CDATA™ Census and mapping tools, MS Excel™, MS Access™	No analysis in this Phase	Software including: QSR NUD*IST™, MS Access™, MS Excel™
Validation techniques	-	Triangulation between interview data and alternative sources, Member checking, Multiple site visits	
Time frame	November 2002 to July 2003	July 2003 to February 2004	November 2003 to December 2004

3.2.1 Inquiry paradigms and theoretical bases

Table 25 lists a combination of three ‘paradigms of inquiry’ used as the basis of this research project. It is suggested in the literature that a paradigm defines ‘a basic set of beliefs that guide action’ (Denzin & Lincoln 2000:157). The application of three paradigms should not be interpreted as being potentially confusing. On the contrary, it is argued that mixed method approaches can add to the strength of research design. Teddlie and Tashakkori (2003:16) contend that one method gives ‘greater depth, while the other gives greater breadth’. They go on to assert that ‘we need a variety of data sources and analyses to completely understand complex multifaceted institutions or realities’. The section now goes on to explore the theoretical bases for the three paradigms of inquiry used.

According to Creswell (2003) there are four main paradigms, or ‘knowledge claims’ (p. 6). These are grouped under headings of post-positivism, advocacy/participatory, constructivism and pragmatism. While Creswell sees post-positivism effectively as an extension of positivism, others (e.g. Lincoln & Guba 2000) distinguish between the two. There are suggestions that the positivist and post-positivist positions are more frequently aligned to quantitative research (e.g. Tashakkori & Teddlie 1998). This reflects the nature of scientific inquiry, rooted in a history of so called ‘functional’, ‘objective’ research. The idea of *post*-positivism arises from the influence of idealist traditions of idealism and Marxism, which place greater ‘emphasis upon the importance of understanding society from the point of view of the actors who are actually engaged in the performance of social activities’ (Burrell & Morgan 1979:27).

In terms of qualitative research, Patton (2002:131) concludes that ‘no consensus exists about how to classify the varieties of qualitative research’. He goes beyond the idea of ‘paradigm’, preferring to describe theoretical traditions and distinguishing between ethnography, autoethnography, positivist and realist approaches, constructivism, phenomenology, heuristic inquiry, ethnomethodology, symbolic interaction, semiotics, hermeneutics, narrative analysis, ecological psychology, systems theory, chaos theory, grounded theory and orientational perspectives with various disciplinary roots (pp. 132–133). Regardless of this plethora of traditions, it is apparent that there are philosophical assumptions that drive practices associated with traditions. Creswell (1998) divides these assumptions into five groups: ontological (what is the nature of reality?); epistemological (what is the relationship between the researcher and that being researched?); axiological (what is the role of values?); rhetorical (what is the language of research?); and methodological (what is the process of research?).

Pulling the threads of the various theoretical bases and applying them to this research, let us consider the reason for the paradigms of inquiry shown in Table 25. First the Phase 1 component will be considered. The discussion here is based around a framework proposed by Lincoln and Guba (2000:165–173). The quantitative assessment of data used for this phase draws on an ontological assumption of 'reality'—numbers represent this reality—although because these numbers are interpreted in their context, the reality is treated 'critically' rather than 'naively' as might be the case with a purely positivist position. Similarly in epistemological terms, the use of numbers here is treated objectively, and again critically, but not dualistically (right/wrong, black/white) as might be the case with a positivist position. In methodological terms, the key differentiation for this research between the positivist and post-positivist position again lies in the critical nature of the use of data, referred to by Lincloln and Guba in their schema as 'critical multiplism' (p. 168). Explaining this term Miller and Crabtree (2000) state that

> *Multiplism* refers not only to multiple methods but also to multiple triangulation, multiple stakeholders, multiple studies and multiple paradigms and perspectives. Critical refers to the critical selection of these options based on local history, the role of power and patterns of domination, and how the different methods complement each other. *Critical* refers to the critical selection of these options based on local history, the role of power and patterns of domination, and how the different methods complement each other (p. 615)

Consistent with Tashakkori and Teddlie's (1998:23) schema of the four main paradigms, the analysis of data in Phase 1 relies on a deductive approach to logic. The quantitative aspects of Phase 1 align quite closely to each of the three metaphysical items framed by Lincoln and Guba.

Phases 2 and 3 however, align a lot more closely with a constructivist approach. Burrell and Morgan (1979:28) describe this in the frame of an ‘interpretive paradigm’ within a ‘sociology of regulation’ on the subjective side of a continuum from objective to subjective, historically linked to the ‘German idealist tradition of social thought’ (p. 31). Ontologically, it is framed around relativistic views of reality. Epistemologically, the findings are to some extent created subjectively. Methodologically, the interpretation of data is dependent on an hermeneutic approach, taking into account the subjective viewpoints and understandings of both the researcher and researched. Again, consistent with Tashakkori and Teddlie’s framework for constructivist research, inductive logic is the driver for analysis of Phase 2 and 3 data.

Taking a birds-eye view of the research as a whole (referring again to Table 25), it is not too difficult to see then that the pragmatist perspective aligns quite neatly across the whole project. Pragmatism is characterised by deductive and inductive logic; epistemologically by objective and subjective points of view; ontologically by a choice of explanations that best produce desired outcomes; and methodologically by quantitative and qualitative methods. In their appraisal of mixed methodologies Tashakkori and Teddlie conclude:

> Pragmatism is appealing (a) because it gives us a paradigm that philosophically embraces the use of mixed method and mixed model designs, (b) because it eschews the use of metaphysical concepts (Truth, Reality) that have caused much endless (and often useless) discussion and debate, and (c) because it presents a very practical and applied research philosophy: Study what interests and is of value to you, study it in different ways that can bring about positive consequences within your value system. (p. 30)

Given these considerations, the answer to the earlier question about whether this is a somewhat confused basis for a research design, the answer should now be quite clear: The pragmatist paradigm validates the choice of overall research design. Within the design, elements are more closely aligned to either a post-positivist or a constructivist position—both providing a suitable theoretical basis for the phases concerned. The discussion now turns more specifically to mixed method strategies of inquiry, as employed in the research.

3.2.2 Mixed method strategies

The methodology outlined in the table is neither purely ‘quantitative’ nor ‘qualitative’ in nature. It combines a number of quantitative and qualitative techniques to achieve the aim. It also combines three strategies of inquiry: use of survey/Census data; case studies; and a grounded theory approach. While the three phases described in the table above are to some extent discrete units there are clear linkages between each phase that contribute to the ‘whole’. The first phase uses a largely deductive logic approach while the second and third phases use essentially inductive logic. That is, survey and Census data are used in the first instance to make certain deductions which are applied to the second and third phases. These deductions are then used as the basis of development of case studies and the use of an inductive grounded theory approach. This combination of deductive and inductive logic is consistent with Tashakkori and Teddlie’s (1998) model of the mixed method research cycle, shown in Figure 17 below. Details of the components of this cycle as they apply to the project will be discussed later.

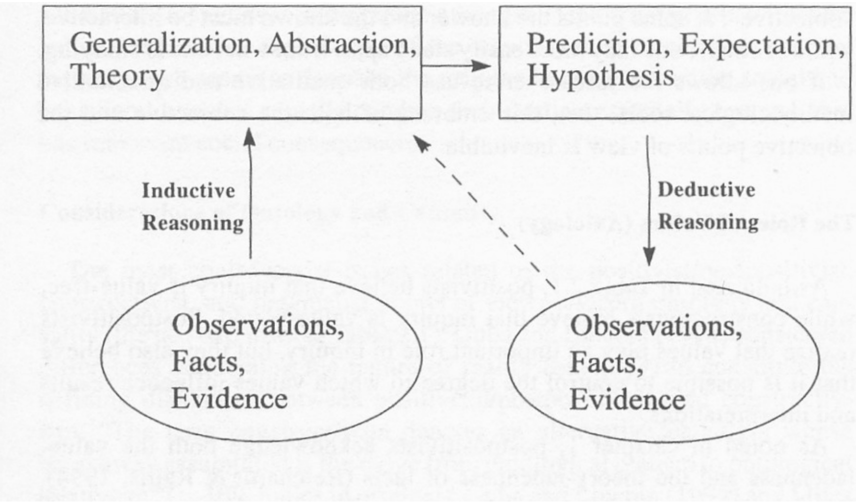

Generalization, Abstraction, Theory
Prediction, Expectation, Hypothesis
Inductive Reasoning
Deductive Reasoning
Observations, Facts, Evidence
Observations, Facts, Evidence

Figure 17 **Research cycle using both inductive and deductive logic (Source: Tashakkori & Teddlie 1998:25)**

Tashakkori and Teddlie (1998:43–44) illustrate four scenarios of mixed methods research designs. These are reproduced in Figure 18 below. The four scenarios represent two broad groups, which they describe as ‘equivalent status designs’ (top left and bottom right) and ‘dominant–less dominant designs’ (top right and bottom left). The quantitative–qualitative sequence described in Table 25 follows Creswell’s (2003:215) ‘sequential explanatory strategy’, characterised by ‘the collection and analysis of quantitative data followed by the collection and analysis of qualitative data'. While Creswell suggests that the priority for this strategy is typically given to the quantitative data, in the case of this research, the emphasis is on the qualitative study. Therefore, according to Figure 18, this study fits a model described by Tashakkori and Teddlie as 'Quantitative methods to enlarge on qualitative study' (bottom left).

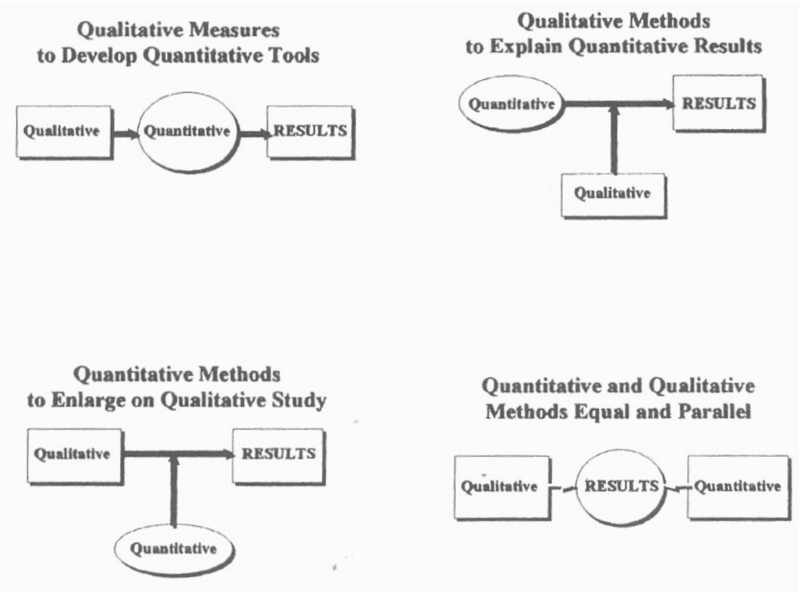

Qualitative Measures to Develop Quantitative Tools
Qualitative
Quantitative
RESULTS
Qualitative Methods to Explain Quantitative Results
Quantitative
RESULTS
Qualitative
Quantitative Methods to Enlarge on Qualitative Study
Qualitative
RESULTS
Quantitative
Quantitative and Qualitative Methods Equal and Parallel
Qualitative
RESULTS
Quantitative

Figure 18 **Different scenarios for combining qualitative and quantitative methods (Source: Tashakkori & Teddlie 1998:44)**

However, classifying this research in this way to some extent 'boxes it in' and fails to take into account the complementary nature of the mixed method approach, where quantitative data and analysis inform the development of theory, as might be suggested by an 'interactive continuum' as opposed to a quantitative–qualitative dichotomy (Newman et al. 2003). Consistent with an idea that research design should not drive methodology, Newman et al. (2003:173) argue that 'purpose should not be kept disconnected from the research question and methods'. Taking these observations into account the design used here makes good sense in terms of the quantitative aspects of Phase 1 (identifying indicators of well-being), which are used to inform the choice of sites and for framing the context of Phases 2 and 3 (identifying links between education/learning and capacity-building, and identifying effective capacity-building outcomes of education and training). It should also be noted that consistent with the concept of a continuum, the quantization of and quantitative analysis of the qualitative data in Phase 3, serves to inform and develop the theory building aspects of the qualitative research. The interview data obtained in Phase 3 could be described as being ‘supplemented’ by ‘mutually independent’ (Morse 2003:192–193) quantitative data from Phase 1 and additional observational data from Phases 2 and 3.

3.2.3 Case studies

Case studies have been variously defined with foci on several aspects of a particular kind of research, from the process, through to the product or output and the case itself (Merriam 1998:27). Patton (2002:447–448) shows several ‘layers’ of possible analysis in case studies, suggesting that ‘you can always build larger case units out of smaller ones’. Yin (2003) contends that ‘the need for case studies arises out of the desire to understand complex social phenomena’. In this research, case studies are used as a way of organising and investigating at some depth, the qualitative nature of learning as it applies to a particular ‘type’ of site. There is indeed a degree of complexity here, with multiple interactions, multiple causal relationships, several types of stakeholders and several types of outcomes.

However, recognising that ‘the case is a specific One’ (Stake 2000:436), the singular unit that bounds the case is the socio-cultural context. The issues, which form the basis of the case, centre on Research questions 2 and 3. As such, each case study in the research is a case study of education and learning and capacity-building. Given also that the purpose of the research is to consider these issues in the context of savanna communities, the type of case study being used here could be described as ‘collective case study’ or ‘multi-site qualitative research’ (Stake 2000:437, 449). Merriam suggests that ‘the inclusion of multiple cases is … a strategy for enhancing the external validity or generalizability of your findings’ (p. 40). Certainly, one of the reasons for choosing a multi-site design for Research questions 2 and 3 was not only to compare and contrast different sites but to increase the ability to generalise findings so that the issues are not seen isolated in the singular socio-cultural context. The multi-site case study approach used here therefore provides a useful frame for the overall aims of this research. A detailed discussion of the methodology for Research questions 2 and 3 is given later (see page 168).

3.2.4 Grounded theory

Consistent with a multi-method strategy, this research applies more than a single strategy of inquiry to achieve its goals. This is not to suggest that the research design is a ‘mix and match strategy’ or a ‘mixed up model’ (Tashakkori & Teddlie 1998:6 citing Datta 1994). Rather it incorporates appropriate strategies depending on the nature of the data and the required analysis. In this context, grounded theory forms a useful strategy of inquiry, particularly as it relates to the agglomerated multi-site case study data. Grounded theory methods ‘consist of systematic inductive guidelines for collecting and analyzing data to build middle-range theoretical frameworks that explain the collected data’ (Charmaz 2003:509). The origins of grounded theory can be traced to Glaser and Strauss’ (1967) work titled *The discovery of grounded theory*, which challenged the domination of quantitative research paradigms in the social sciences and argued that theory could be generated through ‘comparative analysis’ and that this ‘general method’ was just as valid as experimental or statistical methods (p. 22). In its early forms it was accompanied by ‘positivistic premises’, which have since been challenged and resulted in what Charmaz terms ‘constructivist grounded theory’, which ‘recognizes the mutual creation of knowledge by the viewer and the viewed’ (p. 510).

In this research, the data obtained from recorded and transcribed interviews forms the basis of the emerging theory. Consistent with grounded theory strategies described in the literature (e.g. Charmaz 2003; Dey 1999), the transcribed text was allowed to build ‘substantive theories’. While data collection continued over a period of nine months, coding and categorisation commenced once the first set of interviews was completed. Early gaps in data were identified and filled with a process of ‘theoretical sampling’. In terms of analysis, again consistent with grounded theory this research takes an hermeneutic approach to text analysis, taking into account the need for objectivity *and* sensitivity to the context and the subjective experiences of the research. All of these approaches are consistent with a constructivist approach to grounded theory methods (Patton 2002:127–129).

3.2.5 Validation

For Phase 1 the use of existing Census and survey data from various sources in itself poses few risks to validity, particularly as they are used descriptively. However the threats to validity in this phase lie primarily in the inferences that are drawn from a synthesis of the data. This is what Creswell (2003:171) describes as ‘statistical conclusion validity’. Added to this is what he describes as ‘construct validity’ threats, which occur ‘when investigators use inadequate definitions and measures of variables’. These considerations are therefore taken into account in the presentation of results for Phase 1 (see page 189).

For Phase 2 and Phase 3 more particularly, validity of the qualitative data is dealt with in a variety of ways. Recognising that there is no single answer to the question of ‘how do we know when we have specific social inquiries that are faithful enough … that we may feel safe in acting on them …’ (Lincoln & Guba 2000:180), the credibility/dependability of findings is verified using a number of well-documented strategies. There is a plethora of perspectives on validity. Creswell (1998:200) describes at least five perspectives with associated terms that reflect different theoretical traditions. He (2003:196) lists eight possible strategies that can be used to achieve these ends: triangulation; member-checking; rich, thick description; clarification for bias; presentation of negative or discrepant information; spending prolonged time in the field; use of peer debriefing; and use of an external auditor.

Several of these strategies have been employed throughout this research. *Triangulation* was achieved by accessing several corroborating data sources: documents, on-site observations, stakeholder consultations and respondent interviews. *Member checking* was achieved, first through checking of transcripts; second through follow-up consultations; and third through a report-back process where initial findings were offered for feedback. *Prolonged time* was spent in the field: two separate visits were made to each case study site, each separated by a month—a total of eight visits were made spread out over nine months. These were preceded by stakeholder consultations and proceeded by follow-up informant consultations. *Peer debriefing* was achieved through presentation of findings at seminars and through presentation of papers at appropriate conference venues.

Yin (2003:34), in a discussion of validity issues in case study research, identifies four tests that can be applied to different types of case studies: construct validity; internal validity; external validity and reliability. Yin suggests that internal validity tests are only significant for case studies where determining causality is a goal. Causality is not a concern in the case studies used in this research. However in terms of construct validity tests—'developing a sufficiently operational set of measures'—Yin suggests that at the point of data collection it is important to use multiple sources of evidence 'in a manner encouraging convergent lines of inquiry' (p. 36). The variety of data sources used here ought to satisfy this test: referees from Phase 2; documents and field observations collected from Phases 2 and 3; together with respondent interviews all add to a significantly diverse, yet convergent set of evidenciary material. Yin also suggests that this test includes having key informants review case study reports. This was another approach used in this research. In terms of external validity, this is an important issue for this research because the intention is to be able to find generalisable findings that could be applied in similar contexts across other regions of Australia. While the data is site specific the theory and the emerging principles developed through the case studies may have broader application beyond the specific regions of the study. The key strategy used here, suggested by Yin, is to use multiple case studies. In terms of reliability and the ability to replicate the results, the ability of other researchers to replicate results is to some extent dependent on procedural documentation strategies, which will be detailed from page 174 onward.

3.2.6 Proposal

Before commencing this research, a prerequisite proposal was submitted to both the funding bodies. The research was approved on the basis of the proposal, which included the following elements:

- Title, field research codes, area of study, faculty details;
- Aim, background and objectives and significance;
- Methodology;
- Project timeline;
- Ethical and intellectual property considerations; and
- Budget and funding details.

With minor variations the goals outlined in the proposal have largely been followed throughout the research. The final proposal for this research, submitted in April 2003 was approved by Charles Darwin University (then Northern Territory University) in May 2003. The strategies suggested in the methodology are very similar to those used in practice and detailed in this chapter.

3.2.7 Backup and precautions

Much of the information obtained during the process of research was stored electronically. Physical and electronic security and backup were considered important for the purposes of storing electronic data. In terms of physical security a sensor for a monitored alarm system was placed in the office where hardware and files relating to the research were kept under lock and key. Consistent with Patton's (2002:441) advice, the data relating to this research is backed up daily from the laptop computer used in the field to a desktop personal computer (PC) at the office. Both the laptop and the PC are password protected. The system is maintained with up-to-date anti-virus software, firewalls and spyware protection to minimise the risk of electronic intrusion.

Having now discussed the general issues of the research design for this project and their bases in literature, the discussion now turns to the specific methodological considerations relating to the research questions.

3.3 Research question 1

Research question 1 sets the scene for the rest of this research. It establishes a framework for thinking about the relationship between learning and community capacity by defining the context. It also establishes a frame for analysis of data at Research question 3 and for the quantization of data obtained. In terms of the research design it played an important role in the identification of sites for case studies by establishing a measurable basis for identifying communities of 'high capacity'. The question is restated here for convenience:

Research question 1: How is well-being defined across the savanna region?

(a) What are indicators of well-being across the savanna?

(b) How does well-being vary across the savanna?

This section will detail methodological aspects pertinent to Research question 1. In particular it will detail the data sources, strategies and analysis techniques and tools employed.

3.3.1 Description of procedure

In trying to determine indicators for capacity across the savanna region, it soon became apparent that while there were some disparate attempts to define particular aspects of well-being for the region there had been no comprehensive assessment of a range of social, environmental/natural resource, economic, educational or cultural well-being carried out for the region. Those that did exist related to particular aspects of the savanna context, but were not all-encompassing.

For example the Tropical Savannas Cooperative Research Centre (TSCRC) has identified a number of 'healthy savanna' indicators to reflect the needs of Indigenous, pastoral and conservation stakeholders across the region (Whitehead et al. 2000). Much of the emphasis of this research was focussed on ecological considerations though it did touch on the interface between healthy ecology and human interaction. In another TSCRC sponsored project, Benson et al. (1997) identified training needs across the savanna region, reflecting something of the educational well-being that applies to the region. Some studies have included the savanna region as part of their frame of reference but are part of national studies. For example, the Community Housing Infrastructure Needs Survey (ABS 2002a) and the Aboriginal and Torres Straight Islander Social Survey report (ABS 2004a) present results at a national level and relate to just one aspect of well-being or one demographic group. Hence, the primary tasks addressed by this research question were a) to identify appropriate and available indicators of well-being and b) to apply these indicators to a comprehensive analysis of well-being across the entire region.

The approach taken was first to examine the literature on well-being and indicators internationally and within Australia. This was followed by a review of the kind of indicators that were available, particularly at a community or at least a regional level, within Australia. Next, the available indicators were applied to a list of eight areas of well-being, which were identified earlier in the Literature review (see Table 20). The available statistics were applied where possible to the community level to determine, for each well-being category, the places where capacity could be described as highest or lowest. From these indications of capacity, a list of high and low capacity communities was synthesised and examined to determine the characteristics of the communities.

3.3.2 Data sources

Data used for this research question came primarily from the Australian Bureau of Statistics. Data for a number of the well-being 'bands' discussed earlier (see Indicators of well-being, page 103) was taken from ABS Census Basic Community Profiles (ABS 2002b), Time Series Profiles (ABS 2003d), Expanded Community Profiles (ABS 2003j) and Indigenous Profiles (ABS 2002c) accessed using publicly available material through the ABS web site, CDATA96 (ABS 1997b) and the Integrated Regional Database (IRDB) (ABS 2003c). Other general regional data was sourced from *State of the Region Reports* (NEIR/ALGA 2004). This section details the data sources only. Indicators used are presented in the results in response to Research question 1, page 190.

3.3.2.1 Health

Health data was sourced from the ABS National Health Survey with its Indigenous supplement (ABS 2002g, 2002h). A series of maps applying a range of data from several ABS and other sources, produced by the Bureau of Rural Sciences (BRS), was used for health and SEIFA data (BRS 1999, Haberkorn et al. 2004). A range of health indicators are also available within the ABS *General Social Survey* (ABS 2004e) but these are only readily accessible and comparable at a state level.

3.3.2.2 Wealth and economic well-being

Income data is provided in detail at the Urban Centre and Locality (UC/L) level in Census data and provides a useful raw indication of the wealth or economic well-being of a given region, which is comparable across regions. Income distribution, which is perhaps a better indicator of the spread or distribution of wealth across a region, is collected annually but is only reported at a national level (ABS 2004f).

Apart from income and wealth, a community's economic capacity is determined to some extent by its demographic profile. High proportions of dependents—children and retirees—inhibit the community's capacity to access a range of goods and services that a community with a low dependency ratio (a measure of the ‘dependent’ population, aged 0–14 years and 65 years and over, compared to the ‘independent’ population, aged 15–64 years) might expect. It also places higher demands on education and health resources. Dependents however cannot be seen as a social ‘drain’ because they contribute to the socio-economic well-being of a community both through in-kind economic contribution as well as through the development of social capital. In terms of raw contribution to economic capacity of a community the dependency ratio will here be taken as in indicator of well-being such that a higher dependency ratio is associated with lower economic well-being. The ratio can be determined from demographic data in ABS Census tables.

3.3.2.3 Employment

Labour force data, which is collected on a monthly and quarterly basis in a variety of ABS publications (see ABS 2005c) including the monthly *Labour Force Australia* statistics (ABS 2005a), is not available at a community level. Further, complications relating to definitions of unemployment and the impact of CDEP particularly in remote and very remote areas of the savanna region make many of these data meaningless for comparison purposes. One of the other difficulties associated with using the most recent labour force data is that, while it is reasonably current, it loses its ‘fit’ within the suite of indicators that are available particularly from the five-yearly Census. Involuntary part-time work indicated as a possible indicator in Table 20 is a function of the phenomenon of underemployment or hidden employment. While this data is available at least at a state level (ABS 2005d) the same problems associated with definitions and CDEP limit its effective use as an indicator for the savanna region. This data is also limited to mainly urban areas of the savanna. Other research has shown that trying to pin employment data to remote areas is problematic (e.g. NTCOSS 2004; Guenther et al. 2004). Therefore, data used for analysis of employment is drawn primarily from Census tables.

3.3.2.4 Education

Vocational education and training data was sourced from publicly available NCVER publications and tables (e.g. NCVER 2002a, 2002b, 2003, 2004a, 2004b). While publicly available NCVER analysis is only available at state levels, it did provide a useful backdrop for local and regional data, notwithstanding comparability issues, which have been noted by ABS (ABS 2003k). Literacy and numeracy data for adults is only sporadically collected and ABS acknowledges that data for ‘remote and sparsely settled areas’ of Australia were not collected (ABS 1997a:93). Attendance and post-school qualification data, accessible from Census tables, was considered most valuable for application at a local level.

3.3.2.5 Culture and leisure

Under the heading of culture and leisure, ABS tourism indicators and time use surveys were accessed along with Census data to give an indication of well-being (ABS 1998a, 2002i, 2004e). ABS also monitors attendance at selected cultural venues and events on an irregular basis (ABS 2003o). Again, much of this data is useful only for state and national comparison. Further, they do not take into account the unique cultural distinctives and diversity of Indigenous people groups in the savanna region. Because of these limitations, indicators of culture and leisure were synthesised from Census data relating to hours of work.

3.3.2.6 Social environment and social cohesion

Data relating to population change, demography, Indigenous populations and lone households were drawn to a large extent from ABS Census tables. Other information under the heading of social environment was harder to access at a regional level. For example, with suicide rates (ABS 2003n) and volunteering (ABS 2001d), data are given only at a state and national level, or in the case of volunteering, by metropolitan/non-metropolitan status. Child poverty data, suggested in Table 20 as a possible indicator under social environment, is available only at a national level for international comparison purposes (Chen & Corak 2005) and according to UNICEF (2005:4) suggest that Australia ‘lag[s] behind in defining and monitoring child poverty’.

3.3.2.7 Physical environment

Environment Australia (2002a, 2002b) has developed an extensive set of sustainability indicators that aim to measure national performance against the core objectives of the National Strategy for Ecologically Sustainable Development (NSESD). The 24 indicators across 21 values provide a comprehensive framework that relates environmental sustainability to a range of social and economic indicators (see Table 81, Appendix 4—Sustainability indicators). Datasets and detailed analysis of environmental measures at a local/regional level are available through the Environment Resource Information Network (ERIN) and are shown in Table 26. These data sources alone provide a range of regional data or maps of environmental indicators such as river and estuary health, land and river disturbance as well as pollutants and sources.

Table 26 Sources of environmental indicators (Source: DEH 2005)

Source	Website and/or reference
Environment Resource Information Network	http://www.ea.gov.au/erin/
Ozestuaries database (estuary assessment)	http://www.ozestuaries.org/oracle/ozestuaries/
Australian Natural Resources Data Library	http://adl.brs.gov.au/ADLsearch/
Land disturbance, rivers and catchments	http://www.heritage.gov.au/anlr/code/ald.html ERIN 2001
National Pollutant Inventory	http://www.npi.ea.gov.au/

Accessibility data, drawn from the work of DHAC (1999, 2001) in developing the Accessibility and Remoteness Index of Australia (ARIA) is now progressively being introduced into ABS data packages. The ARIA values for each SLA used were readily accessible through the ABS *Integrated Regional Database* (ABS 2002e, 2003c). An indication of accessibility was also considered using mobile phone CDMA coverage. Coverage maps were sourced from Telstra (2004).

3.3.2.8 Personal safety

Data sources for the personal safety category were difficult to access at a regional level. ABS reports data relating to criminal activities annually (ABS 2003l) and incarcerations quarterly (ABS 2003m). There are data for feelings of safety and crime victimisation in the ABS *General Social Survey* but these are only reported down to a state level and there are acknowledged issues about the comparability of these data with other crime statistics mentioned above (ABS 2004e). The crime data are reported to state and territory level. Other state based police crime statistics (NTPFES 2004; Queensland Police 2004; WA Police 2004) where appropriate were reviewed for possible use. In each case these data were not considered to be sufficiently locationally specific. Another indicator, exposure to fatal and serious injuries as suggested in Table 20, was only considered in the context of workplace injuries (see Table 23) but this data is not available at a regional level. Road injuries, which could be accessed from the annual police reports cited above, are problematic because injuries may occur outside the community of residence and therefore not accurately reflect the true local situation.

Table 27 summarises the data sources described above along with the various indicators used. While these data sources are used in the context of a study of savanna well-being, the table represents an attempt to bring together data sources that could be applied to any regional area within Australia. The fact that these sources are publicly available allows for the possibility that they can be applied quite widely by a broad range of people.

Table 27 Summary of well-being indicators, geographic availability and data sources accessed

Band	Community well-being indicator considered	Available for:	Potential data sources
Health	Infant mortality Self-assessed health status	SLA Remote/non-remote regions	ABS 2003c, 2003g, 2003h; BRS 1999
Education and learning	Attendance at institutions Qualifications	UC/L UC/L	ABS 2002b, 2002c, 2003c, 2003d; NCVER 2002a, 2002b, 2003, 2004a, 2004b
Employment and quality of working life	Labour force participation Occupations	UC/L UC/L	ABS 2002b, 2002c, 2003c 2003d; NEIR/ALGA 2004
Culture and leisure	Working hours Mobility	UC/L UC/L	ABS 1998a, 2002b, 2002c, 2002i, 2003c, 2003d, 3003k
Command over goods and services	Dependency ratio High income Low income	UC/L UC/L UC/L	ABS 2002b, 2002c, 2003c, 2003d; NEIR/ALGA 2004
Physical environment	Accessibility (ARIA) Land disturbance CDMA coverage Home ownership	SLA Regions (mapped) Regions (mapped) UC/L	ABS 2002e, 2003c, DHAC 1999, 2001; DEH 2005; ERIN 2001
Social environment	Population change Population age SEIFA Lone person households Suicide	UC/L UC/L SLA UC/L State / region	ABS 2002b, 2002c, 2003c, 2003d, 2003n; Haberkorn et al. 2004; NEIR/ALGA 2004
Personal safety	Imprisonment rates Victims of crime Safety fears	State State State	ABS 2003l, 2003m, 2004e NTPFES 2004; Queensland Police 2004; WA Police 2004

Having detailed the various data sources for Phase 1 of the project, the strategies employed in this phase will now be described.

3.3.3 Strategies

Strategies used in this phase of the research can be summarised as follows. First, a review of national and international literature relating to indicators of well-being was conducted. Much of this was built on previous research which sought to address particular areas of interest. These specific interests included trust and social capital (Guenther & Falk 2000), literacy and numeracy (Falk & Guenther 2002); community capacity (CRLRA 2001b); education and training (Guenther & Falk 2003; Guenther et al. 2004); employment disadvantage (NTCOSS 2004) and work-life balance issues (Szarkowicz & Guenther 2003). Second, publicly available data sources were sought, accessed and compiled for regions in Australia. These sources are reflected in Table 27 as detailed in the previous section. Criteria used for the selection of variables to be used in analysis included applicability at a community and small region level, comparability with other national data, accessibility in terms of availability and cost, relevance to the eight well-being bands; and fit with nationally and internationally accepted indicators, such as those used by OECD (1982, 2001b, 2003c) and ABS (2001c).

The result of this selection process, which will be discussed in detail in the next chapter, was a set of 16 indicators that were applied to 118 Urban Centres/Localities (UC/Ls) of the savanna region (see Appendix—Australian tropical savanna region Urban Centres and Localities, page 414). The UC/Ls were chosen on the basis of ABS definitions and their inclusion in data sets available at both ASGC 1996 and ASGC 2001 geographic boundaries. Data sets—particularly those available for SLAs and UC/Ls—were compiled into spreadsheets and analysed. This process will be discussed in more detail in the following section.

Having identified indicators, applied them to communities and regions and grouped them according to each well-being band, the results were synthesised into a list of ‘high capacity’ and ‘low capacity’ savanna communities. These communities were examined to determine common characteristics, thereby enabling a typology to be developed, which could be used for site selection purposes. Three of the four sites were chosen from these types of high capacity communities. A report detailing the findings was prepared (Guenther 2003) and distributed to TSCRC and other stakeholders for review.

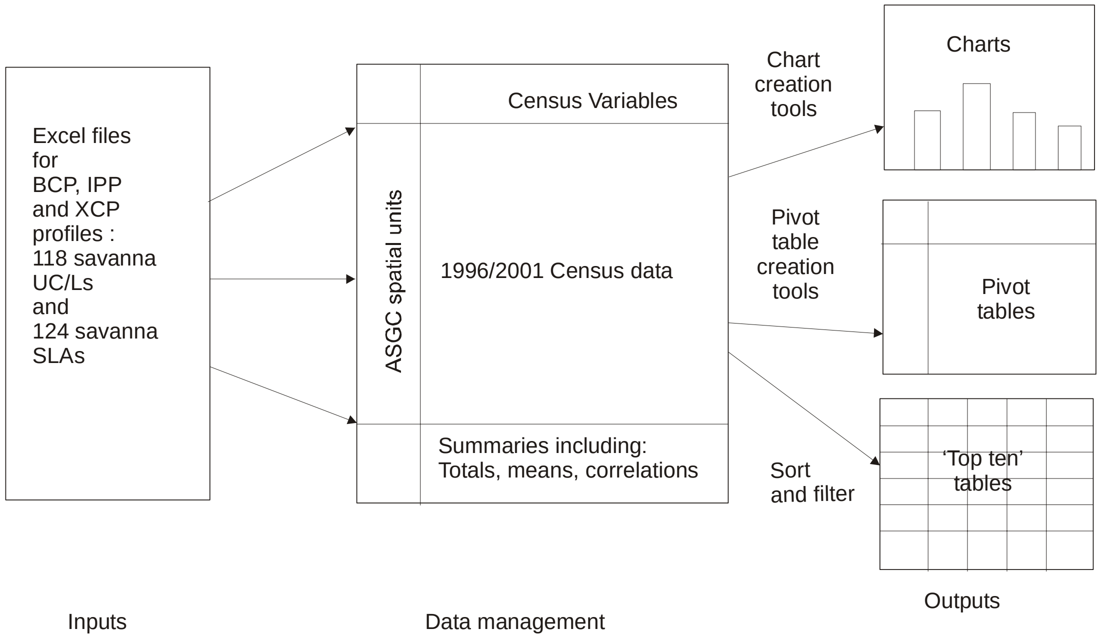
3.3.4 Analysis techniques and tools

The strategies described above generally required preparation of descriptive statistics. In some instances, correlation analysis was conducted. The process used for analysis involved preparation of a series of databases at SLA and UC/L ASGC 2001 levels for 2001 and 1996 Census results. Where data was accessible through the ABS IRDB software package, this compilation of data lists was possible only for SLAs. UC/L data for 2001 was downloaded from the ABS web site into a data folder and compiled into a single spreadsheet using linking formulas.

Microsoft Excel™ was used as the primary analysis tool because of its ability not only to import data, but also its ability to create interactive pivot tables, its ability to perform calculations across a data set, the ability to create interactive charts with customisable presentation and its capacity for an appropriate range of statistical analysis tools. Excel’s data filtering and sorting facilities were also used in conjunction with the data lists to produce ‘top 10’ sorted lists. In addition, almost all of the source data from the ABS web site was presented in Excel™ tables, resulting in almost no file conversion issues that may have arisen with use of an analysis tool such as SPSS™. A schema of the process used for the analysis and presentation of Phase 1 data is shown below in Figure 19.

The ABS data management packages CDATA96 (ABS 1997b) and IRDB 2001/2003 (ABS 2002e, 2003c) were also used extensively throughout the analysis of data in Phase 1. CDATA96 contains Census data from the 1996, 1991 and 1986 censuses down to Collection District (CD) and UC/L ASGC spatial units. IRDB 2003 includes data from the 2001 Census down to SLA level spatial units. IRDB also includes a number of other non-Census data sets, such as health survey data and business survey data, which were used in the analysis.

Within the CDATA96 and IRDB2003, mapping tools were used in conjunction with data management tools. IRDB uses a Graphical Statistical Platform (GSP), which allows queries to be created from ASGC spatial units (for the purpose of this research these were primarily SLAs), Census and other ABS data items, and times. The resulting data was then mapped to available ASGC boundaries. One issue with IRDB and CDATA is its limited and cumbersome approach to statistical analysis. To overcome this both packages come with data export facilities, which allow for conversion of data tables to either Excel or Comma Separated Variable (CSV) file formats. CDATA 2001, which became available during the research period, was not used primarily because of the cost of data access. Despite this, similar data was accessed directly from the ABS Census website.


Excel files
for
BCP, IPP
and XCP
profiles :
118 savanna
UC/Ls
and
124 savanna
SLAs
Census Variables
ASGC spatial units
1996/2001 Census data
Summaries including:
Totals, means, correlations
Chart
creation
tools
Pivot
table
creation
tools
Sort
and filter
Charts
Pivot
tables
'Top ten'
tables
Inputs
Data management
Outputs

Note: BCP = Basic Community Profile, IPP = Indigenous Profile, XCP = Expanded Community Profile

Figure 19 **Data management and analysis of ABS Census statics using Excel: schema**

3.4 Research question 2 and Research question 3

Research questions 2 and 3 belong together methodologically and are therefore treated jointly in this section. While Research question 1 was designed to capture a picture of 'levels' of capacity across the savanna region and thereby identify types of sites for cases, Research questions 2 and 3 are used to elucidate the link between learning and capacity-building in the context of the cases. Research question 2 focuses specifically on the link between capacity-building and learning by identifying who stakeholders are and how they benefit and by specifically examining the capacity-building outcomes of education and training. Research question 2 is restated here for convenience:

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(a) Who benefits from education and learning?

(b) How does training build capacity and well-being?

Research question 3 focuses more on how education and learning can be applied as a tool for capacity-building. In this context, the question attempts to determine firstly what makes training effective. Secondly it aims to determine what role partnerships and stakeholders play in effective delivery. The third part of the question aims to understand what are the indicators of successful training delivery. Research question 3 is restated here for convenience:

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

(a) What makes training effective?

(b) What role do partnerships play in effective delivery?

(c) What are indicators of successful delivery?

This section will now go on to discuss the methodological considerations pertinent to these questions.

3.4.1 Description of procedure

As indicated in Table 25 (p. 149), the approach for the methodology for Research questions 2 and 3 involves qualitative data and is largely inductive and uses case study and grounded theory approaches. The following sections will detail specifics of the methods but here a brief outline of the overall procedure is given.

The direction of Research questions 2 and 3 follow on from Research question 1. As discussed previously, one of the intended outcomes of Research question 1 was the identification of sites for case studies that would provide a context for the questions relating to how training works to build capacity. Based on the findings of Research question 1, four sites were chosen. Three were chosen on the basis of identified ‘types’ of high capacity communities. The fourth was chosen because of the significance of Indigenous learning issues for the tropical savanna region. Descriptions of each site are provided at Appendix 5—Site descriptions, page 430. Without wanting to pre-empt specific findings, the case study sites identified in Phase 1 are mapped below in Figure 20.

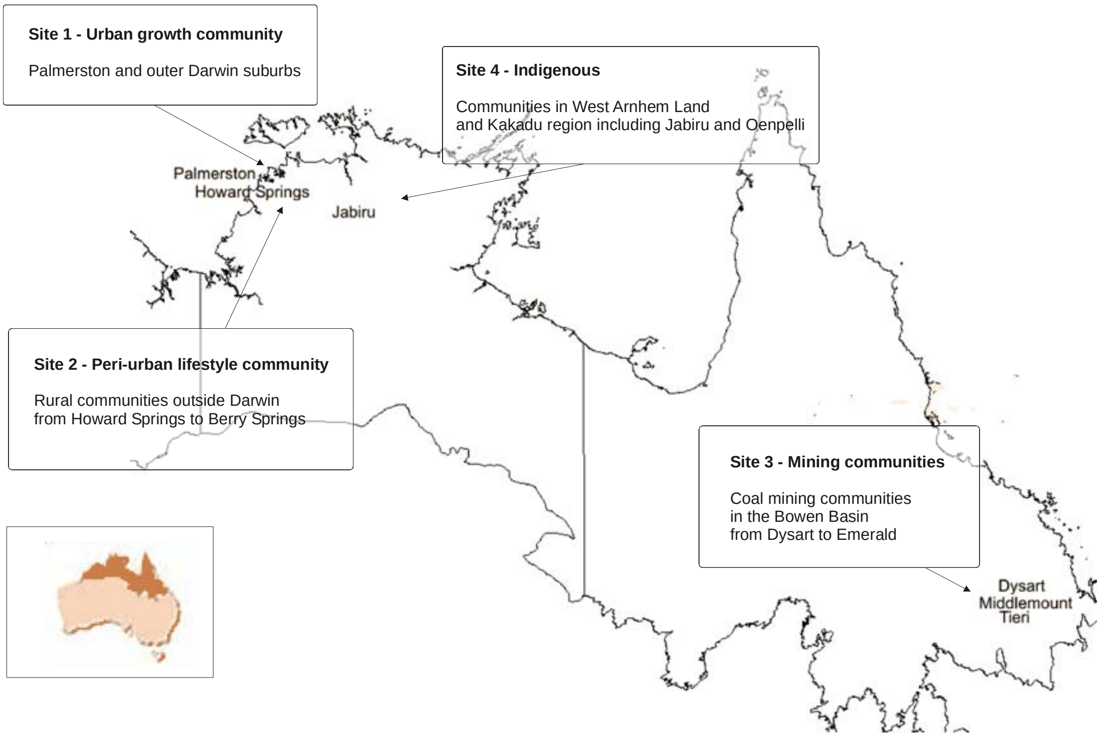

Site 1 - Urban growth community
Palmerston and outer Darwin suburbs
Site 4 - Indigenous
Communities in West Arnhem Land and Kakadu region including Jabiru and Oenpelli
Palmerston
Howard Springs
Jabiru
Site 2 - Peri-urban lifestyle community
Rural communities outside Darwin from Howard Springs to Berry Springs
Site 3 - Mining communities
Coal mining communities in the Bowen Basin from Dysart to Emerald
Dysart
Middlemount
Tieri

Figure 20 **Case study sites identified through Phase 1**

For Phase 2 of the research, the first step was to apply for approval through the Charles Darwin University Ethics Committee. As part of this process, interview schedules, respondent information sheets and consent forms were developed. Steps in the ethics application process are detailed in the section, Ethics, page 175. The second step was to identify potential stakeholders. This was done primarily through a process of referrals, discussed in detail in the section, Stakeholder identification, on page 175. The third step was to contact respondents, confirm their suitability and willingness to participate and set up a time for a face-to-face interview. Details of interview strategies are discussed in the section, Interview conduct, page 178. Following a site visit, interviews were transcribed and sent back to interviewees for review and validation. Details of recording and transcription techniques used are given in the section, Audio-recording, transcription and confirmation, page 179. Each interview was then listened to, read through and coded through a process of emergent categorisation. NUD*IST™ qualitative research software was used to store and code transcribed interviews. Details of the categorisation process and coding framework are given at Coding framework, page 181. An initial thematic analysis was then conducted. More detailed analysis with site comparisons, provider type comparisons and other internal cross-checks were then conducted. Details of analysis techniques and methods are shown at Analysis techniques and tools, page 182.

3.4.2 Data sources

In establishing a sample for the consultations of Phase 2 and the interviews to be conducted for Phase 3 and consistent with a purposeful sampling strategy (Creswell 2003:185; Patton 2002:240–242), an initial mind mapping exercise was conducted to explore the types of actors and interactions that might be expected to occur with learning at a community level. Figure 21 below shows the type of mind map that was created during this exercise.

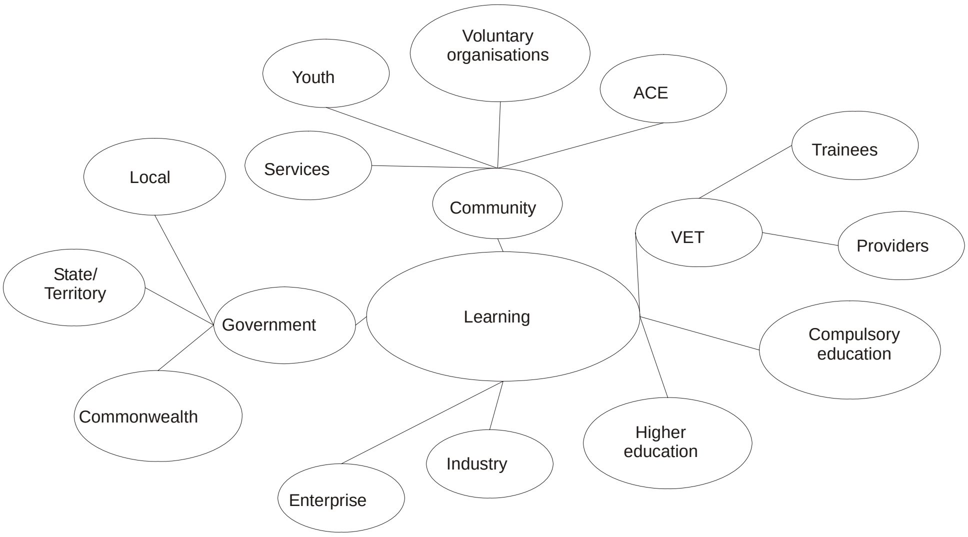

Voluntary organisations
Youth
ACE
Trainees
Services
Local
Community
VET
Providers
State/ Territory
Government
Learning
Compulsory education
Commonwealth
Higher education
Industry
Enterprise

Figure 21 Mind map of potential data sources that interact with learning

An important aspect of this process was the identification of four main sample groups: VET stakeholders, community stakeholders, government stakeholders and industry/enterprise stakeholders. Consistent with an approach suggested by Merriam (1998:65–66) and described also by Patton (2002:243) under the general heading of ‘purposeful sampling’, having identified these basic units a set of criteria were then developed to help identify the kind of people that should be interviewed. These criteria were driven by the need to be able to effectively inform the research questions. These criteria can be summarised such that respondents must have:

- Direct involvement in post-compulsory education, training and/or learning at some level;
- An awareness of the particular education/training/learning ‘system’ they engage with; and
- An ability to confidently comment on the broader impacts of education and learning in their specific field of interest.

The application of these criteria led to the inclusion of groups within the four broad types identified in the mind map above and the exclusion of others.

While it was assumed that respondents would have personal experience with training, having once been a trainee or currently engaged in training, the criteria largely excluded individuals whose only experience of education/learning was as a trainee. It also meant that those industry, community and government stakeholder groups identified in the table above would have a fairly intimate awareness of training delivery, administration and outcomes in addition to their own expertise within the industry. For example therefore, people interviewed who were employers would be expected to have a good knowledge of their particular industry and most likely interface with training as a training coordinator, manager or at least have significant oversight of the training function within their industry/enterprise. A full listing of organisations represented in 102 interviews conducted is given at Appendix 6—Organisations represented, page 439.

While trainees were excluded from the criteria, three interviews were conducted with students. These were conducted at the invitation of other respondents who suggested the groups may be useful in elucidating or adding to a particular aspect of their response. While these interviews did not fit the predefined criteria, the opportunities were taken up, consistent with Patton's (2002:244) 'opportunistic or emergent sampling' approach, which he describes as having a purpose to follow 'new leads during fieldwork; taking advantage of the unexpected'.

3.4.3 Instrument design

A semi-structured interview approach was selected as the most appropriate means for the theory building aims of Research questions 2 and 3. According to Fontana and Frey (2000), structured interviewing

> aims at capturing precise data of a codable nature in order to explain behaviour within preestablished categories, whereas the [unstructured interview] attempts to understand the complex behavior of members of society without imposing any a priori categorization that may limit the field of inquiry. (p. 653)

The approach taken here is somewhat in between the two extremes, such that the general thrust of each question remained constant throughout all interviews. However, there was opportunity given within the instrument design (and within the conduct of the interview) to explore other areas of specific interest and to digress if need be. At the same time as being flexible the survey instrument was 'fully planned and prepared' (Wengraf 2001:5). Part of this preparation involved field testing during a series of informal consultations with stakeholders identified during Phase 2. Once final modifications were made in response to suggestions from field testing, the schedule remained unchanged for the duration of the project.

Questions designed for use in an interview need to elicit responses that will answer the research questions but they should not simply be 'translated' to an interview schedule. Rather, they should be designed to gain the interviewees' understanding around those questions (Maxwell 2005). The questions were designed to be simple yet flexible. While a printable handout of the questions was given to each respondent and some respondents did write detailed responses on their question sheets, the schedule was designed to be more of an 'interactive conversation' (Wengraf 2001:4) built around four simple questions, summarised here as:

1. Who benefits from education and learning in your community and how do they benefit?
2. Who are the drivers of education and learning in the community?
3. Describe one example of a program/course that you have observed or been involved with that has been effective. What made it effective?
4. What would make education and learning programs in this community more effective?

In addition, background information was requested to enable identification of engagement with partnerships and relationship to VET systems. A complete version of the schedule questions together with the information sheet and consent form is shown at Appendix 7—Information sheet, consent form and interview schedule, page 442.

3.4.4 Strategies

In this section the detail of specific strategies used in Phases 2 and 3 for Research questions 2 and 3 will be described. Some of the strategies described happened concurrently and there was necessarily some overlap between Phases 2 and 3 as each case study progressed and concluded. A timeline for the case studies and phases is given below in Table 28.

Table 28 Phase 2 and Phase 3 commencement and conclusion for each case study/site

Case study/site	Phase 2 commencement/conclusion		Phase 3 commencement/conclusion	
Case study 1 'Howard Springs'	October 2003	November 2003	October 2003	February 2004
Case study 2 'Palmerston'	October 2003	February 2004	November 2003	May 2004
Case study 3 'Bowen Basin'	February 2004	June 2004	July 2004	August 2004
Case study 4 'West Arnhem'	August 2003	February 2004	November 2003	June 2004

The intention was to gain a purposeful, representative sample of the four main groups of stakeholders identified—as many as reasonably practicable given constraints of time and financial resources. It was envisaged that between 25 and 30 respondents would be interviewed at each site. An initial goal of 100 interviews was targeted to achieve this. No set number of respondents from each group was sought, however at least one representative from each group was sought and obtained at each site.

3.4.4.1 Ethics

A prerequisite for conducting the research was gaining ethics approval for the duration of project. The institutional ethics rules prohibit conduct of interviews until ethics approval has been granted (CDU 2004a:Sections 4 & 5). To this end, once the final proposal was accepted (May 2003) an application was put to the Charles Darwin University Human Research Ethics Committee (June 2003) and after some minor clarifications and amendments approval was given in August 2003. The ethics application and subsequent clearance precluded inclusion of participants under the age of 18 from participating and was conditional on Indigenous language speakers having consent forms and interviews translated. The latter was not required as only people who were comfortable and adequately literate in the English language were consulted or interviewed.

A renewal for the ethics clearance according to the '*Final report / application for renewal of ethical clearance for a research project*' form (CDU 2004b) was applied for in August 2004 and granted subsequently. The ethical conduct of this research follows the *National Statement on Ethical Conduct in Research Involving Humans* (NHMRC 1999) and is consistent with more general ethical principles used in qualitative research (e.g. Kvale 1996). These principles relate to issues of informed consent, privacy, deception and accuracy, risk, respect for an individual's dignity and integrity (Christians 2000; Creswell 2003). These issues, particularly those relating to confidentiality, privacy, voluntary participation and withdrawal of consent, were discussed with respondents prior to conduct of the interviews and are raised on the plain language statement and statement of informed consent (see Appendix 7—Information sheet, consent form and interview schedule, page 442).

3.4.4.2 Stakeholder identification

Within the scope of qualitative and case study methodology *purposeful sampling* is an accepted way of identifying subjects (Creswell 1998:62). The word 'purposeful'

—or sometimes ‘purposive or judgment sampling’ (Bernard 2000:176) —stands opposed to random. In this research, within each case study site the intention or purpose was to gather data from a variety of education and training stakeholders. This was done through an initial process of what Patton (2002:237) describes as ‘snowball or chain sampling’ during Phase 2, that then extended into Phase 3 for each case. Essentially the sample emerged by asking key informants, who may or may not have been part of the emerging sample: ‘Who else would be good to talk to?’. One advantage of this process is that it builds integrity into the sample, because as names are provided, they begin to appear repeatedly. In smaller surveys it could be expected that eventually the sample would become ‘saturated’ until no new names are offered (Bernard 2000:179), but in this case the potential sample was quite large and saturation was not intended.

As noted earlier (see Design limitations, page 10), the sampling process was not designed to produce a ‘stratified random’ or ‘unbiased’ sample (Bernard 2000:147–151). That is, the sample was not intended to be a representative selection of VET stakeholders in the tropical savanna region. Therefore the findings from the interviews conducted cannot be generalised or applied to all VET stakeholders either within or outside the geographical region. Rather, consistent with grounded theory approaches to sampling, ‘the process of data collection is controlled by the emerging theory’ and is not ‘subject to the same canons’ of quantitative research (Strauss 1987:39). The inferences that are drawn from analysis of the data using purposeful sampling tend to be more ‘suggestive than conclusive’ (Dey 1993:263).

During Phase 2, stakeholders were identified largely through an initial process of consultations with ‘top level’ informants such as government department leaders/heads, industry training and advisory council heads, and heads of department at public VET institutions. These consultations yielded documents for review and names of contacts at learner interface levels; VET providers, key industry contacts, government agency representatives with key roles in training and key community contacts. During Phase 3 of each case study sampling continued purposefully through the ‘snowball’ referral process described above. The sampling strategy avoided use of criteria such as age, gender or Indigenous status.

3.4.4.3 Data gathering

As mentioned earlier the case studies involved two site visits each for Phase 3 interviews and one visit for each site during consultations in Phase 2. Additionally two visits were allowed for the Northern Territory sites to follow-up and report back to stakeholders. Each visit was for approximately one week. With the exception of two telephone interviews, all interviews were conducted at the sites shown in Figure 20 or at a place and time convenient to the particular stakeholder. For example, some stakeholders who provided training within the Northern Territory sites were more accessible in Darwin. Similarly in the Bowen Basin, some stakeholders were more accessible in Brisbane or Rockhampton than in the Bowen Basin itself.

The process of data gathering for Phase 3 involved two steps. First, an initial telephone contact was made with the respondent to ascertain their willingness to participate in an interview. Setting up interviews at these sites involved a degree of well-thought out coordination and planning as travel distances to and within the site were great.

During the phone call, the purpose of the research was explained, as was how their name had been obtained and why they were considered as a potential interviewee. At this point they were asked verbally if they would be willing to consider participating, subject to receipt of an information pack, consent form and the interview schedule. Contact details (email or postal address) were obtained and subject to their continued willingness to contribute to the research, a time and place was set for an interview. For individuals, a half hour appointment was requested which allowed for additional time necessary for introductions and questions. Where groups were involved, additional time was suggested. Appointments were generally made one to two weeks ahead of the intended time. Following the telephone contact, an information pack together with consent form and interview schedule were either emailed or posted to the potential interviewee.

The second step was to conduct the interview. In all but two cases conducted by phone, interviews were conducted face-to-face. In all but three instances, the interviewee proceeded with the interview either as originally scheduled or with a modification to the appointment date or time. In all but one interview, results were audio-recorded.

3.4.4.4 Information for respondents

The information provided to each respondent prior to conducting the interview is included in ‘Appendix 7—Information sheet, consent form and interview schedule’, on page 442. This is the *Plain Language Statement* provided according to the *Guidelines for completing the application form for ethical clearance* (NTU 2000) in Section 4.4. The one page statement provides respondents with information about the Chief Investigator; aims of the research; benefits for participants and stakeholders; how and why respondents can help; confidentiality; discomforts and risks; voluntary participation; what happens to the results; and contact details for the Chief Investigator and Human Ethics Committee at Charles Darwin University.

3.4.4.5 Interview conduct

Consistent with principles of quality responses where ‘time is precious’ (Patton 2002:375) the interview schedule was designed to be conducted in a relatively short timeframe of about 20 minutes. In practice, once initial introductions were completed, most of the one-to-one interviews lasted about 18 to 25 minutes. Those interviews where there were more respondents (the largest groups had up to 6 people) ran for up to 60 minutes. Each of the 102 interviews followed the same pattern:

- Introductions;
- Confirm project understanding, answer any initial questions;
- Sign consent form and confirm rights and responsibilities;
- Gather background information;
- Conduct formal interview; and
- Conclusions and answer any final questions.

Introductions were generally very brief because initial contact had been made previously by telephone. Following on from these introductions, the purpose for the interview in the context of the research was explained again with additional information given if requested. Opportunities for questions were given also. Participants were reassured about the value of their contribution—that the interview was a process designed to 'learn from *them*' (Bernard 2000:195).

Before commencing each interview, the statement of informed consent was signed and witnessed in accordance with ethics guidelines outlined previously. Agreement to the conditions of participation was confirmed. The aims, methods and expected benefits as well as the possible risks of the study were explained to the participant. It was confirmed that participation was entirely voluntary; that the participant could choose to withdraw from the study at any time—the results of any data collected up to the time of withdrawal would be destroyed and disregarded; that the aggregated results of the study could be reported in journals or at conferences; and that personal details would remain confidential.

Before proceeding with the audio-recorded part of the interview, background details were collected. These are shown at Section 1 of the Interview schedule (see page 446). Once these had been recorded, the interview commenced and barring unexpected interruptions (such as the occasional urgent phone call and in one case a funeral) proceeded until completion of each of the four main questions. The interview was treated typically as more of a 'conversation' (Denzin & Lincoln 2000:633; Kvale 1996:125) than a rigid set of questions and answers.

The interview concluded with a short 'debriefing' (Kvale 1996:128), thanks for the respondent's participation and the recorder was turned off. Sometimes, respondents offered 'off the record' responses. Frequently, documents relating to the respondents' information were collected at this time also.

3.4.4.6 Audio-recording, transcription and confirmation

As noted previously all but one of the interviews was audio-recorded. An unobtrusive digital recording device was used for this purpose, which allowed for up to eight hours of high quality voice recording. This was generally enough for one site visit's interviews. Once 'back at the desk' these audio files were transferred to the laptop and PC using proprietary software provided with the audio-recorder. Backup and security measures were built into this process (see Backup and precautions, page 159).

Transcription was achieved with the aid of speech recognition software that comes with Microsoft Office™. A high quality headset with a boom microphone was used for this purpose such that as the interview was reviewed the speech was dictated back into the speech recognition software. Recognising that no speech recognition software is 100 per cent accurate, the audio files were reviewed a second time, with corrections made as necessary. Additional checking was provided by the interviewee. As coding proceeded the checking process continued for a fourth time to ensure that the text matched the intended speech *and* meaning. As Silverman (2000:830) suggests, this process of repeated referral to the audio is particularly useful, not just as an error correction tool, but in uncovering ‘previously unnoted recurring features of the organization of talk’. It is an important part of what Patton (2002:440–441) describes as ‘getting a sense of the whole’ and providing an important transition between data collection and analysis—an opportunity to ‘get immersed in the data’.

The transcribed text was recorded in Microsoft Word™ such the interviewer’s questions and comments were noted with initials ‘JG:’ and the interviewee(s) were denoted with their first and last initials (e.g. ‘SK:’). Additional annotations were made in square brackets (e.g. [laughter followed]). On occasions where conversation became muffled or inaudible or was not understood an ellipsis (…) was used to denote an incomplete sentence.

Transcribed texts were sent back to all respondents for checking. They were asked to check for typographical errors but also for possible misunderstandings of the text in terms of both content and meaning. The checked files were converted to plain text files for use in qualitative analysis software NUD*IST™.

The use of digital audio-recorders and voice recognition are relatively new phenomena. Most texts discuss use of ‘tape recorders’, and ‘listen and type’ transcription techniques (e.g. Bernard 2000:206; Silverman 2000) and even ‘index cards’ (Marshall & Rossman 1999:149). Electronic means were used extensively throughout this project at all stages because it was felt to be a practical way to manage many aspects of the project. But as Marshall and Rossman (1999) comment:

> Whatever method is devised, it must enable the researcher to organize data while making them easily retrievable and manipulable. (p. 150)

Use of digital audio files, voice recognition software and computer based analysis tools were indeed retrievable and manipulable.

3.4.4.7 Coding framework

The coding process used with the text files that resulted from transcription was done electronically and progressively after each site visit. This is consistent with an inductive, grounded theory approach (see Grounded theory, page 156) and consistent with comments from Charmaz (2000):

> We grounded theorists code our emerging data as we collect it. Through coding, we start to define and categorize our data. In grounded theory coding, we create codes as we study our data. (p. 515)

As indicated earlier, NUD*IST™ qualitative data analysis software was used for this process. An initial coding framework was built around the four main questions and was labelled as follows: *‘Benefits’*; *‘Drivers’*; *‘Effective programs’*; and *‘Barriers’*.

Additional coding was applied to a fifth node to describe the data in terms of the site and the respondent. The purpose of this was to enable comparison across sites and respondent types. This ‘node’ was labelled *‘Data’*. As a model emerged during later analysis a sixth first-level node was added to describe the identity aspects of respondents’ comments about training. This node was labelled *‘Identity’*.

Beyond these first-level codes, all subsequent level coding emerged from the data. In other words, the framework developed *from* the data rather than the other way round, where ideas might be coded according to a preconceived theoretical framework. Full details of the emergent coding framework are shown in Appendix 8—Coding framework, page 450.

3.4.4.8 Analysis techniques and tools

A broad range of tools and techniques were used in the Phase 3 analysis stage. The purpose of these techniques and tools was to make sense of the data as they related to Research questions 2 and 3:

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

The first question looks for the *outcomes* of learning. The second considers the *processes* of learning.

These can be related to the survey instrument questions:

1. Who benefits from education and learning in your community and how do they benefit?
2. Who are the drivers of education and learning in the community?
3. Describe one example of a program/course that you have observed or been involved with that has been effective. What made it effective?
4. What would make education and learning programs in this community more effective?

The first question is primarily concerned with outcomes, in terms of who benefits and how. The second is asking about the driving mechanisms for these outcomes. The third is about outcomes *and* process. This is a storytelling question (Stake 2000:441) designed to elicit a narrative (Charmaz 2000:528) about the interviewee’s experience—or as Muller (1999:223) puts it, ‘a rich understanding of an individual’s sense of his or her reality’, rather than generalised perceptions about the topic. The last question is also a question about outcomes, but more about the inhibiting factors associated with outcomes. It should be noted that generally more time was given to the story than the other three questions; typically in a 20-minute interview, five minutes would be devoted to the first question, three to the second, 10 to the third and two minutes to the last. This provided an adequate balance to the need for process and outcomes. Frequently, the questions blurred into each other.

With the above in mind the process of transcript analysis, which flowed from the coding process, was first of all to identify key themes, second to look for corroborating evidence within each text, and third to look for emerging patterns. NUD*IST™, for these steps, was used primarily to label chunks of text according to these processes.

Having progressively coded or categorised the data in NUD*IST™, the next step was to develop a relational database of processes and outcomes identified in the transcribed texts; processes coming primarily from the story-telling question, and outcomes coming from the other three questions (though there was some overlap). An Access™ database was used for this purpose. The story-telling questions were built up in a data table called 'evidence', categorised into six groups (five process, one outcome) as need, motivator, enabler, delivery, identity and outcome. The definitions applied to each category are shown in Table 29 below.

Table 29 Summary of definitions of main coding categories used in analysis

Key ingredients for effectiveness	This means that a key to the program's effectiveness was…
Needs	A recognition of the needs of participants or stakeholders which establishes a *reason* for doing training
Motivators	An incentive, desired objective, encourager or a threat that provided the *impetus* for engagement with training
Enablers	A funding source, relational structure, partnership, system or support mechanism that provided the *resources* for the training
Delivery aspects	An aspect of the course delivery such as the qualities of the trainer or content, the planning and coordination or the qualification that was provided
Identity aspects	The development of self, social relationships, capacity to make choices or awareness of opportunity
Outcomes	The resulting wealth creation and employment activities, personal activities, community activities or global activities

Each group was subdivided into four sub-categories, each describing a positive process or outcome. The categories and sub-categories are shown in Table 30 along with two broad examples to illustrate the meaning. The Access data table also included an excerpt from the text for handy reference back to NUD*IST™.

Table 30 Categorisation of story-telling process and outcomes with selected examples from the text

ID	Category	Sub-category	Example 1	Example 2
01N	Need	Individual need	Recognition of personal skills deficit	Desire to learn
02N	Need	Community or regional need	Driveable roads	Community pressure
03N	Need	Industry enterprise or business need	Marketing needs	Training is sought for what they require
04N	Need	Global or non-specific need	Matching people to training	Spending time listening
05M	Motivator	Force threat or demand	Legislative requirement	Audit requirement
06M	Motivator	Desired objective	Ownership	Personal ambition
07M	Motivator	Incentive or opportunity	Promotion, increased pay	Career path
08M	Motivator	External encourager	Family member, parent	Community elder
09E	Enabler	Funding or financial support	Financial commitment	External funding obtained
10E	Enabler	Relational structures and partnerships	Use of networks	Leadership
11E	Enabler	Systems, infrastructure and resources	Physical infrastructure	Systems, policies and procedures
12E	Enabler	Commitment and support	Long-term commitment	Employer support
13D	Delivery	Recognition and qualification	Certificates	Ceremonies
14D	Delivery	Trainer characteristics and relationships	Rapport with students	Respect for trainer
15D	Delivery	Training processes and foundations	Planning	Meeting needs
16D	Delivery	Training program characteristics	Delivery aspects	On the job
17I	Identity	Personal identity	Self-esteem	Personal development
18I	Identity	Social relationships	Engagement with community	Leadership, ability to influence
19I	Identity	Personal and social capacity	Ability to make decisions	Work ready
20I	Identity	Awareness	Awareness of career opportunities	Broadening horizons
21O	Outcome	Wealth and employment activities	Getting a job	Getting a promotion
22O	Outcome	Personal activities	Life skills	Can now read and write
23O	Outcome	Family, social and community activities	Community concert	Meals on wheels
24O	Outcome	Global and non-specific activities	Environment protection	Licences

Outcomes identified through the other questions were also placed into a separate table called ‘benefits’ and grouped according to whether they were community, industry, personal or other benefits. They were then allocated another code which divided these benefits into the eight community well-being categories described in the Literature review and a ninth category called identity, which focussed on the individuals' benefits that emerged from the data.

To enable more detailed analysis of the interviews and programs cited, and thereby allow for a site-by-site analysis, two other tables were created in the database. The first was a list of interview characteristics, called 'interviews'. The second was a list of programs and their characteristics, called 'program_list'. The resulting database table structure with names of fields used is shown in Figure 22 below.

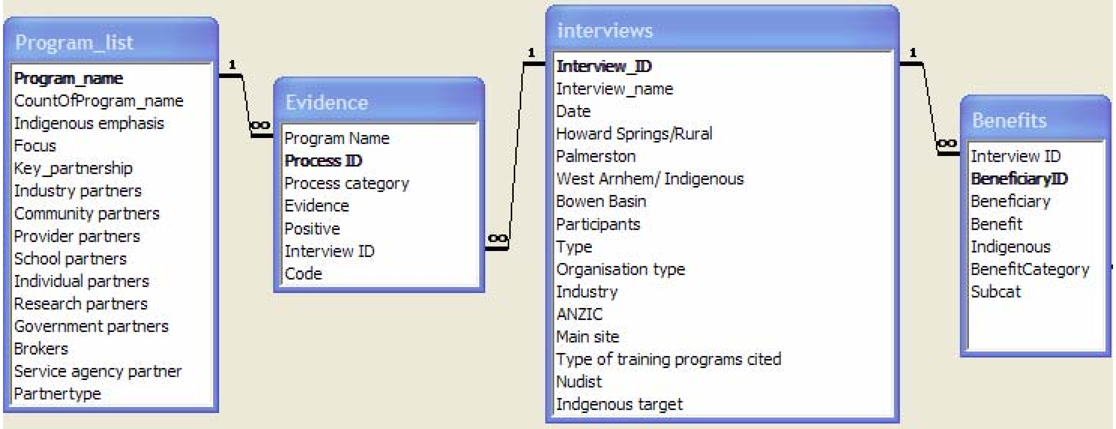

Program_list
Program_name
CountOfProgram_name
Indigenous emphasis
Focus
Key_partnership
Industry partners
Community partners
Provider partners
School partners
Individual partners
Research partners
Government partners
Brokers
Service agency partner
Partnertype
1
∞
Evidence
Program Name
Process ID
Process category
Evidence
Positive
Interview ID
Code
∞
1
interviews
Interview_ID
Interview_name
Date
Howard Springs/Rural
Palmerston
West Arnhem/ Indigenous
Bowen Basin
Participants
Type
Organisation type
Industry
ANZIC
Main site
Type of training programs cited
Nudist
Indgenous target
1
∞
Benefits
Interview ID
BeneficiaryID
Beneficiary
Benefit
Indigenous
BenefitCategory
Subcat

Figure 22 **Relationship diagram draw from the Access™ database used for analysis**

With the relational database in place the last step was to create an MS Query™-linked Excel™ spreadsheet for the purpose of statistical analysis, descriptive summaries, cross-tabs (or Pivot Tables as they are referred to in Excel™) and presentation. This allowed for direct linkage to the database, minimising possibility of errors and avoiding duplication of data. Chi-squared tests were mainly used to check for significant differences between sites and respondent types. Chi-squared tests are commonly used in social research methods, as they are here, to test a null hypothesis that no relation exists between two nominal variables (Bernard 2000:563).

The analytical process described in this section fits very neatly with the Tashakkori and Teddlie's mixed methods approach summarised earlier in Figure 17 (page 153). The qualitative/deductive aspects are included in the coding process and the quantitative/inductive aspects are included in the quantization and numerical analysis processes. Consistent also with the figure, the analytic process does not end with the spreadsheet. Instead, this information feeds back into a cycle that allows for further interpretation and inductive reasoning to take place.

3.5 Summary of research methodology

This chapter has detailed the research methodology used for this project. In the first section the overall plan was presented along with the theoretical underpinnings used for the project as a whole. The second major section described the detailed methodology employed for Research question 1. The third major section described the strategies used for Research questions 2 and 3.

Overall the research can be described as a mixed methods project. The basis for this is that it combines qualitative and quantitative approaches and uses inductive and deductive logic. It mixes many of the strategies used in a post-positivist paradigm with those used in a constructivist paradigm. It could be better described as being built on a pragmatist paradigm. The largely qualitative approach used for Phase 3, using four socio-culturally bounded case studies as the basis for a grounded theory approach, is also supplemented by quantitative methods. These quantitative techniques are built into the research largely to test the generalisability of the case study results and therefore to determine how applicable they might be outside the savanna regional context.

Phase 1 of the research relies on a variety of existing Census and survey data to firstly determine the variability of well-being across the savanna region and secondly to build a typology that could be used for site selection in a series of case studies. This was done by first identifying a number of well-being indicators that conformed to a broad OECD/ABS based framework of social indicators. Data sources were examined and applied to this framework for communities and subregions of the savanna. The data was analysed using statistical methods. These included use of summary descriptive statistics such as totals and averages but also correlation analysis to determine the relationships that existed between variables. The end result of Phase 1 was the development of a typology of savanna communities, a detailed analysis of locational statistics that illustrated the level of well-being and the qualitative nature of that well-being.

The starting point for Phase 2 of the research was the typology developed in Phase 1. Four regions representing four types of communities were selected for case studies: mining communities, Indigenous communities, urban growth communities and peri-urban lifestyle communities. Three sites in the Northern Territory were ultimately chosen and one in Queensland. Stakeholders were identified in Phase 2 and 3 using purposeful sampling strategies. In particular, a version of a ‘snowball technique’ was used so that stakeholders and respondents ultimately referred themselves to each other. Four groups of learning stakeholders were identified as potential interviewees: VET providers; community organisation representatives, government representatives and industry representatives. A total of 102 interviews were ultimately conducted, which included a total of 132 respondents. A semi-structured interview schedule was designed to capture the data. Interviews were audio-recorded and later transcribed.

The transcribed text files were used in qualitative research software NUD*IST™, which was then used for coding and thematic analysis. Having identified a number of themes arising out of the text, a database of outcomes and processes was developed using an Access™ relational database. This database was then used to link to an Excel™ spreadsheet for more detailed analysis of the quantized data. In particular the spreadsheet allowed for a comparison of stakeholder types and sites, and convenient graphical presentation of the data.

The results of this methodological process will be presented in the next chapter.

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 4: Results

4 Results

Get wisdom, get understanding;
do not forget my words or swerve from them.

Do not forsake wisdom, and she will protect you;
love her, and she will watch over you.

Wisdom is supreme; therefore get wisdom.
Though it cost all you have, get understanding.

Esteem her, and she will exalt you; embrace her, and she will honour you.

She will set a garland of grace on your head
and present you with a crown of splendour.

Proverbs 4:5–9

This chapter presents the results of the project, the aims of which are to determine how vocational education and training can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance planning as it relates to the well-being of communities and regions. The chapter begins with a brief introduction and then reports the results, grouped by each research question.

4.1 Introduction

As discussed in the methodology, this research is broadly split into two major stages, incorporating three phases. The first section is a largely quantitative analysis of existing data—mainly Census and survey data. It also draws on other geospatial information drawn from an array of sources. These results will be reported under Research question 1 in the next section.

The second phase of the research is largely qualitative in nature, drawing on 102 semi-structured interviews with VET stakeholders across four case study sites in the Northern Territory and Queensland. The results of this phase will be reported under Research question 2 and Research question 3 in subsequent sections. Both questions, with their respective sub-questions, will be treated separately.

4.2 Research question 1

Research question 1 is restated below for the benefit of the reader:

Research question 1: How is well-being defined across the savanna region?

(a) What are indicators of well-being across the savanna?

(b) How does well-being vary across the savanna?

4.2.1 Indicators of well-being across the savanna

The first task in this research question was to identify indicators that could be used as measures of the well-being of regions and communities across the savanna. One of the primary concerns of this process of indicator identification was to find items that were (a) currently or recently measured or monitored and publicly available, (b) could be reasonably applied to small area regions and communities—and (c) at the same time were readily comparable with data collected at a national level. Using these criteria a total of 16 measures were adopted for inclusion as indicators of well-being. These are summarised in the following tables, along with those that were rejected according to the same criteria.

The choice of possible measures for each category is based on the findings from the literature shown in Table 20, page 104. All of the indicators considered in the tables were measured and available, at least at a national level, and are frequently used for national and international comparisons. Some of the measures denoted with a ‘yes’ in the ‘nationally comparable?’ column of the tables, were comparable nationally, at least at a state level, and some were also applicable and available at a local level, at least down to Statistical Subdivision (SSD) levels. Only those indicators that were denoted with a ‘yes’ in all three columns were selected for use.

Table 31 shows health indicators considered and those chosen. Only infant mortality was chosen because, of all the possible indicators, it was the only one that could be effectively applied to the local level, using the measure of infant mortality ratio. Some data, such as hospital separation data, was available at SSD level, but because of the nature of statistics (where data is collected at the point of treatment and not at the place of residence) the indicators were not applicable to those regions.

Table 31 **Health indicators considered and those chosen**

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Infant mortality	Yes	Yes	Yes at SSD level
Life expectancy	Yes	Yes	No
Disability	Yes	No	No
Causes of death	Yes	Yes	No
Hospital separations	Yes	Yes	No
Mental health illnesses	Yes	Yes	No

Table 32 shows education indicators considered and those chosen. Attendance and qualifications were chosen as indicators because of their availability, comparability and applicability. Field of study, which could be useful in providing informative support to the other indicators, was decided against because field of study is extremely context sensitive and in itself does not provide a good nationally comparable measure. Definitional and jurisdictional differences in approach to adult education participation excluded it, while literacy and numeracy data for adults is collected infrequently and existing data does not adequately reflect remote areas of the savanna.

Table 32 **Education indicators considered and those chosen**

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Educational institution attendance	Yes	Yes	Yes at UC/L level
Qualifications	Yes	Yes	Yes at UC/L level
Field of study	Yes	No	Yes
Literacy and numeracy	Yes	Yes	No
Adult education participation	Yes	No	No

Table 33 shows employment related indicators considered and those chosen. Labour force participation data and occupational profiles, accessible from Census tables at a local level, were selected. Unemployment rate, while available at the small regional level, was not chosen because of definitional considerations in relation to the application of CDEP to labour force participation data. Involuntary part-time work is a function of underemployment. The limiting factor with this indicator is its comparability. Travel time to work is also problematic because of comparability issues—travel time to work is contextually sensitive and in some cases meaningless, for example with fly-in/fly out work scenarios, which are important for the mining industry in the savanna.

Table 33 Employment indicators considered and those chosen

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Labour force participation	Yes	Yes	Yes at UC/L level
Occupations	Yes	Yes	Yes at UC/L level
Unemployment rate	Yes	No	Yes
Involuntary part-time work	Yes	No	No
Travel time to work	Yes	No	No

Table 34 shows wealth and economic well-being indicators considered and chosen. Weekly income (either individual or household) and dependency ratios are drawn directly from Census data and are applicable at a local (UC/L) level. The dependency ratio is a measure of the ‘dependent’ population (aged 0–14 years and 65 years and over) compared to the ‘independent’ population (aged 15–64 years). Income distribution data, however, are based on surveys reported at a national level and are therefore not applicable at a local level (ABS 2005f).

Table 34 Wealth and economic well-being indicators considered and those chosen

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Income	Yes	Yes	Yes at UC/L level
Dependency ratio	Yes	Yes	Yes at UC/L level
Income distribution	Yes	No	No

Table 35 shows culture and leisure indicators considered and those chosen. Hours worked and work/mobility data are accessible at a local level directly from Census data tables. Other indicators suggested in Table 20, such as time use, free time and attendance at cultural activities, are collected infrequently and are reported either nationally or at a state level. They are based on surveys, not applicable to the local level, and therefore were not chosen.

Table 35 **Culture and leisure indicators considered and those chosen**

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Hours worked	Yes	Yes	Yes at UC/L level
Mobility	Yes	Yes	Yes at UC/L level
Time use	Yes	No	No
Free time	Yes	No	No
Attendance at cultural activities	Yes	No	No

Table 36 shows social environment indicators considered and those chosen. Within the indicator labeled 'family type and size', lone person households were selected as an indicator of social environment, along with population growth, under the heading of 'population demography, change migration, Indigenous populations'. Both measures were directly deducible from UC/L level Census data, the latter from both 1996 and 2001 Censuses. SEIFA, a composite indicator of socio-economic advantage/disadvantage has direct application to small areas and is directly comparable to other areas across Australia. Suicide rates were considered because of their availability down to SSD level, but were rejected because the comparable data was available only for 1992. Other indicators suggested in Table 20, while useful in defining the context of social environment, were not available at a local level and were therefore discounted.

Table 36 **Social environment indicators considered and those chosen**

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Family types and size	Yes	Yes	Yes at UC/L level
Population demography, change migration, Indigenous populations	Yes	Yes	Yes at UC/L level
SEIFA	Yes	Yes	Yes at SLA level
Drug use and related deaths	Yes	No	No
Suicide rate	Yes	Yes	Yes to SSD level
Child poverty	Yes	No	No
Voter turnout	Yes	No	No

Table 37 shows the range of physical environment indicators that were considered and those chosen. This is a broad ranging aspect of well-being covering ecological, access and housing issues and the selection of four indicators reflects this breadth. While recognising the problematic nature of applying principles of home ownership to Indigenous communities, (housing being managed by Indigenous Housing Organisations in many instances), for the non-Indigenous populations of the savanna region home ownership is significant as an indicator, it is applicable to the local level and is comparable with other Census data. ARIA was selected as an appropriate index representing access generally, and is readily available at SLA and sub-SLA levels. A number of environmental/ecological indicators could have been chosen from the range that was available. River Disturbance Index (RDI), mapped to small regional level, was chosen because of the significance of water quality to well-being generally. CDMA coverage was also chosen as an indicator of access to services. It too is mapped to a regional level and is easily identifiable as an indicator of telecommunications infrastructure access. Other possible sources indicated on Table 20 were not chosen because of the lack of data available, which could readily be applied to local regions.

Table 37 Physical environment indicators considered and those chosen

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Housing, dwelling space	Yes	Yes	Yes at UC/L level
Accessibility (ARIA)	Yes	Yes	Yes at SLA level
Environment and sustainability	Yes	Yes	Yes (mapped to regions)
Access to telecommunications infrastructure	Yes	Yes	Yes (mapped to regions)
Basic amenities	Yes	No	No
Exposure to pollutants	Yes	No	No

Table 38 shows personal safety indicators considered but not chosen. None of the indicators listed, measured in any available form, were readily available for small region levels.

Table 38 Personal safety indicators considered

Well-being indicator	Measured and available?	Nationally comparable?	Locally applicable?
Crime/imprisonment rates	Yes	Yes	No
Serious and fatal injuries	Yes	Yes	No
Personal safety fears	Yes	Yes	No

In summary, a total of 16 indicators were selected—based on criteria detailed at the start of this section—from seven of the eight bands of well-being described in the social indicator literature. The measures for those indicators are shown below in Table 39.

Table 39 Summary of well-being ‘bands’ and measures used

Well-being band	Measure used for indicator	Year(s) of data
Health	Infant mortality rate	1999–2001
Education	Percentage of population with post-school qualifications	2001
	Percentage of school aged children attending school	2001
Employment	Percentage of the working–age population in the labour force	2001
	Proportion of tradespersons and professionals in the population	2001
Income and wealth	Proportion of individuals earning more than $1000 per week/ proportion of individuals earning less than $200 per week	2001
	Dependency ratio (proportion of under 15- and over 65-year-olds compared to 15- to 64-year-olds)	2001
Culture and leisure	Proportion of 15 plus population employed full-time (those communities with an optimum mix of full-time work and leisure time)	2001
	Proportion of population mobile within the last five years (those communities with a balanced mobile/static mix)	2001
Social environment	Proportion of lone person households	2001
	Proportional intercensal population change	1996–2001
	Index of socio-economic disadvantage	2001
Physical environment	Proportion of homes owned in community	2001
	ARIA index (as a general measure of accessibility)	1999
	River Disturbance Index (as a measure of ecological sustainability)	2001
	CDMA Access (according to coverage maps)	2004

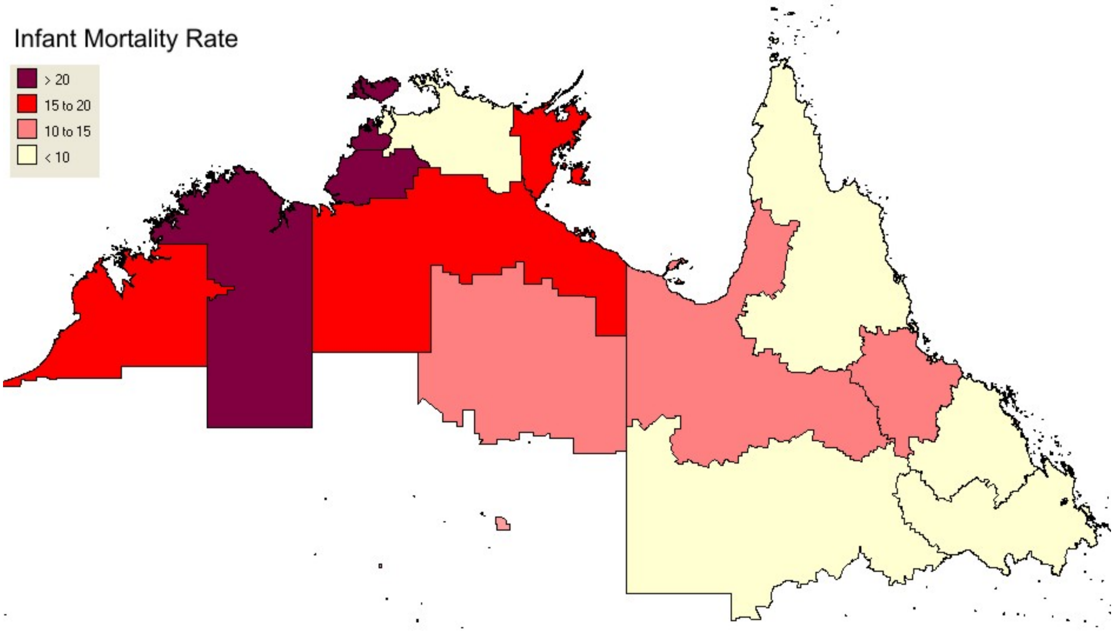
The next section will use the indicators shown above to demonstrate the variation of well-being across the savanna region.

4.2.2 How does well-being vary across the savanna?

This section shows the results of the Phase 1 analysis in terms of the indicators of well-being selected along with their measures. The results are reported under the heading of each well-being band except Personal Safety, for which no indicators were identified. A summary is included in the last subsection.

4.2.2.1 Health

Regional differences in Infant Mortality Rate (IMR) are shown in Figure 23. Those regions with the highest infant mortality rates are in the areas of Bathurst/Melville, Daly and Finiss. The lowest IMR areas are in the Darwin and Litchfield SSDs, Far North Queensland and three SSDs of central Queensland.



Note: The infant mortality rate is defined as the number of deaths of children under one year of age in a calendar year per 1,000 live births in the same calendar year. The figures shown are averaged over the three years to 2001.

Figure 23 Infant Mortality Rates, savanna SSDs (1999–2001)

(Source: ABS 2003c)

4.2.2.2 Education

Figure 24 paints a picture of the variation in qualifications held across the savanna. However, the variation is somewhat ‘flattened’ by the impact of qualifications held for regions at an SLA level, particularly in mining areas around Mt Isa, the Bowen Basin, Kakadu and the Kimberley.

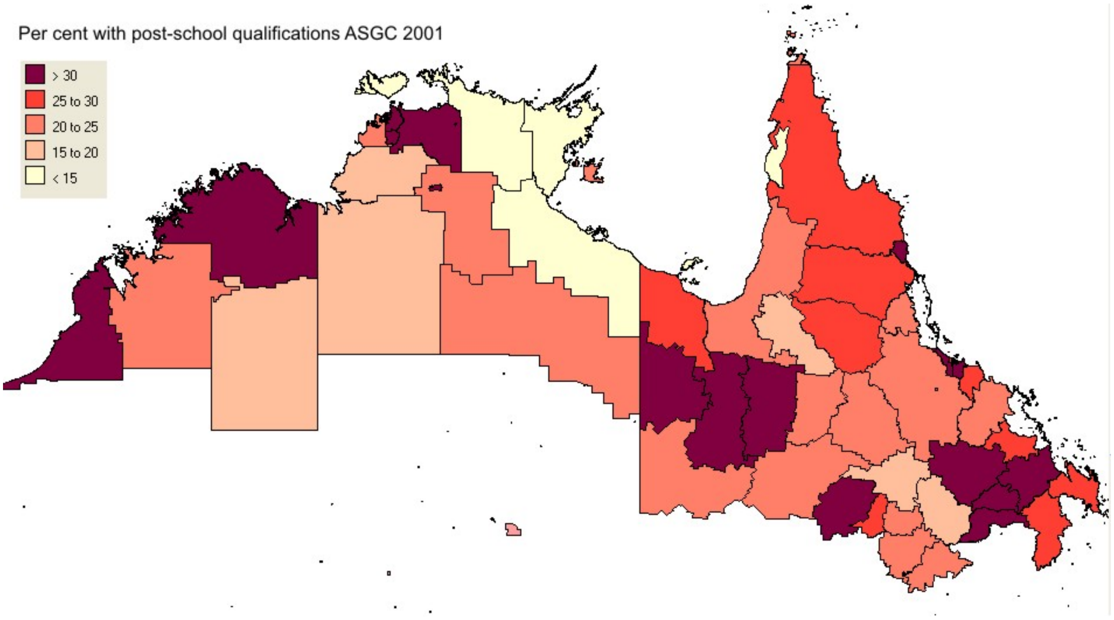

Per cent with post-school qualifications ASGC 2001
> 30
25 to 30
20 to 25
15 to 20
< 15

Figure 24 **Per cent of 15+ population with post-compulsory qualifications, savanna SLA, ASGC 2001 (Source: ABS 2003c)**

Because of this flattening effect, the following two tables will show communities with the lowest and highest levels of educational qualifications. Table 40 shows the ‘low capacity’ communities in terms of qualifications. These communities are predominantly small with less than 1000 people and a review of the Indigenous status of these communities reveals that on average, 93 per cent of the population is either Aboriginal or Torres Strait Islander. All but one of the communities listed is considered to be remote. Belyuen is a small community 20 km south-west of Darwin across the harbour.

Table 40 Savanna localities with lowest levels of educational qualifications (Source: ABS 2002b)

Locality name	State	2001 population	Graduate diploma	Per cent with bachelor	Per cent with diplomas/ advanced diplomas	Per cent with certificate	Total post-school qualifications
Looma (L)	WA	287	0.0%	0.0%	0.0%	0.0%	0.0%
Belyuen (L)	NT	214	0.0%	1.4%	0.0%	0.0%	1.4%
Minjilang (L)	NT	204	0.0%	0.0%	0.0%	1.5%	1.5%
Bardi (One Arm Point) (L)	WA	310	0.0%	1.0%	0.0%	1.0%	1.9%
Lajamanu (L)	NT	705	0.0%	0.6%	0.4%	0.7%	2.1%
Angurugu (L)	NT	758	0.0%	0.8%	0.4%	1.1%	2.6%
Warruwi (L)	NT	331	0.0%	0.0%	1.8%	0.9%	2.7%
Bamyili (Barunga) (L)	NT	346	0.0%	2.0%	0.0%	0.9%	2.9%
Umbakumba (L)	NT	372	0.0%	0.0%	0.8%	2.2%	3.0%
Kowanyama (L)	QLD	891	0.0%	1.1%	0.3%	1.5%	3.3%

Note: Rounding may result in column values not adding to totals

Of the communities with high levels of educational qualifications shown in Table 41, there are a few ‘types’. There are several remote communities (such as Nhulunbuy, Karumba and Alyangula). These are all associated with mining either directly or indirectly. Others are more accessible, such as Darwin, Kuranda and Pallarenda, but they are not all large communities. Another major grouping of these communities could be considered to be ‘lifestyle’ based, such as Kuranda, Nelly Bay and Pallarenda. The proportion of Indigenous persons in the population of these communities is less than 15 per cent, with an average of 8.1 per cent across all of them.

Table 41 **Savanna localities with highest levels of educational qualifications (Source: ABS 2002b)**

Locality name	State	2001 population	Per cent graduate diploma	Per cent with bachelor	Per cent with diplomas /advanced diplomas	Per cent with certificate	Total post-school qualifications
Pallarenda (L)	QLD	882	1.9%	13.7%	5.4%	12.4%	36.8%
Alyangula (L)	NT	972	1.2%	7.1%	5.7%	19.4%	34.7%
Alligator Creek (L)	QLD	976	0.6%	8.3%	4.5%	16.6%	32.6%
Nhulunbuy	NT	3804	1.1%	6.7%	5.0%	18.1%	32.4%
Jabiru	NT	1775	1.7%	7.5%	5.0%	14.5%	30.5%
Karumba	QLD	1346	0.6%a	3.3%	5.6%	20.7%	30.5%
Kuranda	QLD	1456	1.2%	7.2%	6.2%	13.9%	30.1%
Darwin	NT	71347	1.5%	8.8%	5.3%	12.6%	30.1%
Nelly Bay	QLD	1311	1.7%	7.9%	4.2%	13.2%	29.4%
Howard Springs	NT	3440	0.9%	5.3%	5.2%	16.9%	29.2%

* Note: School-aged children are here defined as those between the ages of 5 and 17

Figure 25 shows the variability of attendance at schools based on 2001 Census data across the savanna region. The map highlights both jurisdictional differences and differences associated with places where there are greater proportions of Indigenous peoples in the population. Also of note within Queensland particularly is the relatively lower proportion of children attending school in the rural and remote inland regions.

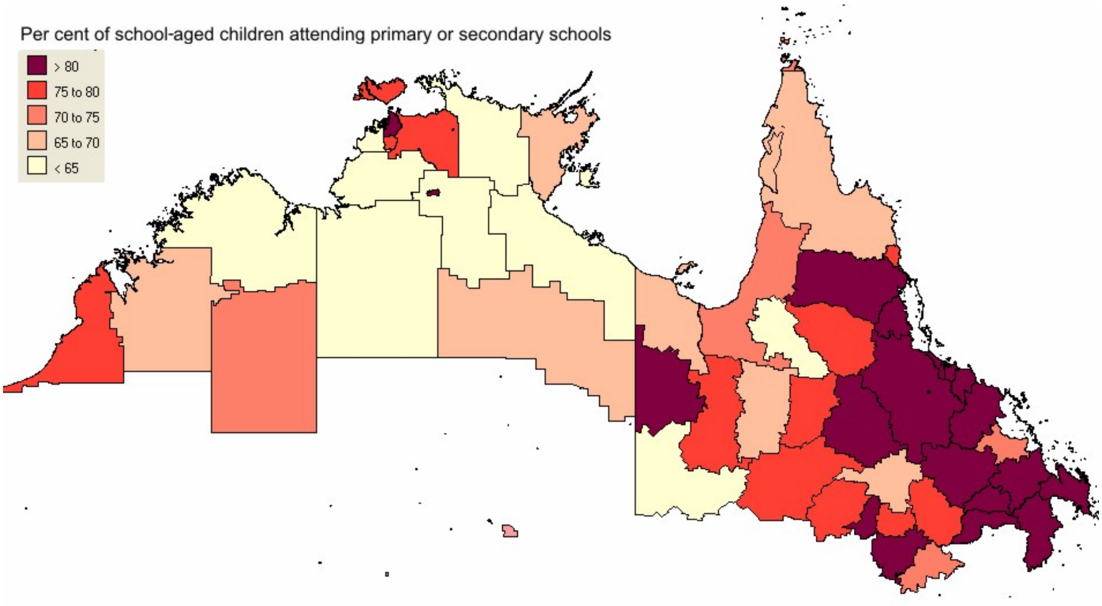

Per cent of school-aged children attending primary or secondary schools
> 80
75 to 80
70 to 75
65 to 70
< 65

Figure 25 **Per cent of school-aged children* attending primary and secondary schools, savanna SLA, ASGC 2001 (Source: ABS 2003c)**

* Note: School-aged children are here defined as those between the ages of 5 and 17

The map does not however show the micro level data that becomes evident when urban centres and localities are examined. Table 42 shows communities where educational primary and secondary school attendance is lowest. The low results are to some extent a reflection of a high ‘not stated’ value in the Census data. All the communities except Cungulla are predominantly (greater than 50 per cent) Indigenous. The demographic profile of Cungulla and its location within a region of central Queensland (near Townsville) suggest that it should have higher participation rates. However, due to the small population and the impact of the ‘not stated’ count for attendance at educational institutions, the result should be treated with some caution.

Table 42 **Savanna communities with low levels of primary and secondary school attendance (Source: ABS 2002b) measured as a proportion of the population aged 5–17 years stated as attending.**

Locality	State	Population 2001	ARIA value	Per cent attending primary and secondary school
Lockhart River (L)	QLD	454	10.82	3.1%
Minjilang (L)	NT	204	10.4	5.6%
Galiwinku	NT	1463	11.88	40.3%
Looma (L)	WA	287	11.82	46.7%
Umbakumba (L)	NT	372	12	47.2%
Cungulla (L)	QLD	203	3.78	48.5%
Ngukurr (L)	NT	933	11.86	49.3%
Kalumburu (L)	WA	339	12	49.5%
Belyuen (L)	NT	214	5.27	50.0%
Croydon (L)	QLD	224	11.33	52.3%

Note: Percentages do not include those who are recorded as ‘not stated’

Table 43 shows urban centres and localities with the highest levels of primary and secondary school attendance. All the communities are in Queensland. Seven of the ten are located within 200 km of Townsville. Two communities (Bluff and Tieri) are in the Bowen Basin coal mining region, and Georgetown is approximately 300km south-west of Cairns.

Table 43 **Savanna communities with high levels of primary and secondary school attendance (Source: ABS 2002b) measured as a proportion of the population aged 5-17 years stated as attending.**

Locality	State	Population 2001	ARIA value	Per cent attending primary and secondary school
Giru (L)	QLD	379	4.66	98.4%
Arcadia Bay (L)	QLD	764	5.44	97.9%
Picnic Bay (L)	QLD	577	5.44	95.6%
Balgal Beach (L)	QLD	641	3.79	95.3%
Alligator Creek (L)	QLD	976	3.78	93.7%
Georgetown (L)	QLD	318	10.29	92.2%
Pallarenda (L)	QLD	882	3.17	91.5%
Bluff (L)	QLD	317	4.44	91.3%
Tieri	QLD	1637	6.32	90.3%
Collinsville	QLD	2013	6.22	90.0%

Note: Percentages do not include those who are recorded as ‘not stated’

Given the concentration of high attendance communities around Townsville, further consideration was given to identification of remote communities with high school attendance. These communities are shown in Table 44 and show a greater degree of demographic and industry diversity. Four of the communities could be described as predominantly Indigenous, four could be described as mining communities, and two could be described as regional service centres.

Table 44 Localities with highest levels of primary and secondary school attendance that are considered remote by ARIA designation (Source: ABS 2002b)

Locality	State	Population 2001	ARIA value	Per cent attending primary and secondary school
Georgetown (L)	QLD	318	10.29	92.2%
Tieri	QLD	1637	6.32	90.3%
Collinsville	QLD	2013	6.22	90.0%
Alpha (L)	QLD	367	9.56	88.6%
Capella (L)	QLD	760	6.32	88.4%
Yirrkala (L)	NT	648	11.88	87.7%
Numbulwar (L)	NT	717	11.88	87.6%
Umagico (L)	QLD	253	12	87.3%
Nhulunbuy	NT	3804	11.88	86.6%
Kowanyama (L)	QLD	891	11.51	86.2%

Note: Percentages do not include those who are recorded as 'not stated'

4.2.2.3 Wealth and economic well-being

Figure 26 and Figure 27 show regional variation of individual weekly income for both high (greater than $1000 per week) and low income groups (less than $200 per week) across the savanna region. The first map highlights the impact of mining on the economic capacity of regions where there are mines, particularly evident for the Mt Isa and Bowen Basin regions. The second map highlights the economic vulnerability of regions with large proportions of Indigenous peoples, notably the Top End and Cape York.

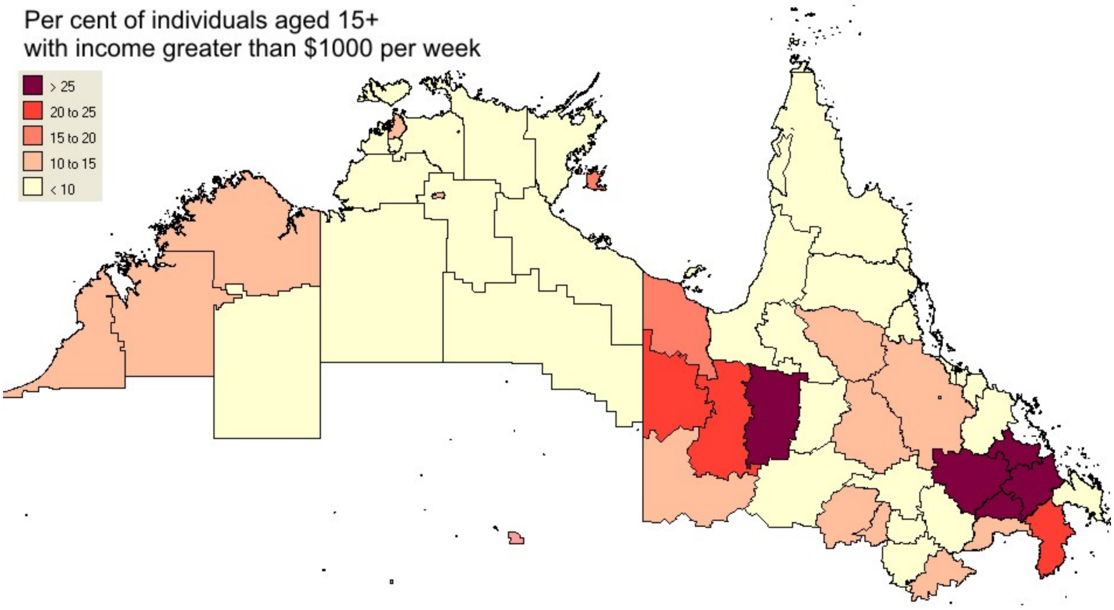

Per cent of individuals aged 15+
with income greater than $1000 per week
> 25
20 to 25
15 to 20
10 to 15
< 10

Figure 26 **Proportion of individuals 15 years and over with income greater than $1000 per week, August 2001: savanna SLAs**
(Source: ABS 2003c)

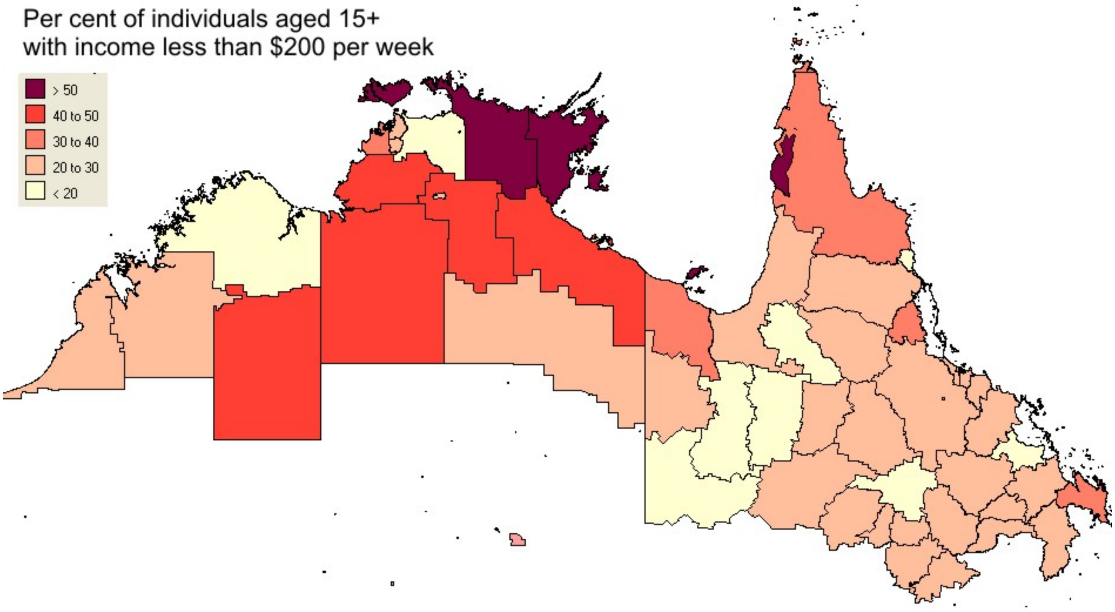

Per cent of individuals aged 15+
with income less than $200 per week
> 50
40 to 50
30 to 40
20 to 30
< 20

Figure 27 **Proportion of individuals 15 years and over with income less than $200 per week, August 2001: savanna SLAs**
(Source: ABS 2003c)

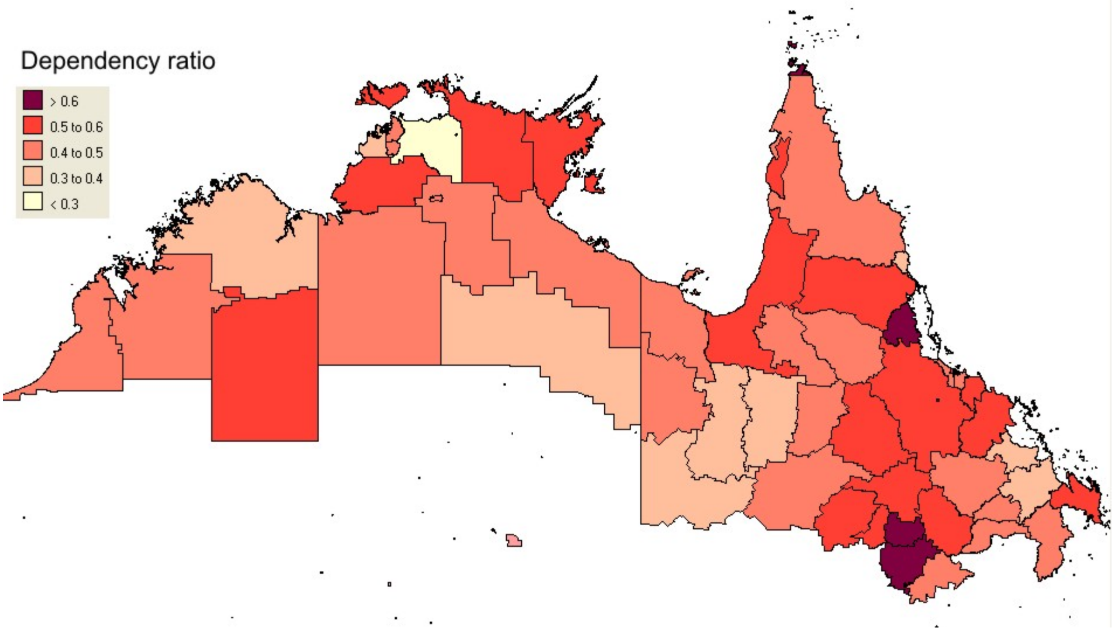
Consistent with the maps, Table 45 shows high income communities and low income communities. The high income communities are all mining communities in Queensland and Northern Territory, most of which are remote. The low income communities are all remote, predominantly Indigenous communities in the Northern Territory and Western Australia.

Table 45 Savanna localities with highest and lowest weekly individual incomes (Source: ABS 2002b)

Locality	State	2001 population	ARIA	Per cent earning <$200 per week	Per cent earning >$1000 per week
Tieri	QLD	1637	6.32	23.5%	40.8%
Glenden (L)	QLD	977	5.51	20.9%	39.2%
Middlemount	QLD	2057	5.5	23.2%	38.7%
Alyangula (L)	NT	972	12	17.8%	36.5%
Dysart	QLD	2463	5.5	24.6%	33.8%
Moranbah	QLD	6133	7.08	26.6%	33.0%
Blackwater	NT	4928	4.44	25.7%	31.6%
Nhulunbuy	NT	3804	11.88	17.0%	29.9%
Bluff (L)	QLD	317	4.44	32.4%	29.4%
Pine Creek (L)	NT	472	8.21	20.3%	25.1%
Warruwi (L)	NT	331	10.4	90.4%	1.4%
Angurugu (L)	NT	758	12	81.9%	0.0%
Looma (L)	WA	287	11.82	79.1%	0.0%
Umbakumba (L)	NT	372	12	77.9%	1.2%
Milingimbi (L)	NT	992	11.88	73.4%	1.3%
Galiwinku	NT	1463	11.88	72.2%	2.3%
Port Keats	NT	1048	8.21	71.7%	4.2%
Ramingining (L)	NT	613	11.88	71.4%	2.9%
Bardi (One Arm Point) (L)	WA	310	10.75	70.9%	1.4%
Gapuwiyak (L)	NT	668	11.88	69.9%	2.1%

Note: Dependency ratio defined as the proportion of people aged under 15 and 65 and over, divided by working aged population (15–64)

Figure 28 maps dependency ratio (defined as the proportion of people aged under 15 and 65 and over, divided by (15–64-year old)working aged population) for SLAs across the savanna region in 2001. The map shows high dependency (>0.6) regions in Queensland (central west, west of Cairns and Torres Strait) and lowest dependency (<0.3) regions in the area east of Darwin. The map does not show clearly the variation that occurs in the major centres of Darwin/Palmerston and Townsville where there are both high and low dependency areas. Nor does it show the ratio at a community level.



Note: Dependency ratio defined as the proportion of people aged under 15 and 65 and over, divided by working aged population (15–64)

Figure 28 **Dependency ratio, savanna SLAs, ASGC 2001**
(Source: ABS 2003c)

Table 46 shows the savanna communities with the lowest dependency ratios. This implies that these communities have the greatest capacity for economic well-being because there is a higher proportion of working aged people in the population. Perhaps not surprising is the observation that most of these communities are based on an economy of mining (Jabiru, Pine Creek, Middlemount, Dysart and Nhulunbuy).

Table 46 **Savanna localities with the lowest dependency ratios (Source: ABS 2002b)**

Locality	State	2001 population	ARIA	Dependency ratio	Per cent Indigenous
Jabiru	NT	1775	9.06	0.32	13.4%
Horseshoe Bay (L)	QLD	590	5.44	0.33	1.2%
Darwin	NT	71347	3	0.34	8.3%
Pine Creek (L)	NT	472	8.21	0.35	9.5%
Timber Creek (L)	NT	300	11.51	0.36	22.7%
Middlemount	QLD	2057	5.5	0.36	1.5%
Dysart	QLD	2463	5.5	0.36	3.2%
Lockhart River (L)	QLD	454	10.82	0.36	61.0%
Nhulunbuy	NT	3804	11.88	0.37	7.2%
Alligator Creek (L)	QLD	976	3.78	0.37	2.4%

Note: Dependency ratio defined as the proportion of people aged under 15 and 65 and over, divided by working aged population (15–64)

Table 47 shows savanna localities with the highest dependency ratios. More than half of these are very remote and all but two of the communities are predominantly Indigenous. Seven of the ten communities are in Queensland. The age distribution of the predominantly Indigenous communities is such that the dependency arises from high proportions of children in the population rather than older people (over 65). For the non-Indigenous communities (Dimbulah, Herberton, and Aramac) the reason for higher dependency ratios arises from above average proportions of older people (over 65) in the population.

Table 47 Savanna localities with the highest dependency ratios (Source: ABS 2002b)

Locality	State	2001 population	ARIA	Dependency ratio	Per cent Indigenous
New Mapoon (L)	QLD	326	12	0.99	93.6%
Dimbulah (L)	QLD	409	7.93	0.83	5.9%
Injinoo (L)	QLD	389	10.99	0.81	96.7%
Herberton (L)	QLD	946	5.72	0.77	18.5%
Aramac (L)	QLD	323	10.96	0.74	4.6%
Bamaga (L)	QLD	774	10.99	0.74	82.4%
Minjilang (L)	NT	204	10.4	0.73	90.2%
Beagle Bay (L)	WA	300	10.75	0.72	92.3%
Woorabinda (L)	QLD	961	4.44	0.72	92.9%
Port Keats	NT	1048	8.21	0.72	89.4%

4.2.2.4 Employment

Figure 29 shows—in an inverse manner—employment capacity across the savanna region, in terms of labour force participation. In other words, the darker areas show higher proportions of the population that are not working—either not in the labour force, not stated or unemployed. For the purpose of statistics shown here, CDEP work is counted as employment. The map highlights the high levels of employment in central Queensland where mining and agriculture are particularly strong. It also highlights the relatively low labour force participation of the mainly Indigenous areas of the Top End and Cape York as well as parts of the Kimberley.

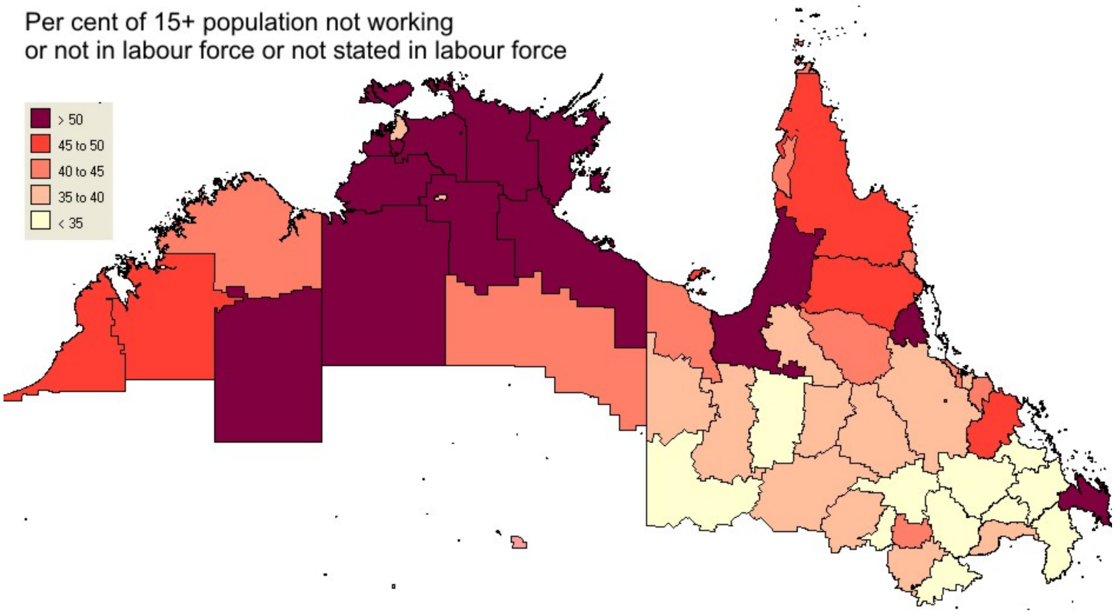

Per cent of 15+ population not working
or not in labour force or not stated in labour force
> 50
45 to 50
40 to 45
35 to 40
< 35

Figure 29 **Proportion of 15+ population unemployed, not in labour force or not stated in labour force (Source: ABS 2003c)**

Similarly, the data shown in Table 48 includes unemployed persons, those not in the labour force and those described as ‘not stated’ as a composite indicator of community capacity. Of note is that the ten lowest capacity communities are in the Northern Territory, they are all classified as ‘very remote’ except Port Keats, which is classified as remote, and they are all predominantly Indigenous in composition.

Table 48 **Communities with least proportion of population in the labour force or unemployed (Source: ABS 2002b)**

Locality	State	2001 population	ARIA	Per cent not working	Per cent Indigenous
Angurugu (L)	NT	758	12	86.5%	95.1%
Lajamanu (L)	NT	705	11.51	85.2%	88.1%
Galiwinku	NT	1463	11.88	79.2%	92.1%
Minjilang (L)	NT	204	10.4	75.4%	90.2%
Milingimbi (L)	NT	992	11.88	75.0%	92.3%
Bamyili (Barunga) (L)	NT	346	9.79	74.2%	93.4%
Numbulwar (L)	NT	717	11.88	73.4%	90.5%
Port Keats	NT	1048	8.21	73.4%	89.4%
Warruwi (L)	NT	331	10.4	73.1%	96.7%
Ramingining (L)	NT	613	11.88	70.0%	89.9%

Note: Not working is defined as those who are unemployed, those who are not in the labour force and those who were classified in the Census tables as ‘not stated’

Table 49 reveals which communities, on the same basis of workforce participation, have the highest levels of capacity. Six of these communities are either remote or very remote according to ARIA. Six of the communities are in Queensland, two of which are predominantly Indigenous communities in the Torres Strait (St Pauls and Pormpuraaw). A third Indigenous community on the list (Beagle Bay) is located in Western Australia. Of those in the Northern Territory, all three are mining communities. The Indigenous communities appear to have had high levels of CDEP participation.

Table 49 Communities with lowest proportion of 15+ population not in the labour force or unemployed (Source: ABS 2002b)

Locality	State	2001 population	ARIA	Per cent not working	Per cent Indigenous
Alyangula (L)	NT	972	12	21.2%	12.3%
Glenden (L)	QLD	977	5.51	25.0%	1.8%
Pormpuraaw (L)	QLD	649	11.51	26.0%	85.8%
Beagle Bay (L)	WA	300	10.75	26.1%	92.3%
Nhulunbuy	NT	3804	11.88	26.6%	7.2%
Jabiru	NT	1775	9.06	26.7%	13.4%
St Pauls (L)	QLD	200	12	27.6%	93.5%
Bohle Plains	QLD	1075	3.79	28.0%	0.3%
Middlemount	QLD	2057	5.5	28.5%	1.5%
Alice River	QLD	1359	3.79	29.5%	1.8%

Note: Not working is defined as those who are unemployed, those who are not in the labour force and those who were classified in the Census tables as 'not stated'

Figure 30 shows regions with a strong occupational profile in terms of tradespersons and professionals. While it is not clear on the map because of scale, the regions with the highest proportions of these occupations are the main centres of Darwin and Townsville. The other areas to show strength in these occupational groups are mining centres such as Groote Eylandt and the Mt Isa region.

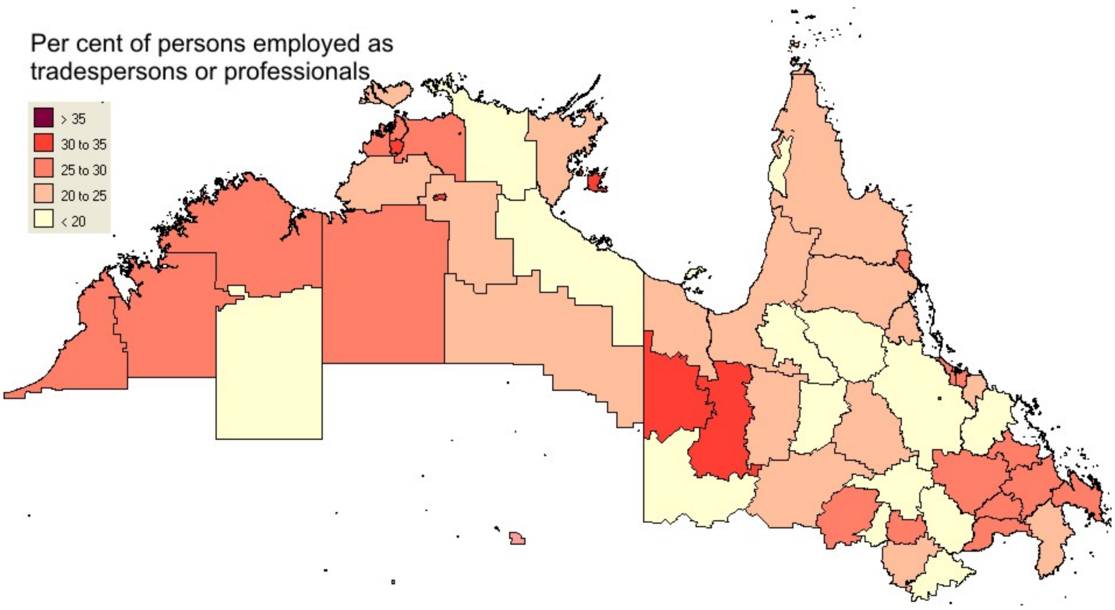

Per cent of persons employed as tradespersons or professionals
> 35
30 to 35
25 to 30
20 to 25
< 20

Figure 30 **Proportion of persons employed as either tradespersons or professionals (Source: ABS 2003c)**

The communities shown in Table 50 have diverse industry bases including mining (Nhulunbuy, Alyangula, Dysart, and Tieri), education (Batchelor), health and community service (Derby, Pallarenda), tourism (Nelly Bay) and retail (Kuranda). One observation of interest is that seven of the ten shown have populations greater than 1000. The level of remoteness varies from moderately accessible to very remote, but none of the communities are predominantly Indigenous.

Table 50 **Communities most likely to have tradespersons and professionals in the occupation profile (Source: ABS 2002b)**

Locality	State	2001 population	ARIA	*Trades-persons & professionals	Per cent Indigenous
Nhulunbuy	NT	3804	11.88	38.7%	7.2%
Batchelor (L)	NT	727	4.96	38.0%	38.5%
Alyangula (L)	NT	972	12	37.6%	12.3%
Nelly Bay	QLD	1311	5.44	35.2%	1.1%
Pallarenda (L)	QLD	882	3.17	34.6%	1.8%
Jabiru	NT	1775	9.06	34.2%	13.4%
Derby	WA	3688	11.82	34.0%	40.2%
Dysart	QLD	2463	5.5	33.6%	3.2%
Kuranda	QLD	1456	7.93	33.1%	14.7%
Tieri	QLD	1637	6.32	33.1%	1.8%

Note*: This value is the per cent of the working–aged population with occupation as tradespersons and professionals.

Table 51 shows the ten communities least likely to have tradespersons and professionals in their population as an indicator of capacity. The combination of these two occupational groups provides an indication of a community's access to a range of skills and professional services. The communities in the table are predominantly remote communities and predominantly Indigenous with the exception of Merinda, a small mainly agricultural community about 170 km south-east of Townsville.

Table 51 **Communities least likely to have tradespersons and professionals in the occupation profile (Source: ABS 2002b)**

Locality	State	2001 population	ARIA	*Trades-persons and professionals	Per cent Indigenous
Merinda (L)	QLD	210	6.22	0.0%	26.7%
Umbakumba (L)	NT	372	12	2.5%	94.6%
Looma (L)	WA	287	11.82	6.3%	96.2%
New Mapoon (L)	QLD	326	12	7.8%	93.6%
Pormpuraaw (L)	QLD	649	11.51	8.5%	85.8%
Bardi (One Arm Point) (L)	WA	310	10.75	8.7%	95.2%
Belyuen (L)	NT	214	5.27	8.8%	94.9%
Minjilang (L)	NT	204	10.4	9.1%	90.2%
Umagico (L)	QLD	253	12	10.1%	93.7%
Kowanyama (L)	QLD	891	11.51	10.3%	84.7%

Note*: This value is the per cent of the working aged population with occupation as tradespersons and professionals.

4.2.2.5 Culture and leisure

Figure 31 maps the percentage of the working-aged population that are employed full-time, by savanna SLA. If, as suggested earlier (see Figure 13, page 118) full-time work is a proxy for hours worked above 40 hours, then the map identifies regions with optimum levels of full-time work, mainly in the central west and central northern parts of Queensland. The urban SLAs in Darwin and Townsville, not shown here, also show a moderate level of full-time employment in the optimum range. Those above the optimum are the rural and mining areas of central and western Queensland. Those below the optimum are the areas that are predominantly Indigenous, the Top End, Cape York and the Kimberley.

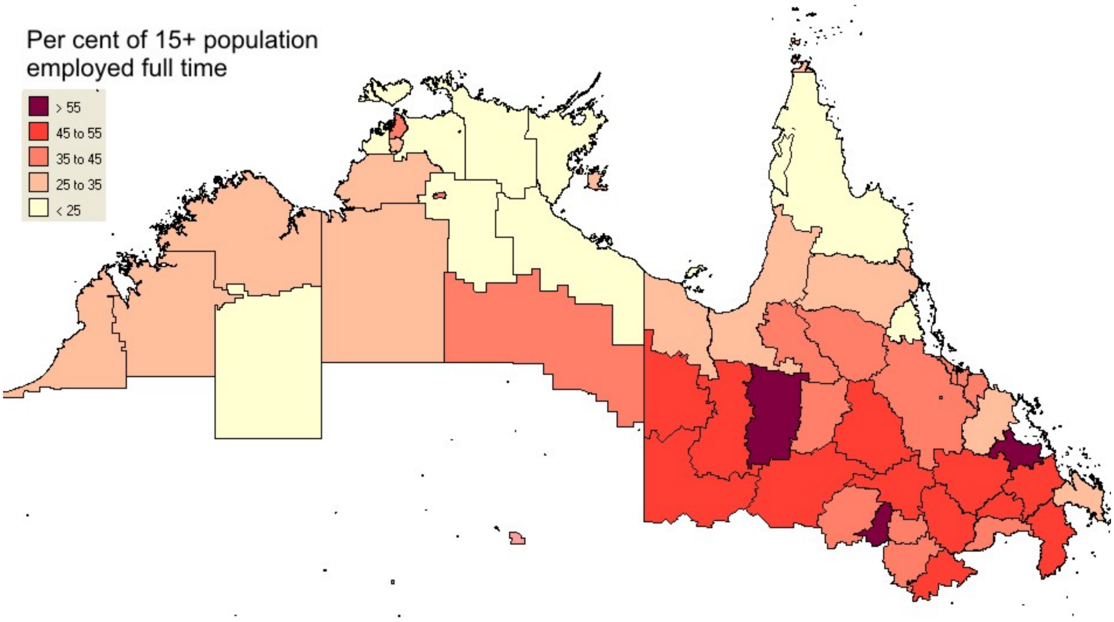


Figure 31 **Proportion of population aged 15 years and over employed full-time (Source: ABS 2003c)**

Based on the assumptions from the earlier discussion, Table 52 shows a list of communities with a hypothesised optimum mix of work and leisure. This list stands out as being quite different from the 'high capacity' communities shown previously. Apart from the observation that almost all the communities are in Queensland, almost all of the communities are the main centre of the shire that they are in (Katherine, Clermont, Barcaldine, Duaringa, Tambo, and Winton) or very close to a main centre (Alligator Creek, Brandon). A detailed analysis of the industry mix of these communities shows a varied mix of industry ranging from manufacturing and construction through to government services, education and mining. Another interesting feature of these communities is that their level of mobility is close to the average of all the savanna communities with an average of 49.7 per cent of the population having the same address as five years ago. This compares with the all-community average of 51.7 per cent. Remoteness does not appear to be associated with this indicator—ARIA values range from 4.44 (moderately accessible) through to 12 (very remote) for these communities.

Table 52 Communities with 'optimum' mix of full-time work and leisure (Source: ABS 2002a)

Locality	State	2001 population	ARIA	Per cent of 15+ population employed full-time	Per cent with same address 5 years ago
Katherine	NT	6719	6.89	39.6%	29.6%
Thursday Island	QLD	2693	12	39.2%	38.8%
Clermont	QLD	2042	7.08	39.4%	45.8%
Barcaldine	QLD	1496	11	39.1%	49.4%
Alligator Creek (L)	QLD	976	3.78	40.8%	55.8%
Duaringa (L)	QLD	258	4.44	40.8%	51.6%
Deeragun	QLD	5631	3.38	39.6%	47.8%
Tambo (L)	QLD	359	10.48	40.8%	62.1%
Winton	QLD	1321	11.49	40.1%	49.7%
Brandon (L)	QLD	850	4.66	40.9%	60.7%

By contrast, the communities with a minimal amount of leisure time shown in Table 53 could be characterised as mining communities, with the exception of Julia Creek, which is the administrative centre for the McKinley shire. The mobility of this group of communities is markedly higher than for the optimum group, with an average of just 34.2 per cent of the population having the same address five years prior to the Census. As with the 'optimum' group of communities, remoteness does not appear to be associated with this indicator—ARIA values range from 4.44 (moderately accessible) through to 12 (very remote) for these communities.

Table 53 Communities with minimum amounts of leisure time (Source: ABS 2002a)

Locality	State	2001 population	ARIA	Per cent of 15+ population employed full-time	Per cent with same address 5 years ago
Alyangula (L)	NT	972	12	58.7%	35.7%
Glenden (L)	QLD	977	5.51	58.2%	20.9%
Nhulunbuy	NT	3804	11.88	54.5%	33.2%
Middlemount	QLD	2057	5.5	54.1%	38.8%
Tieri	QLD	1637	6.32	52.3%	22.5%
Dysart	QLD	2463	5.5	51.6%	43.3%
Pine Creek (L)	NT	472	8.21	49.6%	30.7%
Moranbah	QLD	6133	7.08	49.1%	42.3%
Blackwater	QLD	4928	4.44	49.1%	31.9%
Julia Creek (L)	QLD	525	10.28	47.7%	42.7%

Mobility was considered as another factor contributing to the well-being of communities (see Learning and culture/leisure, page 119). The basis for this was that highly mobile populations are less likely to build trusting relationships required to form bonding ties. Conversely, highly static populations are less likely to build bridges required for healthy external dynamics. Figure 32 shows mobility expressed as the percentage of the population with the same address five years previously. The map shows highly static regions in Arnhem Land and the Tiwi Islands and highly mobile populations, most notably in the mining areas around Jabiru, Mt Isa and the Bowen Basin. Those SLAs with a balanced mobility are found mainly across much of rural, central and northern Queensland. The urban centres of Darwin and Townsville (not shown clearly because of the map scale) tend to have higher levels of mobility than the surrounding SLAs.

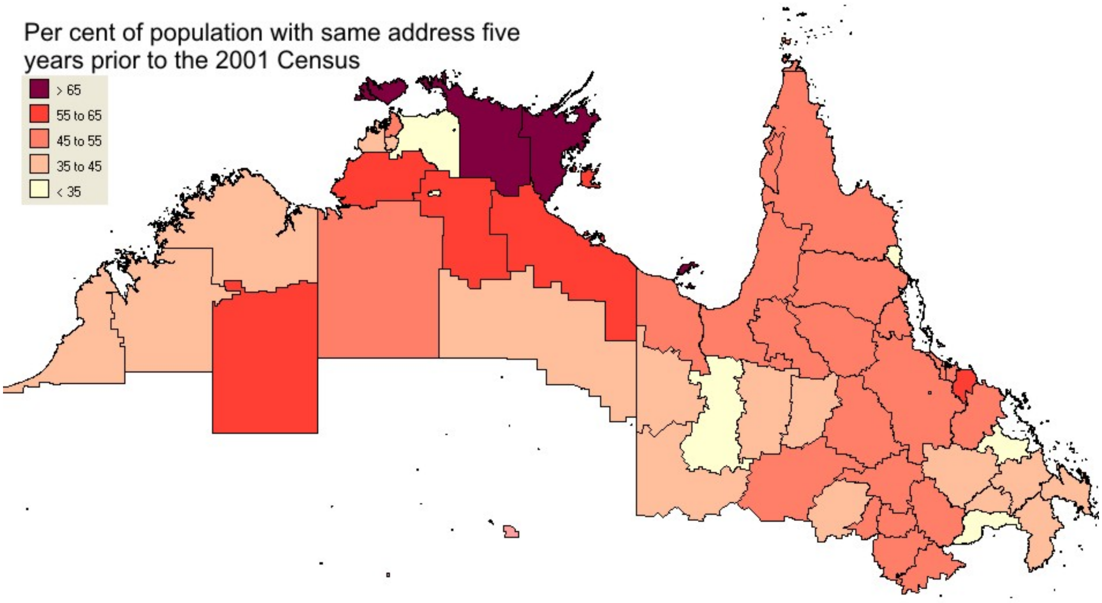

Per cent of population with same address five years prior to the 2001 Census
> 65
55 to 65
45 to 55
35 to 45
< 35

Figure 32 **Mobility in savanna SLAs, expressed as a percentage of population with the same address five years prior to the 2001 Census**
(Source: ABS 2003c)

Table 54 shows the communities with a balance between those who have the same and those who had a different address five years prior to the 2001 Census. The table shows a diverse array of communities. Some of the communities are the administrative centre for their region (e.g. Alpha, Barcaldine, Winton, and Mareeba). Others are predominantly Indigenous (Elliott, Bamaga, and Fitzroy Crossing). The remaining three communities are located in rural areas (Howard Springs, Mount Garnet, and Ravenshoe).

Table 54 Savanna communities with a balance of mobile people and those who are not—closest to 50 per cent with the same address five years prior to the 2001 Census(Source: ABS 2002b)

Locality	State	2001 population	Per cent Indigenous	Main industry of employment	Per cent with same address 5 years prior to 2001 Census
Alpha (L)	QLD	367	6.8%	Govt Admin, Defence	50.4%
Bamaga (L)	QLD	774	82.4%	Govt Admin, Defence	49.5%
Barcaldine	QLD	1496	7.4%	Construction	49.4%
Elliott (L)	NT	419	64.9%	Govt Admin, Defence	50.1%
Fitzroy Crossing	WA	1507	50.0%	Govt Admin, Defence	50.4%
Howard Springs	NT	3440	5.5%	Retail Trade	50.8%
Mareeba	QLD	6900	13.7%	Retail Trade	48.6%
Mount Garnet (L)	QLD	417	34.5%	Education	49.2%
Ravenshoe (L)	QLD	830	20.5%	Retail	49.5%
Winton	QLD	1321	7.9%	Retail	49.7%

Note: The main industry of employment is here defined as the industry of employment with the highest number of employees for that locality

4.2.2.6 Social environment and social cohesion

The first of three indicators of the social environment offered in Table 39 to be shown here is lone person households. Figure 33 maps the proportion of lone person households by SLA. Areas with the lowest proportion of lone person households are in the Top End, the Victoria/Halls Creek area and scattered parts of rural Queensland. Those with the highest levels of lone person households are shown in the Kakadu region. Within Darwin and Townsville (not shown on the map clearly because of scale) the proportion of lone person households tends to be relatively high.

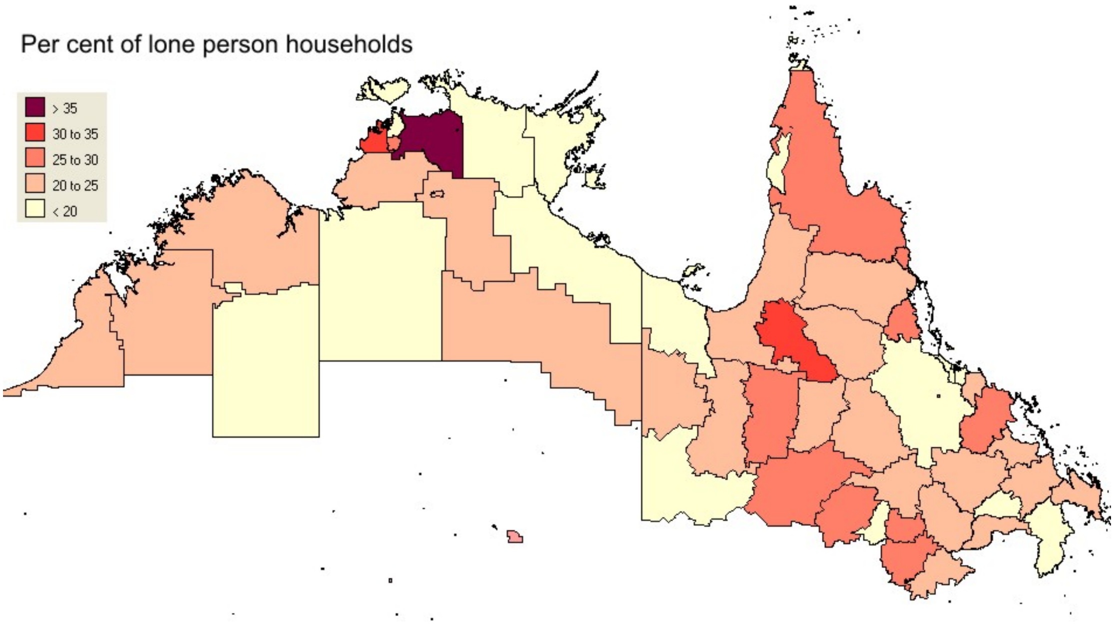


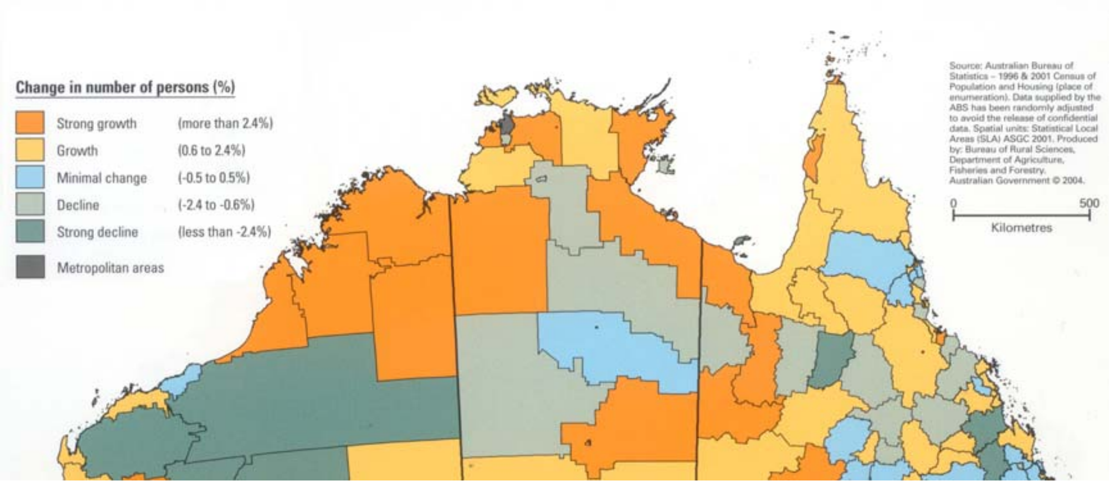
Figure 33 **Proportion of lone person households, savanna SLAs 2001 (Source: ABS 2003c)**

Table 55 shows communities with lowest proportions of lone households. Based on the assumptions of earlier discussion (see Learning and the social environment/social cohesion, page 123) it could be argued that these communities have the highest levels of social attachment, particularly at a core community level. As might be expected, the household size of most of these communities is relatively high. Most of the communities are Indigenous and remote or very remote, but it is notable that there are two mainly non-Indigenous communities in this list. On average these communities exhibit low capacity on a range of other measures: low income, low levels of home ownership, low qualification stocks, low mobility and low levels of VET/professional occupation stocks. However, the high level of social connectedness indicated here is a strength that the communities can draw on to build capacity.

Table 55 **Savanna communities with lowest proportion of lone households (Source: ABS 2002b)**

Urban centre/Locality	State	Per cent Indigenous persons	ARIA	Per cent of lone households	Mean household size
Looma (L)	WA	96.2%	11.82	0.0%	7
Alice River	QLD	1.8%	3.79	3.7%	3.8
Angurugu (L)	NT	95.1%	12	4.3%	7.9
La Grange (L)	WA	94.1%	10.75	4.7%	7.3
Doomadgee	QLD	87.7%	11.58	6.3%	8.3
Umbakumba (L)	NT	94.6%	12	6.5%	9
Belyuen (L)	NT	94.9%	5.27	7.0%	6.2
Warruwi (L)	NT	96.7%	10.4	7.4%	7.8
Lajamanu (L)	NT	88.1%	11.51	8.2%	8.8
Bohle Plains	QLD	0.3%	3.79	8.2%	3.8

The second social environment indicator chosen is population change. Figure 34 shows population changes for savanna SLAs. The map shows greatest intercensal population growth rates in areas of the Kimberley, parts of Arnhem Land, the Gulf and Cape York regions. Declines have occurred in several SLAs of central Queensland and rural parts of the Northern Territory.


Change in number of persons (%)
Strong growth (more than 2.4%)
Growth (0.6 to 2.4%)
Minimal change (-0.5 to 0.5%)
Decline (-2.4 to -0.6%)
Strong decline (less than -2.4%)
Metropolitan areas
0
500
Kilometres

Source: Australian Bureau of Statistics – 1996 & 2001 Census of Population and Housing (place of enumeration). Data supplied by the ABS has been randomly adjusted to avoid the release of confidential data. Spatial units: Statistical Local Areas (SLA) ASGC 2001. Produced by: Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry. Australian Government © 2004.

Figure 34 **Intercensal (1996–2001) population change as per cent based on 1996 SLA population: SLAs in the savanna region (Source: Haberkorn et al. 2004)**

Table 56 shows the 20 fastest growing urban centres and localities of the region. More than half of these are small communities with less than 1000 people. Nine of the fastest growing communities are each found in Northern Territory and Queensland. Nine are considered to be discrete Indigenous communities according to the Community Housing Infrastructure Needs Survey (ABS 2002a). The data shown below should be treated with some caution. Some urban centres and localities (e.g. Kuranda, Broome, Karumba, and Yeppoon) are subject to seasonal fluctuations associated with tourism and therefore percentages may not reflect actual long-term population growth. Indigenous communities are subject to undercount (ABS 2002j, 2004c; Taylor 2003) and high fluctuations due to high localised population mobility (Bell 2004; Stafford Smith et al. 2003; Taylor 2002). The high growth for Deeragun reflects its status as a growth suburb of Townsville/Thuringowa and cannot be expected to continue at this pace into the future. Current estimates suggest a more modest growth rate for the Thuringowa Pt A Bal SLA, to which Deeragun belongs, of 2.1 per cent per annum (King 2003).

Table 56 Twenty fastest growing urban centres/localities showing intercensal change (Source: ABS 1997b, 2003g)

Locality	Jurisdiction	2001 Population	1996 Population	Population change
Deeragun	QLD	5631	2314	143.3%
Kuranda	QLD	1456	666	118.6%
Daly River (L)	NT	621	349	77.9%
Palmerston	NT	20570	12233	68.2%
Gapuwiyak (L)*	NT	668	447	49.4%
Doomadgee*	QLD	1119	754	48.4%
Broome	WA	15906	11368	39.9%
Borroloola (L)*	NT	769	551	39.6%
Bamyili (Barunga) (L)*	NT	346	249	39.0%
Fitzroy Crossing	WA	1507	1147	31.4%
Ramingining (L)*	NT	613	473	29.6%
Pirlangimpi (L)*	NT	369	285	29.5%
Karumba	QLD	1346	1043	29.1%
Aurukun (L)*	QLD	999	778	28.4%
Alligator Creek (L)	QLD	976	778	25.4%
Yirrkala (L)*	NT	648	521	24.4%
Maningrida*	NT	1645	1328	23.9%
Yeppoon	QLD	10778	8810	22.3%
Arcadia Bay (L)	QLD	764	638	19.7%
Boulia (L)	QLD	290	243	19.3%

Note 1: * indicates a community shown in CHINS data
Note 2: Table excludes localities that had a population less than 200 at either 1996 or 2001 Census

The third social environment indicator chosen is the Socio-Economic Index for Areas (SEIFA), which provides a quick indicator of social advantage or disadvantage. The Index of Relative Socio-Economic Disadvantage, mapped in Figure 35, is derived from attributes such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations (ABS 1998b:3). This map is very similar to the Indigenous profile map shown in Figure 4, suggesting that the areas of greatest disadvantage are those in areas where there are high proportions of Indigenous people.

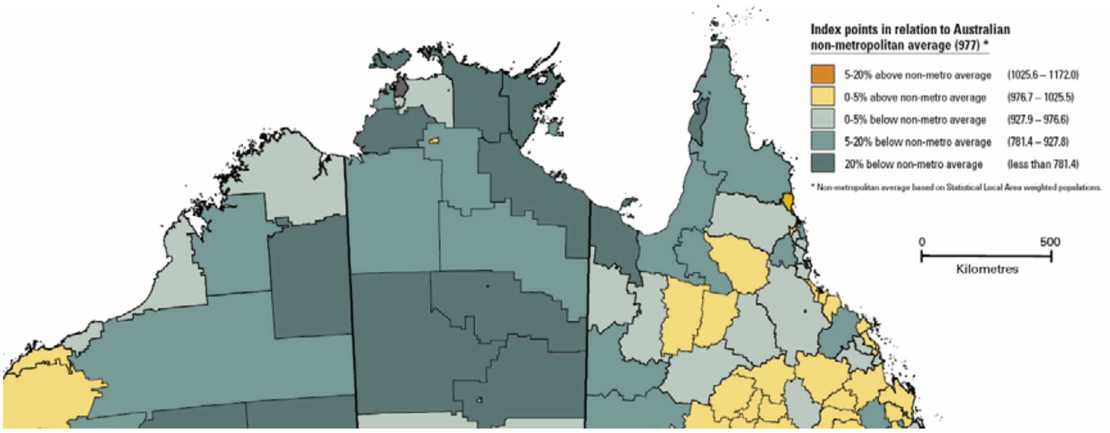

Index points in relation to Australian non-metropolitan average (977) *
5-20% above non-metro average (1025.6 – 1172.0)
0-5% above non-metro average (976.7 – 1025.5)
0-5% below non-metro average (927.9 – 976.6)
5-20% below non-metro average (781.4 – 927.8)
20% below non-metro average (less than 781.4)
* Non-metropolitan average based on Statistical Local Area weighted populations.
0
500
Kilometres

Figure 35 **Degree of socio-economic disadvantage (SEIFA) 2001, Northern Australian SLAs (Source: Haberkorn et al. 2004:98)**

4.2.2.7 Physical environment

This section details the results for four indicators chosen and shown in Table 39. These indicators are: Proportion of homes owned in community, ARIA index (as a general measure of accessibility), River Disturbance Index (as a measure of ecological sustainability) and CDMA Access (according to coverage maps).

Figure 36 shows levels of home ownership mapped across the savanna region. The map shows predominantly Indigenous areas with low levels of ownership. This reflects the high levels of community housing managed through Indigenous Housing Organisations (IHOs). Low levels of home ownership are also clearly evident in mining regions of the Bowen Basin, around Jabiru and near Mt Isa. This reflects the highly transient nature of these population groups and is consistent with the high mobility areas shown in Figure 32. Highest levels of home ownership are shown in SLAs surrounding the main centres of Darwin and Townsville. In Queensland, high levels of ownership are also evident in many of the rural central and northern regions.

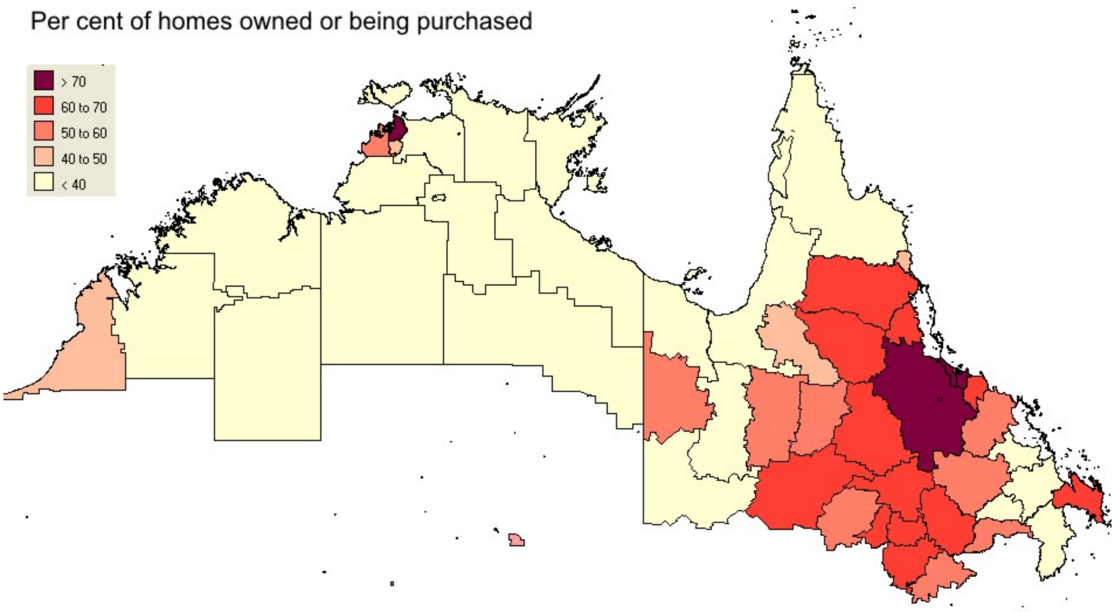


Figure 36 **Proportion of homes owned or being purchased, savanna SLAs 2001 (Source: ABS 2003c)**

The data in the map for the high ownership regions is also reflected in Table 43, which shows the communities with the highest levels of home ownership across the savanna region. All these communities are located either on the fringes of the major centres of Townsville (Cungulla, Alice River, Bohle Plains, Alligator Creek, and Deeragun), Darwin (Humpty Doo–McMinns Lagoon, Howard Springs, and Virginia–Bees Creek) or Rockhampton (Keppel Sands). They are all moderately accessible and have low proportions of Indigenous people in the population.

Table 57 **Savanna urban centres and localities with highest levels of home ownership (Source: ABS 2002b)**

Urban centre/Locality	State	Per cent Indigenous persons	ARIA	Per cent of homes owned	Mean household size
Cungulla (L)	QLD	4.4%	3.78	91.8%	2.7
Alice River	QLD	1.8%	3.79	91.5%	3.8
Bohle Plains	QLD	0.3%	3.79	90.7%	3.8
Alligator Creek (L)	QLD	2.4%	3.78	87.4%	3.4
Balgal Beach (L)	QLD	3.4%	3.79	75.9%	2.8
Howard Springs	NT	5.5%	3.96	75.2%	3.5
Humpty Doo–McMinns Lagoon	NT	6.0%	3.96	75.1%	3.5
Keppel Sands (L)	QLD	1.8%	3.37	74.8%	3
Deeragun	QLD	5.1%	3.38	74.7%	3.8
Virginia–Bees Creek	NT	4.0%	3.96	71.7%	3.5

The second indicator of the physical environment to be shown here is the ARIA index, which is a general and widely used measure of accessibility, taking into account the distance of communities from major service centres. Figure 37 maps ARIA scores to regions of northern Australia. With the exception of the areas around the main centres of Darwin, Mt Isa, Katherine, Townsville and parts of central Queensland, the entire savanna region is represented as ‘very remote’ (See Appendix 2, Table 79, page 423 for descriptions of values). A number of communities in the areas around Darwin and Townsville have a more or less equal ARIA rating of ‘moderately accessible’.

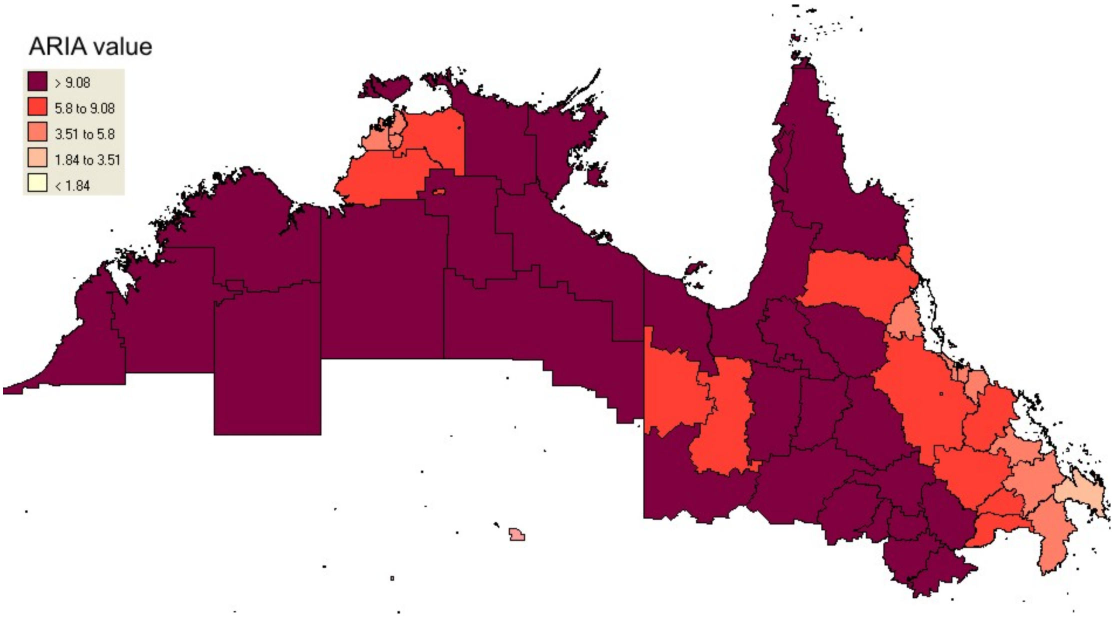


Figure 37 **Remoteness in northern Australia, ASGC 1998 ARIA 1999 values (Source: ABS 2003c)**

The third indicator of the physical environment to be shown here is the River Disturbance Index. Figure 38, adapted from ERIN (2001) shows no or little river disturbance in much of Arnhem Land, the Kimberley and Cape York. High disturbance is associated with the pastoral and rural areas of Queensland, mining areas and the population centres.

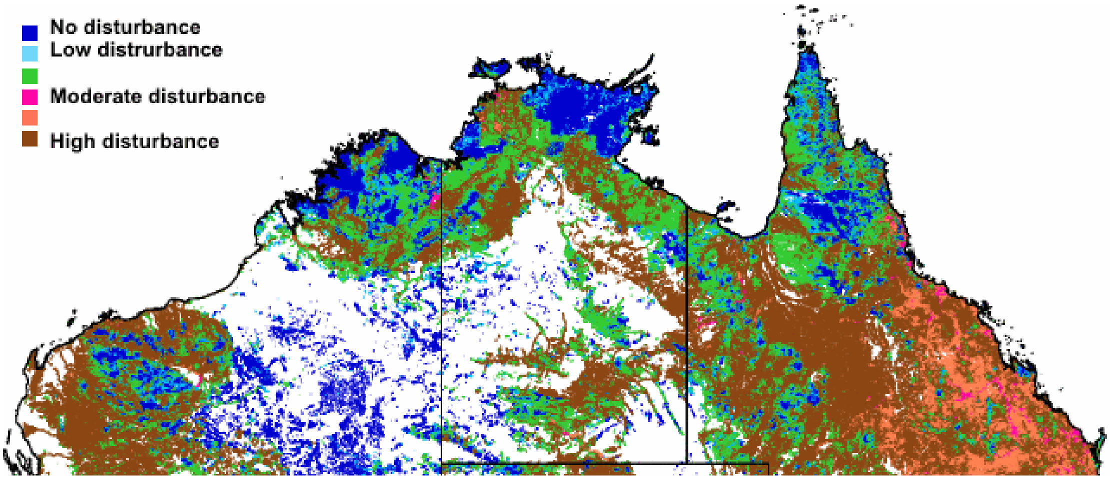


Figure 38 **Savanna region, River Disturbance Index (RDI) (Adapted from ERIN 2001)**

The fourth indicator of the physical environment, which reflects accessibility, is that of CDMA mobile phone coverage. The map (Figure 39) shows coverage in Western Australia at all localities with population above 500. In the Northern Territory all the main regional centres are covered, but only eight of the predominantly Indigenous communities are covered. At least six communities with population greater than 500 remain without mobile phone coverage. In Queensland all of the communities listed in Table 80 are covered.

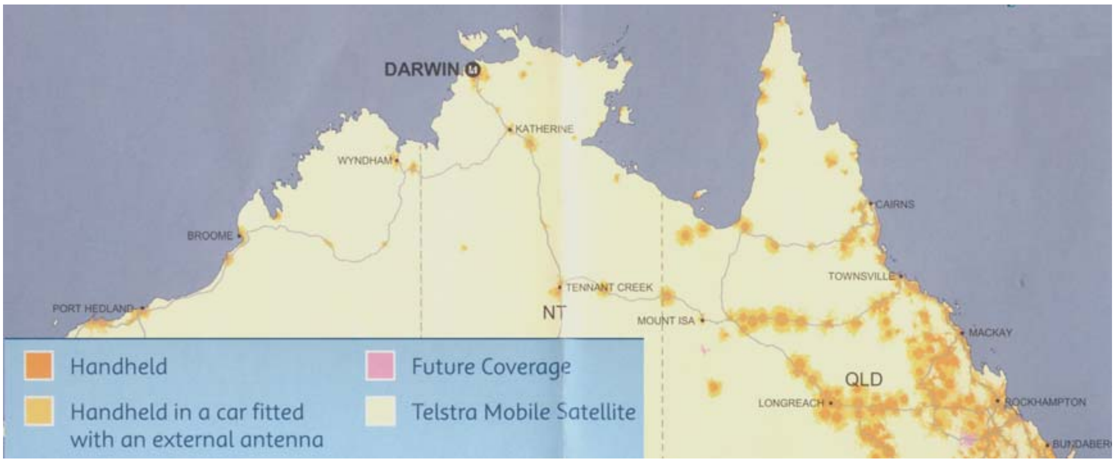

DARWIN
KATHERINE
WYNDHAM
BROOME
PORT HEDLAND
TENNANT CREEK
NT
MOUNT ISA
CAIRNS
TOWNSVILLE
MACKAY
QLD
LONGREACH
ROCKHAMPTON
BUNDABER
Handheld
Handheld in a car fitted with an external antenna
Future Coverage
Telstra Mobile Satellite

Figure 39 CDMA mobile phone coverage
(Source: Telstra 2004)

4.2.2.8 Summary of well-being indicators for savanna communities

Table 58 summarises the well-being indicators and groups them according to community types and according to strengths and vulnerabilities. Indicators that show neither strength nor vulnerability are not listed. The ‘types’ of communities were identified earlier (see Communities in the Australian tropical savanna region, page 96). The table demonstrates that each type of community has, according to the indicators used, a set of strengths and vulnerabilities.

Mining communities are shown to be strong in terms of health, wealth, employment and education, but vulnerable in terms of cultural/leisure, social and environmental factors. *Indigenous communities* are shown to be strong in terms of some social aspects and environmental aspects, but vulnerable in key areas of health, education, employment, leisure, some social, and accessibility indicators. *Urban communities* are shown to be strong in terms of health, wealth, employment, some aspects of culture/leisure and accessibility, but vulnerable in terms of some social, environmental and leisure/cultural indicators. *Peri-urban communities* are shown to be strong across most of the well-being indicators but vulnerable in terms of some aspects of physical environment. *Rural communities* are shown to be strong in terms of health, employment, culture/leisure and home ownership aspects of the physical environment but vulnerable in terms of dependency, population decline and ecological aspects of the physical environment.

Table 58 Summary of regional strengths and vulnerabilities identified by well-being indicators

Type of community	Strengths	Vulnerabilities
Mining	Health (infant mortality) Education (qualifications, school attendance) Wealth (income, dependency) Employment (labour force participation, trades, professional occupations)	Culture/leisure (excess working hours, high mobility) Social (population decline) Physical environment (low home ownership, ARIA, high river disturbance)
Indigenous	Social (low single person households, population growth) Physical environment (low river disturbance)	Health (infant mortality) Education (qualifications, school attendance) Wealth (income, dependency) Employment (labour force participation, trades, professional occupations) Culture/leisure (insufficient working hours, low mobility) Social (SEIFA) Physical environment (ARIA, mobile phone access NT/WA only)
Urban	Health (infant mortality) Wealth (dependency) Employment (labour force participation) Culture/leisure (balanced working hours) Physical environment (ARIA)	Culture (high mobility) Social (high lone person households) Physical environment (high river disturbance)
Peri-urban	Education (qualifications, school attendance) Employment (labour force participation, trades, professional occupations) Culture/leisure (balanced working hours, balanced mobility) Social (low lone person households, population growth) Physical environment (home ownership, ARIA)	Physical environment (high river disturbance)
Rural	Health (Infant mortality) Employment (labour force participation) Culture/leisure (balanced working hours, balanced mobility) Physical environment (home ownership)	Wealth (dependency) Social (population decline) Physical environment (high river disturbance)

4.2.3 Summary of results for Research question 1

The first research question aimed to identify a range of indicators that could be applied to the savanna context. A total of 16 available and comparable indicators were identified that could be readily applied to communities or small region levels. These were spread across seven of the eight well-being bands. The question also aimed to determine how well-being varied across the savanna. The results of the quantitative analysis have shown that communities have both strengths and vulnerabilities, depending on the type of community. According to the indicators, Indigenous communities tend to be more vulnerable across an array of measures, than other community types. Mining, urban and rural communities tend to have a more balanced number of strengths and vulnerabilities, while peri-urban communities tend to have a greater number of strengths than vulnerabilities.

The focus of the next research question will be to identify the links between learning and well-being.

4.3 Research question 2

Research question 2 is restated below for the benefit of the reader:

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(a) Who benefits from education and learning?

(b) How does training build capacity and well-being?

This section addresses the question of the link between education and learning and capacity-building. It first describes the sample characteristics (which apply to both Research questions 2 and 3) before reporting the results for each of the parts of the question.

4.3.1 Sample characteristics

The sampling strategy (described in Stakeholder identification, page 175) resulted in the mix of respondents shown in Table 59 below. The table shows that 10 per cent of the 102 interviews conducted were categorised (using the process described in Section 3.4.2) as community representatives, 27 per cent were categorised as government representatives, 21 per cent were described as industry representatives, 39 per cent were providers and the balance were trainees. A complete listing of organisations represented is shown at Appendix 6, Table 82, page 439.

Table 59 **Summary of interviews and stakeholder types**

Site	Community	Government	Industry	Providers	Trainees	Total interviews
Bowen Basin	3	4	3	8	0	18
Howard Springs	2	5	6	6	0	19
West Arnhem	2	11	8	17	2	40
Palmerston	3	8	4	9	1	25
Total interviews	10	28	21	40	3	102
Total respondents	12	30	22	54	14	132

Table 60 describes the types of groups that meet criteria (see page 172) for sample selection. Site descriptions are given at Appendix 5, page 430. It should be noted that the sampling strategy did not attempt to distinguish between Indigenous and non-Indigenous stakeholders.

Table 60 **Types of groups that meet criteria for sample selection in Phase 2/3**

VET stakeholders	Industry stakeholders	Community stakeholders	Government stakeholders
Public VET providers (TAFE/CDU/Batchelor) Private providers ACE providers VET in Schools trainers/teachers Partnership	Industry training advisory committee members Employers with trainees, especially from the main industry groups: mining, tourism, retail, defence Peak bodies/chambers of commerce Research bodies Partnerships	Service organisations that provide/use training Emergency services Indigenous land organisations CDEP organisations Community groups such as Landcare, religious organisations that use trainees/provide training Community/ regional development organisations Partnerships	Education/training departmental staff Community/ regional development staff Defence force training staff Tourism/ environment/ parks Local members of parliament Partnerships

Table 61 summarises interviews according to respondents’ focus on Indigenous peoples—that is, whether or not their main program interest was Indigenous or non-Indigenous. The Bowen Basin, Howard Springs and Palmerston sites targeted respondents with a mainly non-Indigenous interest, while the West Arnhem site targeted respondents with an Indigenous interest. The identification of Indigenous or non-Indigenous in this case was derived from respondents’ descriptions of programs they expressed most interest in.

Table 61 Summary of interviews according to whether respondents' main program interests are Indigenous or not (n = 102)

Site	Interviews where respondents' main interests are not Indigenous	Interviews where respondents' main interests are Indigenous	Total interviews
Bowen Basin	16	2	18
Howard Springs	15	4	19
West Arnhem	1	39	40
Palmerston	18	7	25
Total interviews	50	52	102

4.3.2 Beneficiaries of education and learning

The first sub-question of Research question 2 asks about the beneficiaries of education and learning:

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(a) Who benefits from education and learning?

The first of four questions in the interview schedule (see Interview schedule, page 446) asked respondents to 'describe how education and learning benefits' people in terms of individuals, industry, the community, minority groups, Indigenous people or voluntary organisations. Responses for this question were coded first according to the type of group and second to the type of benefit. The latter will be reported in the next section.

Three main groups of beneficiaries emerged from the analysis: individuals, communities and industry. A fourth group of 'other' miscellaneous beneficiaries were also identified. Table 62 summarises the responses as mentioned from the interview transcripts. The table shows definitively that respondents referred to individuals as the main beneficiaries of education/learning programs.

Table 62 **Beneficiaries of education and learning identified by site (n = 643, multiple responses allowed)**

Main site	Community	Industry	Individuals	Other	Total
Bowen Basin	28	33	42	3	106
Howard Springs	29	23	75	2	129
West Arnhem	61	44	137	8	250
Palmerston	24	24	107	3	158
Total	142	124	361	16	643

A representative selection of responses that show how respondents described participants is shown in the following subsections. Throughout this section, where interview quotes are provided, interviews will be differentiated by notation with I##, where ## represents a unique interview number. Interviewer questions or comments are prefaced with the letter Q. For each subsection a block of relevant quotes will be preceded by some interpretation.

4.3.2.1 Individuals

The first set of results shown below relate to individuals. Individuals were described in terms of their roles as trainees, employees, Indigenous people or training participants.

Individuals as apprentices and trainees

Individual participants were frequently labelled by respondents as trainees (I87, I29, I35, I73, I100). As such they had a specific identity within organisations. There was a sense in which organisations took ownership of the trainees, such as the industry trainer who described ‘my Indigenous trainees’ (I73), and others who described them as ‘our trainees’ (I23, I100). In some instances respondents described apprentices and trainees as a commodity that added value to an organisation by building a skills base (I21). Others described trainees as a formal part of the bureaucratic system—‘we’ll do the paperwork’ (I100).

I87: I think the main beneficiary is the trainee….

I29: The participants in the training in themselves learned a lot…

I35: …there are lots of other areas where trainees feed into the organisation and give their own perspective.

I73: With my trainees that I’ve got, my Indigenous trainees… We take on twenty trainees.

I100: Take one of our trainees, sign on the line, we’ll do the paperwork, thank you very much

I23: But when we look at our students at different stages, when we look at our trainees and when we look at our needs as an industry, we are in the education business; we employ a lot of people.

I21: Our clients are employers so employers gain by getting an additional qualified apprentice or getting an additional skill base of getting additional qualifications for their workforce.

Individuals as members of society

Among some respondents, individuals as beneficiaries of education and training were seen in the context of their fit within the broader social environment. The comments below point to a view that training enhances a person's position within society (I08) and that society as a whole is enhanced because of individuals' participation in training (I33). One respondent discussed the importance of engagement with learning for access to 'social democracy' (I58), suggesting that training addresses disengagement of individuals from society.

I08: If you and I are happy men, we have a wife, we have children and a work ethic, we've got money in our pockets and we can meet at the pub on Wednesdays for some boys bonding and we can have a beer and then we've got a good sense of community. But if we didn't have that sense of community, that training behind us, that feeling of self-worth, perhaps we might meet on a Wednesday, have way too much grog and fight.

I33: Individuals. Definitely individuals. I think that if you can build on the skills of the individual I think for Australia it's much better in a broad sense. If employers want 'monkey see, monkey do' then that's what they'll end up with. But if I can—particularly with the difficult students that I have—if I can build on their skills they are going to be better, society is going to be better.

I58: So it's not just about improving the literacy and numeracy; it's also giving them access to a social democracy I suppose. Be[ing] able to be more involved in society, giving them confidence to become assertive and dealing with different bureaucracies.

Individuals as learners

Some respondents described individuals as learners, actively engaged in the learning process (I40). These learners were encouraged to direct their learning opportunities for their own benefit, mindful of the need to respect the group as a whole (I25). The subtle difference between this group and trainees described above is that they tend to be described in terms of a focus on the learning rather than the training (I42).

I40: Whereas now learners are a lot more involved and have a lot more, they're a lot more involved in the decision-making process as in deciding what path they want to take in the learning.

I25: It teaches people that they can be learners… Students are encouraged to participate… people can and have the ability to contribute to their own learning and learning occurs between the group in that group situation so it encourages tolerance and perhaps an idea of acceptance of new knowledge.

I42: I think maybe with re-education of people to some degree I think you do have a high percentage of the community, adult learners you can see the benefits of doing a half day, one day course and put it on your résumé, something that is going to give you additional skills.

People looking for work

Individual training participants were sometimes described in relation to their role as job seekers. Training was linked to opportunity and job prospects (I37). In this context training therefore was seen as an extension of the job search process—making individuals more ‘employable’ (I30)—as a means to an employment outcome (I40).

I37: I suppose it comes down to an individual… it provides opportunity, it provides choice. Job prospects.

I30: I guess the individuals benefit in terms of their access to skilled training to make them more employable.

I40: I think the key people that gain out of participating in VET are obviously the person who is participating in it because they’re obviously gaining skills that will assist them in the workplace.

Participants as employees

Respondents frequently described individual trainees in the context of their role as employees. One trainer with experience in Indigenous community contexts recognised that while training has a personal dimension it is important that it is done in the context of ‘real work’ (I31). Skills and work were described in relation to on-the-job performance, a kind of benchmark or performance measure (I11, I98). Skills were also related to job security (I98). Some employers saw training as an integral part of staff development (I59). The common thread through the following responses is the idea that training and work go hand in hand for employees.

I31: They start to have faith in themselves and it builds confidence. And they actually get real work skills out of it.

I11: …they say this is our benchmark for someone who’s an assistant manager; this is the benchmark for someone who is a branch manager and so on…

I98: Guys link the number of skills that they have and how well they perform those skills to their job security obviously as well, especially so with contractors.

I59: We offer all the employees a certificate two, three, four in retail traineeships. There are a lot of internal courses.

4.3.2.2 Community

Consistent with the wide variety of possible definitions of community outlined earlier (see What is community?, page 85), respondents accrued benefits to communities with several broad definitions. These are briefly outlined below with representative illustrations from the interviews.

The 'local' community

Training was seen in the context of the 'local' community in terms of its role in building a cohesive unit, based around the formation of engaged networks (I03). In this context the ideal of 'the local community' is a place where people can live comfortably and happily together—a socially connected mix of residents, industry and voluntary organisations. Training can be used to build a sense of 'pride' in this kind of community (I30). Individuals in this ideal contribute meaningfully—in a mutual obligation sense—to the life of the community (I42).

I03: The whole of community level I'd have to say is the best benefit I've seen and I don't know whether you relate this directly to the training or the network that training sets up with.

I30: If your community has got more of the people who engage and are looking forward than the other, you can build up a sense of pride in the community and people will want to be there as opposed to people wanting to move out because the antisocial activity is too great.

I42: I know that coming away from a training experience they do come away with a more positive attitude and come away feeling more motivated and wanting to for example go out and gain employment or wanting to then go out and actually practice the skills that they have learned. So the benefits to the community in the Work for the Dole for example. The experience they gain from Work for the Dole, the community participation through on-the-job training definitely makes them more motivated and makes them feel like that they're contributing something to the community.

Community as voluntary organisations

While at one level community is seen as the sum of the individuals living in a 'place', it was also seen as the combination of social networks embodied in the multitude of voluntary organisations. Training benefits these organisations and therefore concurrently benefits the 'whole of community' (I89). In a sense training was seen as a catalyst for engagement of people and ideas within community group structures (I13). There was also a linkage made between training, volunteer groups and 'service' to the community (I09, I47).

I89: …it benefits the whole of the community because people like that feel more confident in taking roles as the secretary, treasurer, those for the local soccer club or the swimming club or whatever.

I13: From my experience Landcare groups certainly benefit from—they benefit from people who are undertaking educational programs, coming in and working alongside them, simply from exchanging ideas.

I09: I believe that the local community accepts the brigade as their brigade. They align with the fact that is our brigade. There is a sense of ownership.

I47: I think it strengthens the community. We have skilled, focussed, motivated people who serve in other ways in the community. They work in school councils or sporting organisations and make a contribution there; they bring those skills with them as well when they are working in the community so it adds wealth to the community most definitely.

The 'Indigenous' community

Indigenous communities were described as somewhat separate identities from other community types. Whereas non-Indigenous communities were described in terms of individuals and voluntary groups, Indigenous communities were described in terms of a traditional ownership structure, local governance (I53) and a hierarchy of leadership (I63). It was in this context that training was considered to be driven by the community (I23) and being for the general well-being of the community as a whole.

I53: In order for people to be able to do that the meaningful way for them and for us to have certain capacity to be able to be involved in governance, financial administration, interaction with government agencies, so that's one level of capacity-building if you like that I think we have a responsibility in order to provide, pursue, to have on offer, then there is other stuff about social and emotional well-being of people and just their ability to function and be happy in their community.

I63: Yeah, it was a strong woman in the community who actually set it up. Because they were very concerned about… youth suicide was very high and at the time and she was looking at ways of supporting or getting something happening for these young people and I thought that was particularly good because it came from her and pushing and doing that whole consultation and having her own people involved.

I23: But this community has been in existence for about fifteen years. So the drivers of that school are actually the local community who are responding to what these families want for their kids. Who will actually shape what that school looks like…

4.3.2.3 Industry

The selection of respondents' quotes shown in this section describes industry as a beneficiary in one of three ways: as a profit making enterprise, as an employer and as a broader group of stakeholders, which includes clients or customers. To some extent these three things were bound up in each other: profitability depends on being a responsible employer and keeping customers happy.

Industry as a profit-making enterprise

Respondents described 'industry' or enterprise in terms of its need to be productive and profitable—'generating income' (I24). In this way, businesses were seen to be beneficiaries because of their role as viable, profit-making enterprises. The following quotes reflect this perception in terms of 'income', 'remuneration' (I21) and 'financial benefit' (I95). In these contexts, training was described as a tool that could be used to enhance the financial viability of industry through increased productivity and reduced risk.

I24: So the bush tucker, the produce, that was generating income for that couple and obviously their extended family because they looked at it, how are we going to water all these plants, how are they going to harvest, we are going to have to employ people to pick.

I21: Well, it will often… could possibly lead to higher remuneration for the company. Because if the product is better and contains less chemicals or their quality assurance programs are up to scratch then you going to get better stuff to market and be able to command a better return.

I95: In the case of the coal mining and in other areas there are legislative requirements so they need to meet regulations but they also need in terms of running publicly listed companies they need to ensure that they have got safe work practices and so they get a financial benefit because their staff know what they're doing.

Industry as 'businesses' and employers

Industry as a beneficiary of training was commonly referred to in terms of 'the employer' or the group of employers. This is reflected in statements that used terms like 'company' and 'industry' almost interchangeably (I91). In some instances the employer/employee relationship was seen as a marketable commodity (I59). In other cases, the relationship was seen more in terms of the employer having a degree of responsibility for and to their employees (I61) such that having trained staff was a key to business success.

I91: The company gets the benefit obviously of having the apprentices and trainees on site training them to their way of doing things, to their culture, to their attitudes and picking up on attitudes to train them up for the mining industry

I59: Obviously from an individual point of view, people are obviously more skilled, more prepared, multi-skilled, develop a real work ethic, they are competent, confident so obviously ultimately its the individual but then that benefits the employer straight away. At the end of the day they run programs so people are competent and confident.

I61: For businesses unless they have a training and staff development agenda they will never succeed as a business.

Industry as a broader group of enterprise stakeholders

Taking a broader view of industry, some respondents saw the significance of customer or client satisfaction as an integral part of the business (I61). In the case of the tourism industry, for example, these stakeholders included guests and visitors (I73). In the case of the retail industry, they were described as customers (I51).

I61: We know that when people have a positive experience in tourism they are more likely to stay, come back, tell their friends and so forth. But if they have a bad experience, they might not say anything, but they won't be coming back. So I think for the customers, the clients, training is essential.

I73: So it benefits…, it also benefits the hotel as well as the tourist.

I51: They may not have gone to the depth that I went into to solve the problem but 'just to keep the customer happy' was the important thing.

4.3.2.4 Other beneficiaries

Other beneficiaries identified by a small number of respondents included providers and government agencies. Providers were seen as direct financial beneficiaries while government agencies saw education and training as a fundamental instrument through which policies could be developed and built on to effect desired changes. These benefits will be discussed in more detail in the next section. In most cases these beneficiaries were identified as secondary rather than primary beneficiaries.

4.3.3 How training builds community capacity and well-being

The results presented here answer the second part of Research question 2:

Research question 2: What is the link between education and learning on the one hand and capacity-building in savanna communities on the other hand?

(b) How does training build community capacity and well-being?

Findings for the second part of Research question 2 are drawn from the same question in the interview schedule that answered the first part of the question. Respondents were asked to describe who benefits from education and learning and to describe those benefits. The benefits are reported in this section under nine headings: one each for the eight (OECD 1982) social well-being bands described in Table 20 (page 104) and an additional heading for those interpreted here as 'identity' benefits, according to the discussion of the literature reported in Section 2.2.8 (page 132). The results of the analysis are shown below in Tables 63, 64 and 65. The first table shows the results by site and the second by respondent type. From the 102 interviews a total of 643 benefits were identified in the data. The tables show that the largest number of benefits described were employment related (34.8 per cent). This was followed by identity benefits (21.6 per cent) and social benefits (15.1 per cent). The smallest number of benefits identified related to health (1.4 per cent) and physical environment (1.6 per cent) benefits.

Site differences were determined using chi-squared tests (where p < .05), comparing each well-being descriptor at individual sites with the whole sample. This analysis revealed that for the **Bowen Basin**, respondents were: more likely to identify *wealth and economic well-being* benefits; less likely to identify *identity* benefits; and more likely to identify *personal safety* benefits, than respondents from other sites. For **Howard Springs**, respondents were more likely to identify *employment* benefits; and less likely to identify *culture and leisure* benefits than other sites. For **West Arnhem**, respondents were more likely to identify *culture and leisure* benefits than respondents from other sites. For **Palmerston**, respondents were less likely to identify *wealth and economic well-being* benefits; more likely to identify *social environment* benefits; and more likely to identify *identity* benefits than respondents from other sites.

Table 63 Summary of stakeholder benefits identified by site (n = 643, multiple responses allowed)

Description	Bowen Basin	Howard Springs	West Arnhem	Palmerston	Total
Health	1	2	4	2	9
Wealth and economic well-being	17	9	24	7	57
Employment	39	49	82	54	224
Education	9	14	25	9	57
Culture and leisure	1		15	3	19
Social environment	12	17	34	34	97
Physical environment		4	4	2	10
Personal safety	14	5	9	3	31
Identity	13	29	53	44	139
Total	106	129	250	158	643

Differences between respondent types, shown in Table 64 were analysed using chi-squared tests (where p<.05), comparing each well-being descriptor for each respondent type with the whole sample. This analysis revealed that community and government respondent types were no more or less likely to identify particular benefits than the sample as a whole.

Industry respondents were more likely to identify *culture and leisure* benefits than other respondents and less likely to identify *social environmental* benefits than other respondents. Providers were less likely to identify *culture and leisure* benefits than other respondents. Trainees were more likely to identify *social environmental* benefits and more likely to identify *identity* benefits than others.

Table 64 **Summary of stakeholder benefits identified by respondent type (n = 643 multiple responses allowed)**

Description	Community	Government	Industry	Provider	Trainee	Total
Health	1	4		4		9
Wealth and economic well-being	2	16	13	26		57
Employment	17	50	58	94	5	224
Education	4	12	13	26	2	57
Culture and leisure		5	8	4	2	19
Social environment	12	27	8	42	8	97
Physical environment	1	2	3	4		10
Personal safety	2	4	10	15		31
Identity	17	31	28	53	10	139
Total	56	151	141	268	27	643

Table 65 summarises results of the benefits of training according to whether or not respondents' main training interests were Indigenous or not (see also Table 61). For the majority of well-being categories, the responses are similar for both groups. However, chi-squared tests ($p < .05$) show that those with Indigenous interests are more likely to identify *culture and leisure* benefits and less likely to identify *personal safety* benefits than those with non-Indigenous interests.

Table 65 **Summary of stakeholder benefits identified by whether main interests of respondents were Indigenous or not (n = 643, multiple responses allowed)**

Description	Respondents' main interests are not Indigenous	Respondents' main interests are Indigenous	Total
Health	2	7	9
Wealth and economic well-being	28	29	57
Employment	116	108	224
Education	24	33	57
Culture and leisure	4	15	19
Social environment	51	46	97
Physical environment	6	4	10
Personal safety	22	9	31
Identity	72	67	139
Total	325	318	643

Table 66 summarises beneficiaries of education and learning by type of well-being benefit described. The table highlights the differences in benefits perceived for different groups of beneficiaries: *communities* (as beneficiaries) were perceived to be more likely to benefit in terms of social environment; *industry* was perceived to benefit most in terms of employment; *individuals* were perceived to benefit most in terms of identity; and *others* were perceived to benefit most in terms of wealth and economic well-being. These differences will be explored further in the relevant subsections that follow.

Table 66 Beneficiaries of education and learning identified by type of benefit (n = 643, multiple responses allowed)

Description	Community	Industry	Individuals	Other	Total
Health	5	2	1	1	9
Wealth and economic well-being	23	9	14	11	57
Employment	12	84	128	0	224
Education	14	5	36	2	57
Culture and leisure	4	9	5	1	19
Social environment	66	0	31	0	97
Physical environment	8	0	2	0	10
Personal safety	10	15	5	1	31
Identity	0	0	139	0	139
Total	142	124	361	16	643

4.3.3.1 Health related benefits

While there were many responses that described workplace health and safety benefits of training, which will be reported in the section on personal safety benefits (see page 252), there were relatively few—a total of nine responses identified from seven respondents—that related directly to health. Those respondents who indicated a health benefit from participation in learning programs described these both in terms of personal and broader community or industry benefits (I36). The personal benefits were related both directly and indirectly to participation (I60):

I36: So in terms of that there are direct benefits to the individual who's been participating in the learning and also having people who are educated has direct benefits to the community in terms of community cohesion and the capacity to respond to different issues as they arise in the community. And also the avoidance of situations that take place where people are not educated, like the things I've experienced overseas such as levels of illness, health and so forth.

I60: If you look at some of the courses we do, firstly it's a discipline thing. They are up at 6 o'clock like a normal boot camp type of thing, six o'clock they are doing physical training. The fitness aspect, the way they eat.

The broader community and industry benefits overlapped to some extent. First aid training, for example has a broad impact both on the individual, the individual's community and the industry he or she works in (I05).

I05: …just about every training package has some degree of first aid competency identified in it…

One respondent (I02) from the health industry commented on the role that health workers have on community health:

I02: They will actually take that qualification and at the end of the day improve health care so that's the ultimate aim, to improve community health.

A representative from a first aid training provider (I05) commented on the preventative message that his training gave to Indigenous communities:

I05: And we put a lot of information into our training about preventative or what we call preventative first aid. Don't go down and get a bottle of Coke, go and get a bottle of water. Don't eat these fat foods, buy some bread, do some… you know about diabetes; this can happen and so we try to do a little bit of preventative stuff as well as community education, which they tend to listen to…

Respondents described other health benefits related to the social attachment of a person to their community. These will be reported in the section about social environment/social cohesion benefits (see page 246). While the number of responses related to health described in this section is relatively small, the selection of responses shown demonstrate the variety of direct and indirect benefits that may accrue from participation in learning programs—both to individuals and communities.

4.3.3.2 Wealth and economic benefits

A total of 57 'wealth and economic benefit' responses from 40 respondents were identified. It was noted earlier that 'wealth and economic benefit' responses were more likely from the Bowen Basin site than others—30 per cent of responses were from this site. Further, it was noted in Table 66 that 'other beneficiaries' were perceived to be most likely to receive wealth or economic benefits. The table also revealed that proportionally fewer respondents saw industries or individuals as benefiting in terms of wealth.

Economic benefits for communities

Community benefits were described in terms of capacity-building (I50, I53, I77), empowerment and expanding opportunities. Income security was a further way these benefits were described for communities (I64, I98). The selection of quotes shown demonstrates these aspects. The breadth of understanding of the term 'capacity-building' is also reflected. For some it was about well-being (I53), for others it was more about economic prosperity and income (I64). One respondent commented that training 'fundamentally underpins well-being and economic success' (I90).

I50: It certainly benefits the community; it builds capacity for the community. If you've got young trained, motivated and ultimately employed people they are going to be the next generation.

I53: They need to have certain capacity to be able to be involved in governance, financial administration, interaction with government agencies, 'cos we're very good at double speak, so that's one level of capacity-building if you like I think we have a responsibility in order to provide, pursue, to have on offer. Then there is other stuff about social and emotional well-being of people and just their ability to function and be happy in their community.

I77: Everybody talks about capacity-building, yes I understand about that but for many, but for some Aboriginal people it's also in a process of professional development and I think that gets neglected sometimes. That perspective. And it's helped me in some cases and that's why I'm saying people in employment who want to do it. People who have a job to do. Traditional owners of a national park actually have a job to do as managers of that land and talking about it like how you can do your job better.

I64: The community as a whole obviously benefits from the increased skills but also the increase in employment and expendable income and stuff that comes on communities… People feeling empowered and pulling them out of the doldrums.

I98: And security for their own futures. If you're a 90 odd grand a year you've obviously got a better chance to be able to put your kids through university or college if they want to do it than if you're struggling to earn 24, 25 thousand dollars a year.

I90: It fundamentally underpins well-being and economic success within these communities.

Economic benefits for individuals and industry

While proportionally fewer respondents recognised that economic benefits flow to individuals and industries as a result of training, a number of respondents did identify an income or wealth benefit (I98, I73, I99). For individuals, respondents saw that completion of training had a direct impact on earning capacity and gave them choices that others do not have (I37):

I98: Operators will get it from gaining new skills. Some guys really are up for a challenge; they want to keep doing new things and in some organisations pay is linked to the number of skills that you get.

I73: The local people, it does give them a little bit of financial stability…

I99: So what's the driver? Money.

I37: it provides opportunity, it provides choice. The more choice you have the more ability, and again it provides for a better financial…

Respondents were more reluctant to offer examples of an economic benefit for industries from training, except indirectly through productivity gains. The first three quotes shown below relate to Indigenous enterprise development initiatives. In this context, training is seen as a 'way of making money' (I76), a way of learning marketing skills (I74) and more generally as a way of building economic returns for industry (I24). The last quote relates to a rural farm manager, who recognised training as a possible (not definite) pathway to increased farm profitability (I22).

I76: And they started going 'hey we've got a great product—how do we actually make money out of this?'

I74: In one particular community where they started out with non-accredited training, training such as screen printing and signing, now its gone into accredited training of the marketing type area, business principles all the rest of them and they're taking that outside their community, what I call exporting their goods to things like the markets in Darwin. So they're working, selling, getting income.

I24: It gets really quite broad and I see it's a way of returning economic development benefits as well through tourism objectives which have been seen in a couple of different places lately.

I22: Well, it will often… could possibly lead to higher remuneration for the company.

The broader range of productivity related benefits will be described in the section that follows, under the heading of 'employment related benefits'.

Economic benefits for 'others'

The 'others' referred to by respondents here were almost all training providers. Many training providers (I56, I21, I86) themselves recognised the financial benefit they received from their involvement in training provision. Other respondents who were not providers (I63) also recognised this.

I56: At the end of it the individual has a qualification, the community has trained people and we have benefited by a service provision of the delivering of that training.

I21: …education is our business so we certainly have a financial vested interest.

I86: From our perspective of course we benefit because we get the business and those sorts of things, it allows us to keep going.

I63: Of course the RTO benefits because they're getting the funding to do it so is supporting that business.

4.3.3.3 Employment-related benefits

Approximately two-thirds of all benefits for industry were related to work or employment. As noted earlier, industry beneficiaries were described in terms of their role as employers, with a responsibility for their employees. Other employment-related benefits related to industry's role as profit-making enterprises and to a lesser extent, their perceived identity as a broader group of partners and stakeholders.

A little more than one-third of all individual benefits were perceived to be employment related. Combined, these two groups of responses (industry and individual) made up approximately one-third of all responses. The results shown here will focus on these two groups.

Employment related benefits for industry

The first group of employment benefits for industry relates to its role as a profit-making enterprise. The following selection of quotes represent a large number of responses relating training to productivity (I89), the need for appropriately skilled labour (I83), improved performance and risk management (I70, I75, I96). These responses represent a broadly held view by respondents that training should be about raising the capacity of an enterprise to compete in markets, to increase efficiency and to operate profitably.

> I89: So obviously that's increasing [the Company's] productivity
>
> I83: Because we try and make sure the formal training is earmarked around, targeted around their actual work activities and obviously where people want to get ahead in their careers, obviously the benefit is you're getting increased skilled labour. The four guys on apprenticeships in the workshops, our aim is to get to them all as qualified mechanics.
>
> I70: They actually increased their production by 30% more than any other plants.
>
> I75: It seems pretty basic, but I tell you we have a huge problem with that sort of thing. It's mostly when the guys are new they are not used to it, we've had instances where people didn't know how to budget money when they got paid. So that has a direct effect on the way they perform.
>
> I96: Our training system is driven by legislation. To a certain extent parts of us are under the black coal competencies. And there is a certain amount of that driven by the Mining Safety Act.

The second group of employment benefits for industry relates to its role as an employer, with responsibilities for its employees. While there may be some overlap with the first group, these responses represent a view that training is about building the capacity of the organisation by increasing the capacity of the individual or the work team (I30, I35). Training was seen to facilitate improved employer/employee relations (I22) and industry/community relations (I94). One respondent believed that training helped create a sense of belonging to the organisation, 'being part of something' (I96).

I30: If you look at successful businesses, businesses that win competitions and all the rest, that's one of the things that's always there. They win because they have good staff.

I35: I think employers obviously find great benefit from having trainees come into their organisation because not only are they offering labour and assistance that they might challenge the way that organisations and services practice. It gives greater insight into the needs of staff.

I22: In terms of my own horticultural business you can relate to people once they have been through the training at a level that you couldn't do without the training.

I94: Better able to meet community needs and expectations, better image as better informed and capable workers, pride, self-esteem, best practice enables one organisation to compare to another, healthier workers [more positive] enables organisations to develop and change communities as they change and improve from within.

I96: Making that connection and those guys being able to work that out into the workplace and create a sense of wanting to come to work I suppose and being part of something.

The third group of employment benefits for industry relates to its role as a broader group of stakeholders, encompassing the enterprise, customers (I52), shareholders (I96), clients (I71) and other partners. These respondents are recognising that training plays a part in the development of the whole business, not just the production side or the sales side of the enterprise. Comments about the need for quality assurance (I14) reflect this view.

I52: Irate customers, angry customers confused customers. All sorts of scenarios to practical training on how to deal with that scenario.

I96: During that program they get introduction to the longer-term thinking, the longer-term strategies that we are now introducing to try and move away from a dig and deliver type approach and how do we deliver as much and more value to our shareholders in ten years, fifteen years, twenty years time.

I71: The tourism industry generally benefits from the reputation I suppose trying to attract visitors to come up here if they know it's going to be a good experience and a high-quality experience available to them it's more likely to attract people to come.

I14: I guess the nuts and bolts of it in horticulture are that it is critical through the whole process. I think the biggest thing now, you talk about, the word you used was accreditation. I think that's the biggest bit that will affect horticulture in a massive way over the next few years because it's getting into quality assurance issues…

Employment-related benefits for individuals

Employment related benefits for individuals were related to their roles as employees, people looking for work and as apprentices and trainees. The benefits that accrue to individuals within these roles overlap each group considerably. Three categories of benefit emerge from this analysis of the interview data. *Firstly*, training assists an individual develop a career pathway. *Secondly* it builds an individual's work ethic and values. *Thirdly*, it increases an individual's capacity to perform the tasks required on the job. Each group will be described here with a selection of supporting quotes.

The first group of benefits relates to career pathways. This is either in terms of access to employment or progression through a career pathway (I04), through promotion or access to jobs requiring higher-level skills (I87). Training was described as a pathway, opening doors, creating opportunities (I66, I91), or as the fifth quote says: ‘skills to move forward’ (I61).

I04: It’s about pathways, creating opportunities for them, great learning…I mean you can take it all the way through, I mean myself I’ve even got three diplomas…I tried the higher ed very briefly, but I…believe my diplomas and my industry experience have helped me along the way in my development.

I87: I think the main beneficiary is the trainee, the person they can advance their careers through the training…

I66: I’m doing this hospitality course and it’s opened up a lot of doors to me to get into job opportunities.

I91: Our aim is to give all our young people opportunities to get useful, full-time employment…

I61: Gives people skills to move forward within their, perhaps their own industries, or transfer into other industries and do what they want to do, get what they want to get out of work

The second group relates to work ethic, values and behaviour that is required in workplaces. Respondents described these things in a number of ways, which could be loosely placed under the banner of ‘employability’ skills or ‘life skills’ described in terms of empowerment (I12), work experiences and preparation (I28) learning how to get along with others (I46) and work ethic (I59, I65); skills that are more oriented towards work than life. The responses here are particularly relevant to new or returning labour force entrants who do not understand the necessary behaviours and values required to operate in workplaces (I07, I13, I59). Many of these values and behaviours are related directly to identity formation outcomes, which will be explored later (see Identity benefits, page 254)

I12: This is a pathway in, so you can start at certificate two, say in child care and end up doing a degree in early childhood development and that is very empowering for people who’ve missed out.

I28: Once they’ve been trained by us, in six months time Centrelink might pick them up, they’ve got the paper to say they are a worthwhile person: ‘I’ve had experience, I have worked with [Company] holds a lot of worth in the community’. People who’ve worked with [Company] can be picked up anywhere. ‘I’ve dealt with money I’ve dealt with everything’.

I46: And then when I get them we move into a number of different workshops and so they have to learn the interpersonal skills and working with new people on a regular basis. Learning how to manage things that when they don’t get on with somebody that is get on with a job and go that way.

I59: Obviously from an individual point of view, people obviously more skilled, more prepared, multi-skilled, develop a real work ethic.

I65: What it is giving them skills that will enable them to get a job somewhere which might be CDEP or it might be a job at an industry. Like some of them got jobs in the council last updated our course because it gives them a bit of what I call work ethic. They turn up on time; they turn out to do a job.

I07: Specifically for people who are not considering going on to university…gives them an option of understanding of what work places require and what workplace behaviour is.

I13: So it's sort of that exposure, of gaining a greater understanding of why they are doing what they are doing.

The third group relates specifically to work skills. Training enables individuals to understand what and why they are doing things (I09). It provides technical and applied workplace skills (I06, I40) that are essential to their role as employees, managers and business owners (I75). The training relates to the 'how', 'what' and 'why' of their jobs. Some respondents felt that training that did not have a direct connection to their job was irrelevant (I47).

I09: And if that flows on to what they are doing in the workplace, it takes away to a great degree their impulsiveness and teaches them to maybe hesitate a bit and have a think about what they are going to do.

I06: And that's the ones that we have accessed. Things like Freshcare, things like specific technical training, stuff to do with mangoes in particular where the local DPI or the [Association] will run those. So that's one way, that's their own experience.

I40: I think the key people that gain out of participating in VET are obviously the people who are participating in it because they're obviously gaining skills that will assist them in the workplace.

I75: When we're talking about professionals within the mining industry it's as needed, it could be time management, there are basic, core components like safety inductions, but otherwise it's more as needed…

Q: So what do they get out of it? Obviously they get some skill out of it.

Oh definitely, it's why we focus mainly on certification, it's all certified courses nationally recognised. Again this is a nationally recognised course. We try and focus on that a fair bit.

I47: Firstly of course the receiver of training benefits directly but only benefits if the training is providing real enabling to do a real job.

4.3.3.4 Intrinsic educational benefits

Table 64 (page 235) and Table 66 (page 236) demonstrated that the majority of intrinsic educational benefits were perceived by respondents who are providers and that these benefits are for individuals. Intrinsic educational benefits are taken here to mean the value that is attributed to the knowledge and skills in their own right—not necessarily as a means to another end, such as a job. This was expressed in terms of education being a pathway by itself (I23), the intrinsic value of being literate, the importance of having a qualification, having ownership (I24) and gaining recognition for it (I96). Comments about the personal satisfaction of 'knowing' (I08) and 'achieving' (I32) reflect this value.

I23: Q: So is it the need that has driven you to provide?

The lack of pathways for our own students, that is the students who are doing primary and secondary education in schools and almost total lack of opportunity for their future, but certainly in terms of training both for VET in Schools and some broader training pathways beyond school.

I24: Q: And the certificate then had meaning at the end of it, didn't it?

She owned it, and now she's doing Certificate IV in HR

I96: We're endeavouring to provide the right systems for them to help them to do their work. We're also trying to create the right environment for them to work successfully as leaders and one of the things that we did, we weren't too sure about the first part of it when we went down this road—that we're also applying some accreditation, some certification and recognition for their efforts as they go through our process based on the Certificate IV in front line management

I08: People love knowing something and people love knowing how to explain something to someone else. 'I know about this, I'll help you'. I don't think anything gives a young man more pride then to weld something for his mate because he's our welder.

I32: It's all about achieving personal competencies at your own pace, so it's self paced learning and self paced practical things. There's no peer group pressure that they must succeed. So that's initially a real confidence builder for each young person.

At the community and industry level, this intrinsic value of education and training was expressed differently. For example at one site, there was a strong sense of the importance of lifelong learning, not just for the individual, but also for the whole community (I38). This implies a community attitude of learning for learning's sake (as opposed to training for training's sake) where people are encouraged to return to learn repeatedly (I65). Even though some respondents felt that training was the most benefit for the individual there was a sense in which knowledge gained by the individual, was shared with and valuable to the whole community (I27). One industry respondent (I49) described the benefit of training in terms of a tool for 'information transfer', rather than just skills to do tasks.

I38: I think it supports the community. We do talk about it quite a bit. Everything that we do underpins a learning philosophy. For instance we have information literacy standards in all the programs we run. It benefits the community because they are getting the quality product that hopefully meets their learning needs.

I65: So the whole community benefits because there's a wider scope of deliveries if you like or subjects that people can take up. Also it encourages long-term learning or long life learning for people to come back and take other things.

I27: The people who get the most out of it are the individuals who are doing the training and working on it for their future. And also being an individual, that gets into the community in the long run and they spread the word around of what they've learned and stuff like that.

Q: So they share their knowledge and experience?

Yes, yes

I49: I don't think if you look at it in a simplistic sense of going to courses, but look at training in a broader sense, the education sense, in which case you need to use many tools to get your message across. So it's not just a simplistic message and come to a course or whatever. But it's not just training; it's probably about transfer of information that's the bigger issue.

4.3.3.5 Leisure and cultural benefits

Table 66 (page 236) shows the relatively small number (19) of responses that related training to leisure and cultural benefits. Almost half of these benefits were attributable to industry, as opposed to communities or individuals. As noted at Table 64, industry stakeholders were more likely to identify culture and leisure benefits than other stakeholders. The beneficiaries under this heading can be divided into two groups: clients and customers mainly as tourists; and people within Indigenous communities. It was noted at Table 65 that those respondents with an Indigenous interest were more likely to identify leisure and culture benefits than those who did not.

Addressing firstly the clients and customers group, each of the three respondents shown below described the importance of knowledge transfer, whether that be for tourists wanting to know about a place (I61, I84) or a retail customer wanting to know about a product (I52).

I61: And so these are all the tourists up here wanting to know that about the country so I think as far as customers go its vital and even looking at people's attitudes and training for attitudes if you've got a negative attitude and you've got a bad customer workplace knowledge that just rubs off on to the tourist area so much… So I think for the customers, client, training is essential.

I84: We also now run programs like the tour industry seminar where we train the guides that work for the tourism industry to give them information on how the park works and information that they will then give on to people that visit the park.

I52: Customers yes. It starts from the top and then goes down to the customers. Everyone benefits. It makes my job easier. The customers enjoy their visit to the store. They can come in and speak to someone that is confident about what they are talking about.

For Indigenous communities the leisure and culture benefits were varied. On the one hand training enhanced people's ability to understand white culture (I68) and on the other it allowed them to reinforce their own culture and build the life of their own communities (I69). There was also a sense in which training was useful for application in the day-to-day aspects of life, such as growing vegetables (I81).

I68: We did boat courses, like being in [Organisation] has broadened the frames of my, every Indigenous…, and we sort of know how like always people looking at stars, knew their way, learning this culture now, the white culture that now we know read references and all this other stuff…

I69: They think of [Organisation] like it's good for us young fellas and they like really, they are really proud of us guys. Training a lot of this army stuff with [Organisation]. We learn a lot of things. They are really comfortable that we are here to look after our own community and our people too.

I81: I think [Trainer's] job on the outstations is easier than mine because they're very keen to set up their veggie gardens, they want permaculture, planting trees, planting bush tucker close to home…

Because of the blurry distinction between what is 'culture' and what is 'work' it is difficult to definitively disaggregate some comments from respondents into clearly defined categories. For this reason, some responses in other sections which relate to identity, physical environment and work related benefits may also equally fit into this category of culture and leisure.

4.3.3.6 Social environment/social cohesion benefits

Table 66 shows that approximately two-thirds of the 97 social environment benefit responses identified were attributable to communities. The remainder were applied to individuals. Consistent with this, it was noted at Table 64 that industry respondents were less likely to identify social benefits than others, while trainees were more likely to identify social benefits from learning than others. At Table 65 it was noted that there were no significant differences between those respondents who had a main interest in Indigenous training and those who did not. The benefits will here be presented in two groups: those attributable to communities, and those attributable to individuals.

Social benefits for communities

Respondents spoke of the social value of learning for communities in terms of (a) building social relationships, (b) strengthening existing community mores, norms and values, (c) building connections outside their community, and (d) increasing civic participation. The ways each of these groups of responses were expressed are detailed below with appropriate illustrative quotes.

Firstly, in terms of the value of learning for building social relationships in communities, respondents spoke of the intrinsic value of the relationships that were formed because of participation in training. This was noted as being particularly important for Indigenous peoples (I10). However, even in non-Indigenous settings, training was seen to provide a space where social interaction could occur (I16). It was argued by some that the formation of networks—particularly informal networks—was just as important as the training itself (I03, I94) as a means of empowering people.

I10: Yeah but it's also the relationship building. And that's where it can be integrated into mainstream systems. If you get the relationship built you're halfway there with education and learning for Aboriginal people. If you haven't got the relationship—and that can, that doesn't happen overnight—and that is the main component for any communication or any type of relationship, is to build the relationship with those people or that individual.

I16: The formation of volunteer fire brigades and fire emergency response groups for example are not only supporting the community but they form a pretty vital part of the community as a whole. It's a social interaction that people have in small places.

I03: The whole of community level I'd have to say is the best benefit I've seen, and I don't know whether you relate this directly to the training or the network that training sets up with… So I think that it's helped informal groups form.

I94: Training is a safe way to overcome usual social barriers while providing people with an opportunity to network, socialise and get to know each other, which forms the basis for social capital and building community capacity beyond skills development.

Secondly in terms of strengthening community norms, mores and values, respondents spoke of the ways that training facilitated a sense of cohesion and 'community strength' (I38). Acquisition and use of skills was associated with 'community pride' (I30, I74). Learning was associated with 'keeping people off the streets' (I30), about people being confident to engage with their communities in a meaningful way (I58). The common thread in the following quotes is that training strengthens the bonds and bridges within social structures of communities.

I38: I guess it's about Palmerston being, I guess it's about being proactive, building a strong community. It's about providing opportunities particularly a community in the past that's being considered to be, to have quite a few social problems. It's about developing that community to really grow and be cohesive. Those kinds of things. Stronger community.

I30: In a community where people are involved in training it means it initially keeps them off the streets. I think if you look at the guys that hang around breaking windows they've got nothing else to do so you've got something here and I think involvement in training and what have you also tends to lead to thinking about leading to employment thinking about having a future. You can build up a sense of pride in the community and people will want to be there as opposed to people wanting to move out because it's just, the antisocial activity is too great.

I74: The biggest benefit is that in some of these remoter communities the individual and collective skills are utilised now to gain contracts that they used to have to bring contractors in from Darwin for so it's saving them a lot of money and it's giving the Indigenous people a lot of the pride of the work that they're doing. Horticulture, landscaping around new buildings so individual, collective skills, CDEPs a bit of pride in the community, I think that's the biggest driver.

I58: But I suppose it's because they can... say basic literacy and numeracy there are noticeable gains on a daily basis for some of the skills that they would be learning. If they've got noticeable gains on a regular basis and that therefore increases their confidence and their ability to engage with society in a more… meaningful way that will try to get them jobs and have a more stable home environment.

Thirdly, in terms of building connections outside the community, engagement in training and learning was considered by many to facilitate important links outside the community. Of note is the important role the training provider has in making the necessary connections (I12, I45). Training was described as a kind of bridge or stepping stone to the 'outside' world (I62). Indigenous people spoke of the way that their training enabled them to gather information and ideas from other communities (I69). One training provider described this process as an 'exchange of world views' (I25) between Indigenous and non-Indigenous peoples, facilitated by training.

I12: So it depends on how the training is done, who benefits from it. I think organisations, enormously; particularly Indigenous people are able to put on trainees and have a training program that's appropriate is on site and works in with what they doing in their work and how they are learning and develops a partnership about learning between the student, the organisation, the community and the RTOs. And that actually is some of the strongest training outcomes I've seen because everyone has a stake in it, everyone feels involved with it and everyone can get benefit back.

I45: The individuals benefit, the individual's families benefit, the individual's church groups benefits, the individual's community benefits and the connection, the link between them and us as a training organisation also gives them a sense of being a—having a bigger umbrella that covers them in what they're doing.

I62: Just the very fact that it suddenly makes a connection outside. Whether they are training in first aid, tour guiding, office skills of computers or anything. It's the first step out for some people; it really is the first step out except for school. And school may have even been in a fairly isolated location anyway.

I69: See the lifestyle of the country like… we've been living at home too long and we wanna move out somewhere to see what it's like in that place and to feel what it's like in the other community or another place…meet other people, find out how they work in that community.

I25: In… regard to remote Aboriginal people, it benefits them in that there's a potential for an exchange of ideas and world views.

Fourthly, in terms of increasing civic participation, respondents described how training strengthened communities by enabling people to engage in and contribute to the life of their communities. This was described generally as a 'capacity to respond to community issues' (I36) or the 'capacity to contribute' to their community (I35).

Specifically, respondents described how people were empowered to take on community roles like secretary or treasurer within volunteer organisations (I89). One described the important role trainees have in working alongside volunteers in Landcare groups (I13). Summarising these responses then, training could be described as facilitating a contribution to communities and community groups through the skills and networks that are generated.

I36: Having people who are educated has direct benefits to the community in terms of community cohesion and the capacity to respond to different issues as they arise in the community.

I35: I think your beginning statement about capacity-building is relevant in that the skills that are provided for individuals are greater than the employment. The social skills, self-esteem, self-worth. The ability to feel like they are contributing to their community.

I89: It benefits the whole of the community because people like that feel more confident in taking roles as the secretary, treasurer, those for the local soccer club or the swimming club or whatever. So I can see it as adult training and… computer training here has a flow-on effect.

I13: From my experience Landcare groups certainly benefit from; one having—even if they aren't undertaking any educational programs—they benefit from people who are undertaking educational programs, coming in and working alongside them, simply from exchanging ideas.

Social benefits for individuals

Respondents spoke of the social value of learning for individuals in terms of (a) building interpersonal relationships, (b) adapting to accepted social norms and mores, and (c) expanding personal world views. While there are common themes here with those described above for communities, the difference is that these social benefits are described in terms of their benefit to individuals rather than communities or community groups. These three groups of responses are explained and illustrated with appropriate quotes from interviews.

Firstly, in terms of building interpersonal relationships, respondents spoke about their understanding of the significance of the social relationships that are built during training. They discussed aspects of communication skills (I68), social interaction and connections (I43, I36) as a part of being able to mix with groups of people they would not normally relate to. Another aspect of social relationships discussed was the way that training facilitated team work or team play, particularly in a work environment (I46, I15). The illustrations given below describe scenarios where people are encouraged to work together, communicate together and socialise together.

I68: …like talking communication skills came up, they can talk to anybody now. Before they didn’t know English very good.

I43: So they benefit [from] the social outlet as well. There are great benefits. Mixing…while they’re here. And not just sticking in clans either. I usually find that the whole group blend together as a group with the ideas and the different backgrounds.

I36: My understanding of education and learning has always been about social connections as much as that is as it’s been about academic, hard learning outcomes and access to other social organisations such as sporting organisations. It’s about exposure to different life experiences as much as the hard-edge educational outcomes.

I46: It just makes them more a team player. They’d learn how to get on in a close environment with other people.

I15: There’s two things that I think come through strongly in the training that helps them later on in employment. One is to learn to become part of a team.

Secondly, in terms of adapting to social mores and norms, respondents spoke specifically of examples about the role of learning in helping people adapt to the expectations of society. This was illustrated with examples of the ways training could or should change behaviours such as drug or alcohol abuse (I50, I63). Respondents also described the impact of training programs—particularly disengaged young people—on their involvement in the workforce (I100, I25). While none of the examples shown use words such as mores and norms to discuss their examples, the intent of their illustrations would appear to be to describe how training facilitates conformance—or reduces aberrant behaviour—to meet the social expectations of the broader community.

I50: Young people who are trained… if they're not getting bored they are not getting on the streets they are not taking drugs or we hope they wouldn't be because they are occupied, they have self-esteem and they've got [a] goal in mind and they are earning money.

I63: Like I have gone to a community where an organisation has wanted to set up a particular program, it didn’t have any employment outcomes, it was more of the social type focus because they have a lot of young people there who were not doing anything, get involved in drugs and alcohol and the first few meetings that we had to set it up, people were really reserved and shy and stuff like that but once the program got underway and I visited it when it was part way through it just the difference in how the participants themselves were behaving and the confidence that they had.

I100: So it has had a positive impact on our students who are disengaged from school. We’ve allowed them to drop back a couple of subjects. We’ve got two boys who are doing mechanical apprenticeships who are doing only four subjects at school. And they are doing two days in the workforce, three at school, and they’re more engaged when they are here than before. They are our major outcomes.

I25: It benefits people in a way that provides social interaction. The instance I’m thinking of is something like a labour market program where people are forced to join in to a training environment and those people who previously had been quite removed from the social network that they developed.

Finally, in terms of expanding personal world views, some respondents described the value of training in terms of a 'broadening of their horizons', understanding other peoples' perspective on the world. One respondent described the way that training facilitated 'meeting other people' for Indigenous people outside their communities (I60). Another respondent working with Indigenous people described how the interaction between different communities and trainers fostered 'tolerance' and 'acceptance of new ideas' (I25). An industry representative (I46) working with mainly non-Indigenous employees described how training enabled people to 'work with a lot of people', again facilitating a greater understanding of other employees' perspectives in the workplace.

I60: Also the people they meet, not just their own community. They get to meet other people. They get to see these different attitudes. Also, just dealing with white fellas.

I25: Creates greater tolerance and not necessarily cross-cultural forms of tolerance but also in terms of acceptance of new ideas, techniques.

I46: You have to learn those skills because they move them around all the time and meet new people. Over twelve or eighteen months. They actually meet a lot and work with a lot of people.

4.3.3.7 Physical environment benefits

Only ten responses from ten respondents described direct physical environment benefits. Table 66 shows that these benefits are mostly identified for communities. The responses encompassed a broad range of benefits according to the definition of 'physical environment' given earlier (see Learning and the physical environment, page 127). The benefits that were described covered ecological issues and accessibility issues. A selection of illustrative quotes is given as examples of the kind of responses given. The comments relating to access were generally directed at Indigenous groups. One trainer in remote communities of West Arnhem Land described how training was used by outstations to access media and services through technology (I81). Another training provider described how training facilitated access to NT government contracts (I55). Another person in a correctional institution described how basic training facilitated access to the 'system' (I58).

I81: Like they do have TV when the satellites work or whatever or Austar is working. But they see through media or through TV and radio and things like that, that's what they want. They are, they want to be exposed to that.

I55: In Aboriginal communities they tend to have a grader, water cart and a few little bits and pieces to maintain their roads. It's a bit of a self-esteem thing as well. How can we do the NT government road maintenance? You need a ticket.

I58: And they have a greater understanding of how systems work and how they can work through systems and bureaucracies and that.

Q: Is that what you mean by a social democracy then?

And just having greater access to things

The other part of the physical environment heading, where a few respondents commented, was in the area of ecological issues. All examples cited here come from the rural area of Howard Springs and relate to concerns with environmental issues in agriculture. One respondent described a 'hope' that his students of a VET in Schools program would pass on their knowledge to impact conservation and land management (I15). Farmers in horticulture (I22, I49) related how training in chemical use may address the community's concerns about chemicals in the rural environment. The common thread in these three examples is the 'hope' that training *might* ameliorate the negative impacts of land clearing and chemical use and *might* satisfy the concerns of the broader community.

I15: and environmentally as a whole as well, those students take that knowledge back to their families and one hopes that there's a flow-on just in awareness of conservation issues and how to look after the environment.

I22: I guess you take the broad picture it gives great benefit to the community too. If you think about the training that goes into the use of chemicals and other associated things like pesticides that if people are using them responsibly then it benefits the whole community and the environment.

I49: The most obvious one in farming it is obviously, there's a big dispute in this area with chemical use. Conflict between residents and increasingly with clearing, like communities getting involved, the community expresses an interest in what's going on with all sides of development and you have to deal with that as an industry so clearly the big part of that is people learning the appropriate way to do things.

4.3.3.8 Personal safety benefits

A total of 31 personal safety benefits were identified by 21 respondents. Two main groups emerge from the analysis shown in Table 66: communities and individuals/industry. The community benefits relate mainly to examples of fire, road and cyclone safety. The industry and individual benefits relate to workplace safety issues.

Personal safety benefits for the community

Three of the following respondents, who commented about safety issues, were engaged in training for community members and volunteers. They readily identified a direct community benefit from the training they were doing: community cyclone awareness (I09), fire protection (I16) and road safety (I17). Other respondents, represented by a member of parliament (I47), viewed safety issues at the periphery of community need, referring to safety more as a spin-off from other training activity than a direct benefit to the community.

I09: The most recent course we've run was cyclone awareness as an awareness-only type of arrangement to tie in with our cyclone procedures, which will flow on to benefit themselves and their families and I suppose ultimately the community…

I16: Firstly, in terms of the community for protection of the community we can do that involving local people so that they can actually help to protect themselves… Safety, fire type training.

I17: By the time I left they actually knew the road rules and understood why they need them and what the relevance of them was... Over the last two years we've seen the death toll for Aboriginal people fall dramatically…

I47: The community does benefit in terms of the tone of the community, policing, and other related issues.

Personal safety benefits for industry and individuals

With regard to personal safety benefits for industry, a small number of respondents recognised the value of health and safety for employees in the workplace generally. This view is represented by a public servant (I40) who acknowledged the role of occupational health and safety training in reducing risk. The majority of industry benefit responses however came from training providers and coal mining industry representatives in the Bowen Basin. The emphasis of their comments (I87, I95, I98) was on conformance to legislation and regulation within their industry. Underlying the imperative for this training was a recognition that health and safety training was embedded in companies' risk management strategies. In other words, employee safety was not only a benefit to the employee but had a positive impact financially (I95).

I40: I guess in the sense that if they are trained in the skills that they are able to understand why they're doing and what they're doing because the issue for health and safety they know what they're actually doing in the workplace and the health and safety risk is going to be minimal.

I87: The biggest change in legislation now is that it has gone from a prescriptive type legislation to a non-prescriptive, risk management base-type legislation where people now actually have to identify the hazards contained within the jobs.

I95: In the case of the coal mining and in other areas there are legislative requirements so they need to meet regulations but they also need in terms of running publicly listed companies, they need to ensure that they have got safe work practices and so they get a financial benefit because their staff know what they're doing.

I98: It's legislated in Queensland at least for all coal mining workers to have MNC6 which is risk assessment. So for every person who comes to work on a mine they should be able to conduct a simple risk assessment. That's the bare minimum. That's a mandatory requirement.

4.3.3.9 Identity benefits

Based on the definitions of identity offered in the earlier section on identity and learning (see What is identity?, page 132), analysis of respondents interviews showed that almost one-quarter of all benefits from engagement with learning could be described as 'identity benefits'. It was noted at Table 63 that respondents from Bowen Basin were less likely to identify these benefits, while respondents from the Palmerston site were more likely to report an identity benefit. All the identity benefits have been coded as attributable to individuals (see Table 66). While it has been acknowledged in the literature that identity can be individual or collective in nature, respondents universally discussed identity benefits accruing from training as applying to the individual, not the collective. However, consistent with the literature, respondents did describe identity formation in terms of their relationships with others. It is important to note that respondents did not use the word 'identity' to define these benefits. Instead, they used words associated with the concept, which have been described in the literature review.

Four main groupings or clusters of data emerge in relation to identity formation benefits and are shown at Table 67. The first group relates to the development of the self-concept; the second to self-efficacy or personal capacity; the third to social relationships, and the last group to individuals' awareness of themselves and the options they have open to them.

Table 67 Words respondents used to describe identity formation in training

Self-concept	Self-efficacy	Social relationships	Awareness
confidence	making choices	attitude	awareness
dignity	decisions	leadership	broaden horizons
ownership	self-discipline	work ethic	perspective
pride	empowerment	celebration	point of view
recognition	taking opportunities	teamwork	world view
values	possibilities	engagement	aspirations
self-worth	responsibility	mutual respect	options
self-esteem	self-motivation		understanding opportunity
self-confidence	transformation		
enthusiasm	soft skills		knowing choices
mindset	achievement		
Total responses 71	38	10	20

Identity benefits: self-concept

The largest group (71) of the identity benefits described by respondents related to changes in self-concept. The following extracts represent the broad range of ways in which respondents reported self-concept benefits. Some respondents described this in terms of dignity and self-worth (I08). This is partly the result of the recognition that follows from achievement (I28) but also partly because of the way it builds relationships through a sense of mutual value that arises out of learning (I91 describes this in terms of being able to read). Some respondents described how development of self-esteem preceded benefits associated with employment and was a priority ahead of employment outcomes (I51, I63). These illustrations from respondents point to the ways in which learning changes an individual's self-perception—answering their fundamental 'who am I' questions, building confidence and opening up choices for their future, both within and outside of employment.

I08: I reckon that educating someone and training someone gives them a sense of dignity and gives them a feeling of worth, now this is understated and it hasn't been studied but I'm sure it's the case.

I28: She's got a Certificate II and III… and they just love it. It gives them the feeling of pride and self-worth. And that's worth everything.

I91: Well I think it benefits all levels, it benefits individuals. When I work with adults to help them with their literacy and they can read they feel good. It helps them and it helps their families. One young man in particular can now read to his children. His wife is very happy about that and he feels good too. So it's benefiting the family, the individual and then the family and that then benefits the whole community.

I51: What does it do for them? As I said self-esteem (in some cases probably too high an expectation of qualifications leading to work) but certainly, self-esteem. That would be the primary thing.

I63: When you talk to people in communities a lot of them say that they want the jobs there. Development and confidence and building self-esteem before people can then progress to the next level of engaging in work or community-type activities.

Identity benefits: self-efficacy

The second group of identity benefits (38) described by respondents relate to self-efficacy; typically reported in terms of empowerment, capacity to make choices, to take opportunities and to act on them. Some of the comments shown in this section show how closely self-concept and self-efficacy benefits are related to each other. For example, two providers (I12, I45) reported how training linked confidence to power and ability—'confidence in what I can do'. Some respondents described empowerment in terms of control (I03) and decision making—a capacity to make choices (I17). A VET in Schools provider described students' response to learning in terms of 'responsibility' and 'maturity' (I15), inferring a greater sense of ownership for the learning outcomes. An industry representative (I96) used the word 'capability' in relation to the results of training. The close links between self-concept—who I am—and self-efficacy—what I can do—are evident in these short extracts.

I12: One of the strongest things particularly when we worked in regional areas is women coming in and doing their first course at certificate level and being so much stronger and confident in themselves and in their own abilities in their whole lives by participating in that course and that was a very powerful tool for them.

I45: They walked differently by the end of the workshop they'd gone home, their confidence in what I can do.

I03: It empowers them about what we actually have control over what we learn rather than some bastard coming and telling us 'this is what you should be learning'.

I17: Self-empowerment basically, it's giving them… Just self basically empowerment. You've given them enough information to open the gate to then being able to make their own decisions and make and understand why they can make those decisions.

I15: It fosters more individual responsibility in them and I see them maturing more within the class.

I96: If it is building on the capability or in some cases it's just recognising the capability we have, we find a lot of our frontline leaders and maybe even above have been operating in a workplace in some cases for up to twenty years in various leadership roles with virtually no recognition for their efforts and skills that they've picked up in the school of hard knocks and what we're doing now is enhancing that capability and giving some recognition for their years of service and many years of capable service.

Identity benefits: social relationships

A smaller group (10) of responses described identity benefits in terms of relationships with others. Typically, these responses discussed the benefits of learning in terms of teamwork and leadership (I62, I01, I04). One industry trainer described the process in terms of personality change—'outgoingness' (I46). Another industry trainer (I59) discussed the importance of 'work ethic', which again was about the relationship between the employee and employer. These extracts demonstrate that development of self is seldom done in isolation, particularly where training is concerned. Much of the training described by respondents was about ensuring the individual understood their place in the workplace as a whole, either as a leader or a team player.

I62: So we see that as really, really important, so it's the team work, in some of the courses it's leadership aspects

I01: Leadership skills and individuals' personal development, spiritually as well as socially.

I04: In that time, it might be three or six months, they learnt to turn up on time, that they have to work in a team.

I46: Probably the main difference would be the personality… their outgoingness.

I59: I think what's sadly lacking these days is a great deal of work ethic and training needs to do certain, it leads to a better understanding of the employer needs so therefore, confident in so much, they're not second-guessing any of the tasks that they are performing. Understanding why they're doing it. And I think that's probably the most important thing that you can teach them.

Identity benefits: awareness

A fourth group of identity benefits (20) identified by respondents are here described under the heading of 'awareness'. Respondents described how learners 'broadened their minds' (I62) and had a greater understanding of the opportunities and choices that were available (I37, I91, I13). This was related to 'exposure' to new people, ideas and options (I15, I36). Engagement in training led people to start 'thinking about' their future employment (I30), that is, through the training they became aware of the multiple options that they now had as a result of their new knowledge and skills. The responses below show how the process of awareness raising is an important precursor to increases in personal capacity and self-efficacy.

I62: There is a broader aspect to it in terms of broadening the knowledge too, broadening their minds.

I37: Well, it provides opportunity, it provides choice.

I13: It helps them to understand what opportunities are there out for them too and what avenues are out there for them.

I91: Now they realise that there is other opportunities and other options.

I15: She's had a real focus this year on bringing representatives from the industry and the industry network to talk to the kids and they are quite amazed at all the different streams that industry would have and see possibilities and options

I36: It's about exposure to different life experiences as much as the hard-edge educational outcomes.

I30: I think involvement in training… tends to lead to thinking about leading to employment, thinking about having a future.

4.3.4 Summary of results: How does training build community capacity and well-being?

This section aims to briefly summarise the results for Research question 2. It will firstly address the question of who benefits from education and learning. Secondly, it will address the question of how this occurs.

4.3.4.1 Summary of results: Who benefits?

The results presented here show that respondents believe that education and learning has a broad range of beneficiaries. More than half of the responses relating to this showed individuals as the main beneficiaries of training. A substantial number of responses related training benefits to industries and communities. A smaller group of respondents saw training benefiting other groups such as training providers.

Individuals were described as participants of training programs in several roles. Some were described in terms of their relationship to the training itself—as apprentices and trainees. A subtle variation of this identification was the role of individuals as learners, who tended to be described as more self-directed and not necessarily doing training for a vocational outcome. Participants were also recognised as members of society as a whole—individuals who engaged in training were thought to be more engaged with their community. For many respondents, the relationship between training and work was significant. Hence, individual participants were identified as benefiting from training because it would improve their chances of getting into employment, or enhance their job performance and increase job security.

Communities were also considered to be beneficiaries of learning. A little over one-fifth of all responses were described in terms of community benefits. Three ‘types’ of community were identified by respondents: the ‘local’ community; community as voluntary organisations; and Indigenous communities. The local community was discussed in terms of being an ideal social structure in which people could live happily together in a functional kind of way. Training was therefore seen as a kind of catalyst that assisted the social functionality of the community. Communities as the sum of voluntary groups were also recognised as a group that benefited from training. Voluntary groups were seen as integral components of community, providing important services and social networks within which people could work. In this context, training was seen to benefit through an inclusive process of integration into the community through skills and service. Indigenous communities were identified separately from the other forms of community described. Whereas ‘local’ (mainly non-Indigenous) communities were described as a socially connected mix of individuals, community groups and industry, Indigenous communities were often described in terms of a hierarchical structure, sometimes with clear lines of authority and leadership, to which people belonged. Training in this context was seen to be for the good of the community—that good being determined not so much by the individuals but rather by the leadership structures within the community.

The third major grouping of beneficiaries was described under the heading of ‘industry’. For industry, defined by respondents as a profit making enterprise, training was described as tool that could be used to enhance the financial viability of industry through increased productivity and reduced risk. Industry was also described more as an employer. In this context, training was seen to benefit industry by assisting them to meet their obligations to their employees. Industry was also described more generically as a broad group of stakeholders, including shareholders, customers and clients in addition to the employers and employees. Training benefited industry in this context by enhancing the experience of customers and clients and building better relationships through improved employee and management skills.

4.3.4.2 Summary of results: What are the benefits of training for well-being?

Benefits of training were assigned to eight bands of social well-being identified in the literature (Health, Wealth and economic well-being, Employment, Education, Culture and leisure, Social environment, Physical environment, Personal safety) and a ninth category relating to individual well-being (Identity). Of a total of 643 responses identified in the interview data, the largest number of benefits described by respondents were employment related (34.8 per cent). This was followed by identity benefits (21.6 per cent) and social benefits (15.1 per cent). The smallest number of benefits identified related to health (1.4 per cent) and physical environment (1.6 per cent) benefits.

Health benefits (excluding occupational health and safety) identified were related to both personal and community outcomes. There was mention of preventative aspects including improved diet and physical fitness. Some training programs such as first aid were directly related to health outcomes. Others were more focussed on health industry benefits, which were the result of training of health workers and professionals.

Wealth and economic benefits were identified for all groups of beneficiaries detailed above, including an ‘other’ group, which were mainly training providers who gained financially from provision of training. Community benefits were described in terms of capacity-building, empowerment and expanding opportunities. Income security was a further way economic benefits were described for communities. For individuals, respondents saw that completion of training had a direct impact on earning capacity and gave them choices that others do not have. Respondents were more reluctant to offer examples of an economic benefit for industries from training, except indirectly through productivity gains.

Employment related benefits were the largest group of benefits identified. Responses were divided into benefits for industry and benefits for individuals. Employment benefits for industry related first to its role as a profit making enterprise with a large number of responses relating training to productivity, the need for appropriately skilled labour and improved performance and risk management. The second group of employment benefits for industry related to its role as an employer, with responsibilities for its employees. Training was described in terms of building the capacity of the organisation by increasing the capacity of the individual or the work team. Training was seen to facilitate improved employer/employee relations and industry/community relations. The third group of employment benefits for industry relates to its role as a broader group of stakeholders, encompassing the enterprise, customers, shareholders, clients and other partners. Respondents recognised that training plays a part in the development of the whole business, not just the production side or the sales side of the enterprise.

Three categories of benefit emerge from the analysis of the interview data relating to individual benefits for employment. Firstly, training assists an individual develop a career pathway. Secondly it builds an individual's work ethic and values. Thirdly, it increases an individual's capacity to perform the tasks required on the job.

Intrinsic benefits of education were expressed in terms of education being a pathway by itself. Respondents described the intrinsic value of being literate, the importance of having a qualification, having ownership and gaining recognition for it. Comments about the personal satisfaction of knowing and achieving reflect these values.

Leisure and cultural benefits can be divided into two groups: those for clients and customers (mainly as tourists); and people within Indigenous communities. Addressing firstly the clients and customers group, respondents described the importance of knowledge transfer, for example for tourists wanting to know about a place or retail customers wanting to know about a product.

For Indigenous communities the leisure and culture benefits were varied. On the one hand training enhanced people's ability to understand white culture and on the other it allowed them to reinforce their own culture and build the life of their own communities. There was also a sense in which training was useful for application in the day to day aspects of life.

Social benefits were attributed mainly to communities and, to a lesser extent, to individuals. Respondents spoke of the social value of learning for communities in terms of building social relationships; strengthening existing community mores, norms and values; building connections outside their community; and increasing civic participation. Respondents spoke of the social value of learning for individuals in terms of building interpersonal relationships; adapting to accepted social norms and mores; and expanding personal world views.

Only a small number of *benefits for the physical environment* were identified. These related to accessibility and ecological issues. The comments relating to access were generally directed at Indigenous groups where training was used to access media and services through technology, to access government contracts, and more generally to facilitate access to the 'system'. The ecological benefits related to concerns with environmental issues in agriculture, in particular the way in which training could address issues related to chemical use, land management, and relationships between residents and industry, particularly in a rural environment.

Personal safety benefits of training were viewed by some as being at the periphery of community need, referring to safety more as a spin-off from other training activity than a direct benefit to the community. Others however recognised the value of training to the community in terms of cyclone awareness, fire safety and road safety. With regard to personal safety benefits for industry, a small number of respondents recognised the value of health and safety for employees in the workplace generally. The majority of industry benefit responses came from training providers and coal mining industry representatives in the Bowen Basin. The emphasis of their comments was on conformance to legislation and regulation within their industry.

Identity benefits were clustered in four groups of responses. The first group relates to the development of the self-concept; the second to self-efficacy or personal capacity; the third to social relationships, and the last group relates to the individual’s awareness of themselves and the options they had open to them. In terms of self-concept, the responses point to the ways in which learning changes an individual’s self-perception—answering their fundamental ‘who am I’ questions—building confidence and capacity to make choices for their future, both within and outside of employment. The second group of identity benefits described by respondents related to self-efficacy; typically reported in terms of empowerment, capacity to make choices, to take opportunities and to act on them. A smaller group of responses described identity benefits in terms of relationships with others. Typically, these responses discussed the benefits of learning in terms of teamwork and leadership. The fourth group of identity, benefits labelled as ‘awareness’, described how learners ‘broadened their minds’ and had a greater understanding of the opportunities and choices that were available to them.

The results presented for Research question 2 demonstrate the wide array of ways in which training and learning builds capacity. Some site differences were observed, reflecting the different learning contexts represented by the four savanna case study sites.

4.4 Research question 3

Research question 3 is restated below for the benefit of the reader:

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

(a) What makes training effective?

(b) What role do partnerships play in effective delivery?

(c) What are indicators of effective delivery?

This section details the responses obtained from analysis of the 102 semi-structured interviews, which relate to effective training programs. While respondents tended to give examples of programs they had been involved with throughout their interview, one question in particular was built into the schedule (see Interview schedule, page 446) to elicit specific responses about effective programs:

> Can you give an example of a learning program/course that you have observed or been involved within this community that has been effective?

Respondents were prompted with sub-questions about the nature of the program, who participated, what the outcomes were or other issues as they arose in the course of the discussion. Additional supporting information about the programs' effectiveness was often given while answering the questions about drivers and barriers.

It was anticipated during the design and testing of the survey instrument that information about partnerships and their role would arise from discussions about effective programs and drivers of training. This did in fact occur and several key partnerships were identified (including three highlighted in the literature review, see Success for partnerships, page 82). The results about partnerships shown in this section will highlight findings from a selection of partnerships from each site.

Results relating to indicators of successful delivery noted in this section will also draw on findings from the discussion about effective programs, supported with additional material from responses to questions about drivers and barriers.

4.4.1 What makes training effective?

This section focuses on the first part of Research question 3, which was restated above. A total of 114 discrete effective learning or training programs were identified by respondents. These are listed at Table 83 (see Appendix 9—Effective programs identified, page 464), which shows the sites in which programs were identified and the number of times each program was mentioned within the site. Some programs were described generically, such as ‘work for the dole’ and others were described more specifically, such as Cert II Automotive (Port Keats), specifying a location, or in some cases a provider and the title of the course/program. The definition of ‘effective’ was left open to the interpretation of the respondent. Respondents were given the opportunity of offering more than one program if they chose to.

Consistent with the methodology described earlier (see Analysis techniques and tools, page 182), analysis began at the point of transcription with an emerging coding framework progressively developed using NUD*IST™. For the question about what makes training effective, six key areas were identified through this process (see also Table 30, page 184). These areas are grouped below and reported under headings of Needs, Motivators, Resources, Delivery aspects, Identity aspects and Outcomes. Definitions for each category were provided at Table 29, page 183).

A total of 1015 responses were identified within the interview data that related directly to ‘effective’ programs. These responses are essentially key extracts from the respondents’ descriptions of effective programs, coded using NUD*IST™ and quantized using MS Access™, according to one of the six categories defined earlier in Table 29. A summary of the 1015 responses is shown in Figure 40. The chart shows that the largest group of responses (24.2 per cent of all responses) related to delivery aspects of training. This was followed by identity aspects (21.8 per cent); enablers (17.0 per cent); motivators (15.4 per cent); outcomes (14.5 per cent); and needs (7.1 per cent).

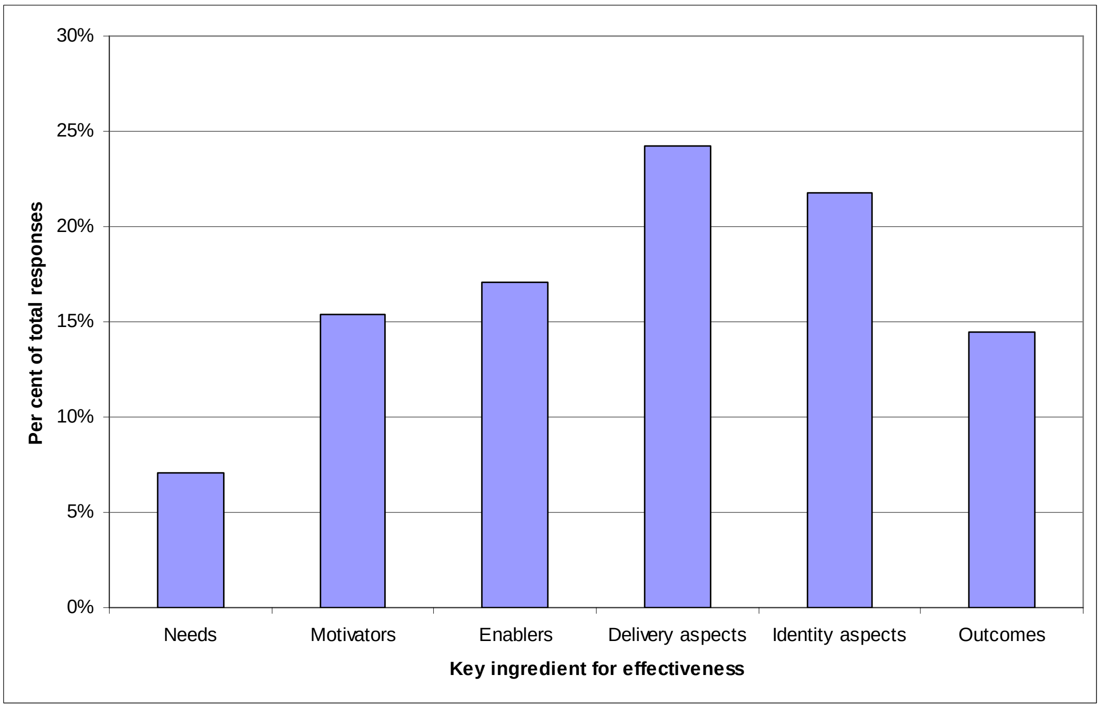


Figure 40 How respondents perceived key ingredients of effective training programs (n = 1015, multiple responses allowed)

A detailed explanation of what these ingredients of effectiveness mean is given in the sub-sections to follow. Each will be considered in the order shown in the chart above. A final section (see page 290) considers site and respondent differences for these ingredients.

4.4.1.1 Needs

The perceptions reported in the data suggest that the first step along the way to effective training outcomes is the identification of a training need. The need could be recognised by the individual, an enterprise, an industry group, a provider, a family or a community. The identification of a need establishes the *reason* for training. Findings about needs recognition are summarised in Table 68. This and other tables in this section show aspects that contribute to *effectiveness* and aspects that contribute to the *vulnerability* of programs. Items in the vulnerability column indicate that respondents felt that because of an absence of these things, the program that they had described was somewhat vulnerable. The table shows that meeting individual needs was identified most frequently by respondents, followed by community and then business needs. A small number of respondents identified global or non-specific needs within their effective programs, which they felt were important. Within this latter category, in most instances, respondents spoke generally, without specifying a group of people. For example, a comment from a respondent (I39) like:

I39: …from the time we hit the community the first time to talk to the people…

suggests that needs were assessed but not for any particular group. Seven responses like this were identified in the data.

Table 68 Summary of responses relating to recognition of need as an ingredient for identified effective training programs

Type of need recognised	Contributes to effectiveness	Contributes to vulnerability
Individual need	33	1
Community or regional need	19	3
Industry enterprise or business need	13	1
Global or non-specific need	7	0
Grand Total	72	5

Meeting individual needs

At each site, respondents reported that responding to individual need was a necessary precursor to the effective programs that they cited. This was the largest group of responses under the 'need' category, with 33 identified responses.

Respondents described how they saw the demands (I38) or 'wants' (I24) of individuals being met through the training. In some cases this was identified by the provider, in others it was identified by the trainees themselves (I86). One tourism industry representative described how a program satisfied what tour guides wanted to know about to meet the requirements of their role as guides (I62). In another example (I19) a provider describes how he simply asked the group of individuals concerned what they wanted and how they wanted it delivered.

I38: And we can't keep up with demand for how to use the Internet and those kinds of courses and they run each week.

I24: He got a group of boys that would have basically left school and run off the rails. He gave them the responsibility and motivated them, he was just an average everyday sort of guy and thought these guys like cars, these guys like servicing….

I86: We set up the educational precinct, which is between the schools and TAFE etc. at Mt Isa. We've also set up training programs with Mt Isa Mines and here I've had one of my projects, which were probably more of a priority, were to restructure courses for the disability community. Any of those what I found was a key to it was the demonstrated need first and nearly every time everyone has come either from an industry, a community, and external government groups that's had a need, has come along and highlighted it.

I62: it's focused exactly on what they want to know more about. It's focused on the role, it's focused on the aspects within that, that they want to know more about.

I19: And we spoke to them, we asked them what they wanted. We deliver that where they wanted it. We made it culturally appropriate. And addressed real life issues for them.

Meeting community needs

The majority of responses relating to community needs came from respondents who had an interest in Indigenous training. In many cases, the community saw the need and the training providers facilitated that need and helped promote the appropriate networks required to make it happen (I77A). One example cited by a representative of a government department, was about a program that was designed to re-engage youth and thereby address youth suicide issues (I63). Respondents reported that community need could be either driven from a grass-roots base (I61, I77B), or from leadership within the community, such as the council president (I39).

I77A: In the two week course the management plan that was produced at Uluru this was really detailed. The Aboriginal people produced this themselves. It also produces plans with high level of community ownership. And that is proving very successful…

I63: Because they were very concerned about… youth suicide was very high and at the time and she was looking at ways of supporting or getting something happening for these young people.

I61: Because I guess they realise that this community had a dream or they wanted to form this band and were passionate about it and are ready to commit to it.

I77B So it's much more away from training providers going out with their certificates saying sign here, get you into this certificate. It's about much smaller units of competency and skill provided to a much more directed overall program of what the community wants to achieve.

I39: The council president, clerk, had mentioned that they want to get some activity, mainly to stop any community dysfunction I suppose.

There were other non-Indigenous examples of community need being identified. For example in a rural area, community concerns about chemical use prompted industry to respond (I14). In the Bowen Basin, a regional development coordinator described how the first step of a successful program was a skills gap audit to determine regional and community needs (I92).

I14: It's really critical because from our point of view spraying and those sort of things are the biggest bugbear from the community as well; people saying, "just because you're a good or bad horticulturalist, farmers are spraying stuff everywhere". At least if we can get this uptake then you know they can understand the labels and that sort of thing…

I92: Early on we did a study, a skills gap audit and that's become a baseline for a lot of other things that we implemented. From that skills gap audit we have implemented an Upskilling the Highlands program, which has been extremely successful.

Meeting industry needs

A total of 13 responses described how meeting industry needs was critical to the success of programs. In some instances, this was identified directly by the business or industry itself, (I03, I59) and in other cases the recognition of need came through a broker by a negotiated process (I80, I76). In the latter instances, training was presented to the industry as a possible business solution to overcome a major project skills shortage. Regardless of the method or process, all of the following illustrations demonstrate that effective training for industry must be relevant to the needs of industry.

I03: An example of that would be we did the Citrus Industry Development Plan about fifteen months ago and one of the critical things that was identified by Industry was the need to maintain business skills and market skills and all that.

I59: Obviously as a business we want to promote within, you know we have trained these people who we want to promote from within. The logistics are not always good being in a remote area but that's our aim, and it doesn't always happen but that is our aim, to keep offering these courses in the hope that we will get store managers.

I80: So the key area of success of it for employers to take people on is to recognise what they need and to develop the training for what they require.

I76: That meant sitting down with [Business name] and some other clients as well or some of the other proponents of the project and basically designing, identifying opportunities where we could put Indigenous people into.

Need and program vulnerability

While only a few respondents expressed concerns about the vulnerability of the programs they described in relation to need, a few extracts are worth noting. The following all relate to training of Indigenous people. In one instance related to CDEP training, a respondent (I83) suggested that 'people questioned the need' for training. In another example related to training described by a correctional service provider, the suggestion was that the need for breaking out of the cycle of abuse and violence outweighed the need for training (I41). A third example related to governance training for Indigenous communities (I19) suggested that training was often provided without consultation and consideration of local community needs.

I83: So, people are always questioning the need for training as well.

I41: It's just that cycle. We see some of their kids now. It's very hard to break that cycle when they've seen that violence and alcohol abuse.

I19: You know the training is being delivered without proper consultation or negotiation with the Aboriginal people themselves. They're sort of dragged into the process rather than initiating it. Not in all cases but in a lot of cases it is.

4.4.1.2 Motivators

Table 69 summarises the responses relating to motivators as effective ingredients of programs—things that provide *impetus* for engagement with training. The largest group of responses relates to 'desired objective'. The second group—incentive or opportunity—arises in situations where an incentive is offered for someone to participate. The third is the opposite, where if training is not carried out there is some threat or potential penalty. If the incentive is a 'carrot', the threat is the 'stick'. The last and smallest groups of responses relates to an external encourager, which may be in the form of a parent, community leader or trainer, persuading or encouraging participation. Of the factors that contributed to vulnerability, the largest group of 'demotivators' related to external influences.

Table 69 Summary of responses relating to motivators as an ingredient for identified effective training programs

Type of motivator	Contributes to effectiveness	Contributes to vulnerability
Desired objective	62	4
Incentive or opportunity	52	5
Force, threat or demand	23	3
External encourager	19	6
Grand total	156	18

Motivators: Training addresses a desired objective

The first and largest group of motivators that were considered ingredients of effective programs are here described in relation to a 'desired objective'. In other words, the motivator was the fact that training was seen to be a meaningful pathway to a desirable outcome. It differs from 'need' in that while need is a 'must do' thing, this motivator is a 'want to do' thing. Examples from all sites are shown below. Some respondents described this in terms of individuals' 'desire to learn' (I45) as was the case for a language translation trainer, or 'really wanting to do it' (I38) in the case of an ACE type computer skills program in Palmerston.

I45: But these people, the zeal with which they are working to do these things, we've seen that, working with their own language, working at what they want to do, their desire to learn. Because when you talk, let's go back to who's driving it, what you are triggering, even when you show these things, is a desire to learn.

I38: I guess if you go and pay for of course you're going to be really wanting to do that because a lot of people don't have a lot of disposable income.

At an Indigenous community level, this appears to be related to 'ownership' of the program (I61). An interesting example from a rural VET in Schools provider describes how the motivation to participation in an automotive skills program was driven by students' desire to drive a car on a race track (I15). A community representative in the Bowen Basin described this motivation as being quite distinct from the 'need' for training. Participants in this case—women who were generally partners of mining workers—were said to be motivated by their own learning (I89). Each of these examples demonstrates the significance of motivation driven by a desire to learn whatever it is that is on offer.

I61: So they looked at giving people really practical experience which culminated in the [special event]…This group of young people were basically mentored through the process of the year which was perhaps a lot longer than other training providers would've done to take to do the same sort of thing... It was really intensive, it was really community owned, they linked it to the school and its footy clinics. …really hands on practical teaching involvement.

I15: Now to do that they had to have a full understanding of all the automotive skills involved and three that are in the program actually got to drive the car in a race situation so I find that that sort of approach is motivation in its own right because they are dead keen to get everything right in the vehicle so they can get behind the wheel and try it out.

I89: From what I understand, even women who haven't formally studied for a long, long time and in many respects—probably from an outside perspective probably don't need to because of the income in the family—so they're motivated from their own learning…

Motivators: incentives and opportunities

The second group of motivators could be described as incentives or opportunities. That is, the driving force was the reward that participation brought, often described in terms of career or financial reward. Respondents from all sites gave examples of this kind of motivator. A Howard Springs respondent, for example, relating an example about a Greencorps program for youth, described this in terms of recognition of the 'opportunities' and 'avenues' that training opened up for participants (I13). In Palmerston, a respondent describing Armed Forces training discussed the incentive to train as leading to 'greater pay' and promotion (I51).

I13: But also, that helps them in turn, being middle-aged, a lot of them have kids coming up to that stage where they want to know what to do for the rest of their lives. It helps them to understand what opportunities are there out for them too and what avenues are out there for them.

I51: And [the trainees] come out with not only a qualification which leads to a promotion or which leads to a greater pay scale but also clearly demonstrates the person's capacity to do it as well.

A respondent working with Indigenous groups contrasted training for training's sake with training for real jobs (I80), suggesting that the incentive to participate was something very concrete and tangible in the form of meaningful employment. A Bowen Basin private training provider related how trainees volunteered to pay $3,000 for a training course up front from their own resources because of the job prospects that followed from the qualification (I99). In each case described, there is a motivator arising from participation: income, employment, career opportunities and promotion.

I80: I'll take one step back from that. One of the key things that has come from what we're doing; we're actually looking for real jobs. So part of our strategy is to get the jobs first; we don't believe in training for training's sake.

I99: OK we ran a training program, fourteen months it was. Put it in the paper. It was $3,300 if you wanted to join it…People did it because, why? Because there's a good job, a lot of future for this particular qualification. Now why was it successful? It was successful because the people that came to the door and that came to the room wanted to be in the room.

Motivators: Force, threats and demands

The third group of motivators described by respondents as a precursor to effective training is described here under the heading of force, threats and demands. In the examples cited below, there is a 'do it or else' feeling coming through. In other words, 'if you don't do the training, you don't have a business'. This was particularly noticeable in the Howard Springs and Bowen Basin sites. In the case of the former, courses like Chemcert and Freshcare were mandatory and had audit requirements attached to them (I06, I48). In the Bowen Basin, occupational health and safety training and qualifications formed part of legislation governing coal mining operations and therefore were a prerequisite to employment (I87). A variation of this type of motivator is found in the tourism and hospitality industry where customers place a demand on operators for certain services and experiences (I73). In all cases there is an imperative that demands that training be carried out.

I06: And I think the reason it's effective is because people know they needs those skills because that's where the industry is moving. It's actually critical to their long-term viability. If they don't do Freshcare and they don't apply Freshcare they can see in the short term they will not be acceptable in the marketplace. There's a need to know and the need to apply that information. So people pay attention in those courses, they take notes and then they go home and apply it to then get themselves accredited with a Freshcare audit.

I48: It's an audit requirement. So basically they have to do it.

I87: So now we have the legislation, which sets out to make sure that every body that sets foot in a mine site is into that safety system, that they know what their obligations are and I mean everybody.

I73: I suppose with the tourists one thing they always say is how come there are no Indigenous people working in these hotels? And the training we are doing here places Indigenous people in the hotels which the tourists love.

Motivators: External encouragers

The final group of motivators described by respondents related to sources of encouragement quite apart from the training provider and the trainee. In one case the encourager was an enterprise bargaining agreement (I95), which served as an external incentive to both the employer and employee to train. In two Indigenous training contexts (I63, I61) the 'push' came from community elders or leaders. In a fourth example from Palmerston (I32), it was parents of young people in an army cadet program that provided that motivation. Note that in each of the examples cited, it was not the provider that was the driver for training. Nor was there a perceived need on the part of the trainee. Rather, the push came from someone outside who saw the value of training.

I95: It was initiated as part of the enterprise bargaining agreement for the Public Service back in 2000. So there was a requirement for eligible A02 staff and A03 staff to undertake qualifications. It was voluntary, but in order for them to get another pay rise to go up another scale.

I63: I thought that was particularly good because it came from her and pushing and doing that whole consultation and having her own people involved.

I61: They wanted to keep, the elders wanted to keep the people in Manmoi because it keeps them out of trouble. They wanted to keep the young people there.

I32: A lot of them in that category are actually made to come. The parents have decided that they don't have the skills, can't be bothered giving them those skills.

'Demotivators'

A total of 18 responses related to demotivating factors that worked to increase the vulnerability of programs cited. The largest group of these were related to external influences. All the examples shown here relate to Indigenous contexts. These included boredom (I60), problems associated with leaving families and communities (I01) and the expectations of families when family members earn additional income

(I04). Another demotivator related to substance abuse, which one respondent from a correctional service in Palmerston suggested was a growing problem (I41).

I60: They can go back to their community where they are sitting under trees not doing anything. Now you can see that suddenly, or getting drunk, because there's not much there, they get bored, boredom sets in, so that's the problem I think.

I01 Students have trouble leaving communities for long periods of time.

I04: Quite often it can be the families that act as barriers for the trainees as well because instead of the kids starting work they expect a handout and that has been a real issue at times.

I41: We have a lot of cannabis use. And we have speed coming in thick and fast. Every week you are hearing of other kids that are on it or worried about their friends, just huge here in Palmerston, particularly cannabis. And that motivation, just they just haven't got if they're smoking every day

4.4.1.3 Enablers

Table 70 summarises responses relating to effective programs identified by respondents, under the heading of 'enablers'. Another way of thinking of this group of responses is in terms of resources. It is notable though that these resources described by respondents as being important for effective programs were generally not financial or infrastructure resources. These two groups comprised about one-quarter of responses. More than half of the responses related to relational structures and partnerships. About one in five responses were related to commitment and support.

Table 70 Summary of responses relating to enablers as an ingredient for identified effective training programs

Type of enabler	Contributes to effectiveness	Contributes to vulnerability
Relational structures and partnerships	94	21
Commitment and support	33	16
Funding or financial support	23	24
Systems, infrastructure and resources	23	30
Grand total	173	91

Enablers: Relational structures and partnerships

Respondents from all sites gave examples of how relational structures, and in particular partnerships, contributed to the success of a program. Relationships in general were cited as being significant for Indigenous programs, but more specifically respondents often spoke of drawing together the right 'combination' or 'partnership' of people together (I34). This drawing together of relevant stakeholders—business, government and community—was seen to be an important part of strategies designed to 'produce results' (I62). In non-Indigenous contexts, partnerships and relational structures were also considered to be highly important. One adult education provider in Palmerston, for example, described how her organisation was seen to become a 'trusted broker of information' within the community (I39). A government representative, speaking about a Howard Springs VET in Schools provider, spoke of the importance of the school–community relationship as a facilitator for effective programs (I29). In the Bowen Basin, an ACE provider described how important the support networks within her organisation were (I89).

I34: So what made it work? My view is that it was the people, a combination, the partnership; the relationship that we had that I believe made it so successful. And it didn't matter, people were happy to go the extra yard.

I62: You've got several, four different groups I suppose. The Territory government. The federal government, there is an Indigenous organisation involved in it plus the business itself. And they're all involved in delivering this so there's no pulling from different directions, they're all working together. It's a valid partnership of all interested parties. It seems to be producing results.

I39: And they develop a relationship, you become a trusted broker of information and I guess that's what we are all about. We want our community to come back.

I29: The original school council was very concerned that they wanted something that fitted in to the community, that community being a small animal, agriculture, horticulture type of community. They were driving that from day one. Those same people were on the Board when options for VET in Schools came to exist. And they really pushed it through and we could see that we could get that, better relationships, keep up-to-date so we pushed it too from the staff point of view.

I89: I guess, I think because, because it's a course that's been run in a lot of other centres obviously there are a lot of centres in Queensland that have been around a lot longer than Dysart has, so we have a really good network of support through [Organisation name] and if we have problems as coordinators and as facilitators, we can just go 'hey who can help me out with this?, I seem to be stuck, there's a certain lady who can't get past this point or she's having this problem' or 'how can I help'. And [Organisation name] and their support is incredible.

Enablers: Commitment and support

One of the keys to effectiveness that another group of respondents discussed was the importance of commitment and support: from employers, government and providers. In some cases this was necessary to overcome the barriers associated with disadvantaged groups as was the case with an illustration from a Palmerston community service provider (I35). Several respondents spoke of the importance of 'long-term commitment', particularly in an Indigenous context (I70, I12). This was both in terms of funding and consistency and continuity from the provider (I12). A provider in the Bowen Basin spoke of the significance of a ten-year commitment a mining company had made to a youth training program (I88). The undertone of many of these comments is that the long-term support and commitment brought to a program added sustainability that could not be offered in the shorter term.

I35: And so the employers and trainers were very supportive, very understanding of the youth I think developing developmentally as well with the ego that young people bring and some of the attitudes that have been built on the street for a while.

I70: Really the only reason that that was a success was that the two parties in the joint venture had a long-term commitment to the success of it that was stronger than the driver for short-term economic viability.

I12: I think the best example was one that I was talking about before. For the community where we did the partnership. Because that has survived no matter what was thrown at it. Every disaster that tried, we survived it because there was so much commitment from the community as a whole, because there were people in specified positions, whose job it was to maintain it, because people could come and go within that structure and there was sustainability.

I88: But a good program is the [Program name]. If you talk about sustainability we've had very successful outcomes over ten years. It's been there for a long time. If we're talking about sustainability perspective it's stood the test of time. It's involved, there's the people who are involved in it, the committee, the fact that the [Company name] supports it moneywise so it hasn't had to struggle.

Enablers: Funding or financial support

While 23 respondents spoke about the positive impact of funding on program effectiveness, it is interesting to note that as many if not more respondents warned that funding threatened the viability of programs (see 'Disablers', page 276). In other words, while respondents appreciated the support they got from governments and industry, they also expressed feelings of vulnerability. Funding however was not seen in isolation. For example, one respondent (I61) discussed the funding alongside 'infrastructure' and 'partnerships'. Other respondents placed the importance of financial resources not on the funding body but on the fact that the organisation was able to attract funding (I64, I91). Another acknowledged form of financial support came in terms of time off given to employees to attend programs (I51).

I61: Partnership, long-term commitment and the funding. DEET, even though it didn't necessarily always fit into funding models and had to fight pretty hard to get ongoing support. In the end they did. Perhaps not as much as they would've liked. But there was that infrastructure there. The partnership and the infrastructure and the money to be able to do it and the committed people behind the whole process.

I64: They've had a lot of money going into the community which I think that's a reflection of that level of organisation that they've got because they've been able to apply for and attract lots of money from outside.

I91: We actually got funding through the federal government for it. It was actually through ECEF that one too and they're the ones who set it up. We got about $360,000.00 worth of funding from them to set it up …

I51: The book work itself, we were provided with time, once a month we'd have eight hours to work at it.

Enablers: Systems, infrastructure and resources

The final group of enablers falls under the heading of systems, infrastructure and resources. Respondents who described these things talked about the importance of having good systems and supportive resources in place to make training happen. In some cases, these things were not seen to be the primary factor contributing to program effectiveness, but as one Palmerston respondent suggested, 'you certainly have got to have appropriate systems' (I47). These systems could be reporting systems (I63) or they might be agreements or, in the terms that an industry representative described it, as a memorandum of understanding between stakeholders (I76). Either way, these systems underpinned the effectiveness of the programs described. Another form of resource that was sometimes said to facilitate effectiveness was access to technology (I94), which was particularly significant for learners in remote mining communities of the Bowen Basin.

I47: Once again they had the good system. It was the right people. It's always the people thing that makes the difference. You can have 101 different programs and you'll find one that's successful and one that's not. Shift the people around, and then the other one won't be successful. It's the people factor that's the key in this. But you certainly have got to have appropriate systems.

I63: We have come an enormous way. We have completely changed the way that schools are allowed to operate.

I76: So from that, it was a bit of an off-the-cuff comment, and we actually formed an MOU about eighteen months ago. In that time again as far as the training is concerned we have had some reasonable success, we started off with… that reasonable success means having jobs at the end of it.

I94: Technology helps. We are very technology rich I think. But I think we've got video-conferencing facilities, the school has got virtual schooling, we are technology rich.

'Disablers'

The largest group of program aspects that contributed to vulnerability of effective programs was related to factors that are here described as 'disablers'—a total of 91 responses related to this category. These can be considered to be the opposite of the enablers. That is, while an enabling factor might be funding, a disabling factor could be described in terms of lack of funding. Of note in Table 70 is that the largest group of disablers relates to 'systems, infrastructure and resources', followed by funding.

The issue around systems infrastructure and resources centred on staff, training facilities and remoteness. Remoteness in itself was not seen to be the issue; rather the cost of training in remote areas (I02) and the resulting irregularity of training (I79) posed the biggest threat. Gaining access to funding was seen to be a problem (I45). One provider described that this meant going through too 'many hoops' (I65). Other providers discussed the issue of conditions attached to funding and problems associated with getting numbers of people to 'turn up' (I05, I56). Some common threads emerge with these examples: they are all providers and they are all providing to Indigenous people generally in remote areas.

I02: For the Northern Territory it would have to be distance that would be the biggest barrier… Lack of resources would be the next biggest barrier. Resources in the sense of money for programs and people. Having the expertise; having the backup; feeling they are not isolated.

I79: All of those one-off things are done by white administrators scheduling time and budgets. The people I see in remote locations could do so much better further down the track if they had regular training.

I45: Abstudy is some of the biggest barriers. I've dealt with individuals who are the most helpful people in the world. They're doing their best to be helpful but they are bound by the regulations, the manual, about what people are eligible for in their study.

I05: Funding is tied to how many people start the course. We might be funded for four by ten—four groups of ten. If only two people turn up in that first group we lose funding for the top eight and so it can become an absolute nightmare if they don't turn up.

I65: Money. Underfunding. The way the funding is applied. You gotta go through so many hoops to get the funding.

I56: If I could deliver training to three people who want to be mechanics and concentrate that effort I would have three people who would be mechanics: a hundred per cent success rate. Under the obligations we have at the moment I've got to have ten.

4.4.1.4 Delivery

A total of 246 responses described effective programs in terms of aspects of delivery. Responses are summarised in Table 71 below. The largest group within this category was about training program characteristics (96 responses) followed by trainer characteristics and relationships (63), training processes and foundations (58). The smallest group related to recognition and qualifications. A small number of program vulnerabilities (16) were associated with aspects of delivery.

Table 71 Summary of responses relating to aspects of delivery as ingredients for identified effective training programs

Aspect of delivery	Contributes to effectiveness	Contributes to vulnerability
Training program characteristics	96	1
Trainer characteristics and relationships	63	8
Training processes and foundations	58	5
Recognition and qualification	29	2
Grand total	246	16

Training program characteristics

Training program characteristics were cited by the largest group of respondents from all sites as factors that contributed to effectiveness of programs. A representative selection of responses is shown below. Several responses related to the importance of training being 'hands on' or 'practical' or 'relevant' (I37, I13, I14, I94). Innovative and flexible training methods were also cited frequently (I94, I17, I37). The responses suggest that programs that engage the learner in real-life situations, that are related to their work, personal or community needs are more likely to be effective than other programs, which by implication are theoretical, traditional and 'boring'.

I37: If they have those opportunities to learn in innovative ways, hands-on stuff appeals very strongly to people who may not feel up to reading a book.

I13: What makes it really good is the same as what I was saying about the Green Corps, it's that hands on.

I14: The testing was very simple at the end of it. It wasn't necessarily a simple test but it was exactly relevant to the… I guess it was all hands-on, exactly the things you would confront in the field.

I94: [It has] good mentoring and review, recurs every year, flexible delivery modes, practical training as opposed to more theory, training and is in students' interest areas, accountability of programs to families and community and employers, innovation—employers contribute to skills development and ensure key competencies for the industry are met beyond the standard TAFE expectation.

I17: You've got to have people who are innovative and flexible and who are prepared to listen to the clients.

Trainer characteristics and relationships

The second largest group of delivery aspects that contributed to effectiveness related to the trainers themselves. The selection of responses given below suggests that the trainer's relationship with the trainee is important (I33, I90). One respondent, a provider from Palmerston working with disadvantaged youth, described this in terms of 'mentoring' and a 'trust' relationship. 'Good' trainers are described as facilitators who 'know what they are talking about' (I06), motivators (I24), and good communicators (I34). This small selection of responses highlights a number of aspects of trainers' relationships with their trainees. These aspects were identified by respondents from all sites.

I33: Our mentoring is basically where we are building up a relationship, a trust relationship with our client, giving them a point of focus, so that might not be able to turn to the training coordinator they might not be able to turn to the Job Network for whatever reason, so basically we become the focal point.

I90: I think its success lies in the genuine interest of the people that are delivering the program to develop an understanding and an empathy with the participants.

I06: You need to have good facilitators, people who know their stuff and know what they are talking about.

I24: First off the instructor believed in it. He believed in education in schools. He got a group of boys that would have basically left school and run off the rails. He gave them the responsibility and motivated them.

I34: She has got those skills in personal communication and interacting with different people. So I think that part of the success of the programs that she runs is very strong personality based and she's a very gifted musician.

Training processes and foundations

A somewhat smaller number of responses described the significance of training processes and foundations for the effectiveness of programs. Typically these were reported in terms of developing or designing a program to meet the needs of trainees (I43), of providing adequate support (I78) and building in feedback or review processes into the training (I93). One provider suggested also that building in a variety of activities into the program design was a critical aspect of the effective program he had observed (I44). One Palmerston community service provider (I42) suggested that good coordination was critical to the success of programs. All of these aspects are things that support the training activities and make them run smoothly: things like planning, administration, coordination, design, evaluation and support.

I43: You've got to adapt yourself to those groups of people.

I78*:* It's having a supportive work environment. Working in the VET sector stuff it's having a totally supportive work environment. So when I come to a training visit the person sits down they are interested, what ways can we do that and the supervisors helping that person practice.

I93: If it's longer than three months, you need around three monthly reviews at least. So communication is important, the feedback process, you know it's all quality.

I44: If someone can go out and grab them and show me how would you react in this situation and get them involved and get them with the data projectors and DVDs and other learning materials, that's what makes it interesting.

I42: A few of the STEP programs that have been running the Darwin area before I think if they are coordinated well and run well that they have had some really good success rates specifically working with Indigenous people.

Recognition and qualification

While recognition and qualification responses were a relatively small group of responses relating to delivery aspects, there were still several respondents that identified the importance of these things. They described this variously in terms of accreditation, standards, qualifications and certificates. The importance of the recognition was dependent on the context and the trainees. For example, a horticulturalist in Howard Springs attached significance to the training because it enabled accreditation through an audit process, fundamental to the business context (I06). An organisation training Indigenous people described the achievement of a qualification as a source of pride for trainees (I60). An OH&S training provider (I87) in the Bowen Basin saw the significance of the qualification in terms of the 'standard' that this produced and the resulting improvement in safety on mine sites. Another respondent working with Indigenous people saw each qualification as a step in a meaningful education and employment 'pathway' (I80). These examples demonstrate the breadth of significant meaning associated with qualifications and accreditation.

I06: So people pay attention in those courses, they take notes and then they go home and apply it to then get themselves accredited with a Freshcare audit.

I60: So it's a lot of pride to reach [Organisation name] and then to achieve that qualification.

I87: And it also benefits everybody with regards to being trained to a standard, the standard is set, the bar gets a bit higher. The safety standards rise as well.

I80: From that two of our, three of our workers in the railway got into the general construction who have now got into their Certificate III apprenticeships, so that pathway development is still going on.

Delivery aspects contributing to vulnerability

A small number of respondents described aspects of delivery that contributed to the vulnerability of programs. They did so by suggesting that there were certain pitfalls to be avoided in training. For example, one government agency representative cautioned that the certificate itself was not an indicator of the success of a training outcome (I40). Another government agency representative (I74) commented on the pitfall of trainers not being aware of their context, particular non-Indigenous trainers working with Indigenous people. Yet another government agency representative (I84) commented on problems associated with finding not just qualified trainers, but trainers who were appropriate for a particular context—in his case, working with

Indigenous people in a national park. A training provider (I07) warned of the pitfalls associated with trainers who think they know everything—‘tooting their own horn’. It is notable that all the comments above were made with training for Indigenous people in mind.

I40: The physical outcome of them getting a certificate is not necessarily a key indicator that it’s been a successful program. That’s the point I’m trying to make.

I74: Instructors that are going into that Aboriginal-type environment should be doing a bit of research into methods of instruction to suit that person, research the students, the culture, their literacy, numeracy skills what attracts them to you and you’ve got to set the scene right from the start or else you’re gonna lose them.

I84: I reckon we have a bit of trouble finding good trainers. It’s a fairly small pool of people. I think there’s a fairly small pool of people that have that technical qualifications but also the background of working with people and whatever.

I07: Some of the trainers I’ve come across are there to just toot their own horn and be seen, as you know, the expert.

4.4.1.5 Identity

If needs identification, motivators and enablers can be considered as inputs to training delivery, identity formation and outcomes can be considered as outputs of training. Because benefits can also be seen as outputs of training, there will be some overlap in aspects of training programs identified by respondents that contributed to effectiveness, and benefits they described separately, and which have already been reported earlier. However, to complete the picture of program effectiveness presented by respondents, the identity and outcome aspects of programs will be presented in this and the following subsection.

A total of 221 responses described aspects of identity as contributors to effectiveness of training programs. Results are summarised in Table 72 below. The detailed aspects of identity formation are described as they were in the section on identity benefits (see page 254). The difference between these responses and the earlier results about benefits is that these responses describe how respondents perceived program effectiveness. While the categorisation into headings of ‘self-concept’, ‘self-efficacy’, ‘social relationships’ and ‘awareness’ is the same, these responses refer specifically to the program(s) respondents nominated and illustrated as examples of effective programs—as opposed to the more general benefits of training.

Consistent with previous tabulated summaries in this section, the table below also shows that a very small number of responses related to aspects of identity that contributed to the vulnerability of respondents' nominated programs. These responses described how learned behaviours are not enforced and therefore do not necessarily translate into changed values; Indigenous learning outcomes can sometimes be constrained by individuals' sense of belonging to their land (which prevents them from leaving it to learn); self-concept and social relationships affected by perception of career opportunities; and identity formation of disconnected youth is affected by a lack of understanding from some employers.

Table 72 Summary of responses relating to aspects of identity as ingredients for identified effective training programs

Aspect of identity	Contributes to effectiveness	Contributes to vulnerability
Self-concept	78	1
Self-efficacy	62	1
Social relationships	57	1
Awareness	24	2
Grand total	221	5

Identity: Self-concept

The words used to describe identity formation under each of the identity headings here are the same as words describing benefits of training shown earlier under corresponding headings in Table 67 (page 255). A total of 78 responses described how self-concept was developed through the course of a program.

The following responses suggest that trainees develop an understanding of who they are as a result of their training. It changes their view of themselves. One provider from Palmerston spoke of a young woman who, as a result of participating in a program, 'grew up' through the experience. He spoke about this in terms of 'maturity' but it is apparent from the illustration (I11) that she had a fresh sense of who she wanted to be, and what she could be. Several respondents spoke about the impact of training on self-esteem. The illustration from a training provider (I30) is just one of many that demonstrates the impact of training on self 'image' or self-esteem. A community service provider working with youth in Palmerston illustrated her example of an effective program with an example from a provider who worked with disengaged youth. In this instance (I36), training was seen to be a means by which young people could understand their own emotions and feelings: ‘purge themselves of crappie stuff’.

I11: I spoke to her a few weeks ago… She was trying to decide in which way she wanted to go; whether she should go into the real estate business but the program had one, given their exposure to these workplaces that had given her employment, given her a Certificate II in business and given her maturity change, a lot of the students in our VET program, it’s a bit like a growing up point.

I30: But if you listen to the parents, the biggest single thing that does, it has absolutely changed their image their self-esteem, it’s huge and that’s the first time. They are predominantly sixteen- or seventeen-year-olds. That’s the first time that they’ve been in a situation where they’ve had to make small talk with adults. They have to learn how to do that. They dress up.

I36: Shelley has worked with people who have lived in homes with [domestic violence] and recently I heard a song that she had the song that she worked with these kids, it was really tragic and the words were really, really sad. But these kids are laughing their heads off at the end of the performance and it was delivered at a recent [Organisation name] conference so it’s just that lightness. There’s an element of lightness that these people can experience and purging of crappie stuff or exploring of crappie stuff and getting that into perspective.

Another commonly described impact of training, represented here by an illustration from a hospitality trainer (I65) working with Indigenous people, is increased self-confidence. The final illustration, from a mining manager trainer demonstrates that changes in self-concept are not restricted to youth, or people with limited work experience. The illustration (I96) shows that even at a higher level, training can be and is being used to build self-awareness; in this instance, for managers and potential company leaders. These examples show that effectiveness of training programs is to a large extent determined by the resulting changes that occur in the participants’ identities. All of the illustrations below show how a training program is effective because it addresses the ‘who am I’ question related to individuals’ identity.

I65: the impacts on what we teach, it’s more than just cooking, it’s on interview techniques, how to present yourself, its confidence, self-confidence for those ladies as well. I focus on the women anyway; cooking is not like a man’s business.

I96: What we can achieve if we do and we also use things like the Myers Briggs type indicators and a couple of other tools which is really about getting people to understand themselves and how they, their behaviour as a leader affects others.

Identity: Self-efficacy

A second aspect of identity—self-efficacy—was illustrated with 62 responses. A small selection of these responses is given to highlight the main ways in which this was discussed. Respondents spoke of effective programs in terms of how the training addressed a person's capacity to perform certain tasks. In one example from a provider to Indigenous people, (I04) the program helped identify and enhance what a trainee was 'good at doing'. A retail industry representative in Palmerston spoke about self-efficacy in terms of increased accountability (I52), where 'accountability' is here taken to represent an individuals capacity to take responsibility and act accordingly. A government representative working with Landcare groups in Howard Springs spoke about personal capacity in terms of 'putting into practice what they learn' and beyond that, building 'life skills' (I13). A final illustration from a provider with experience in the Queensland public service discussed effectiveness in terms of a 'realisation that they had more capabilities' (I95). All these examples illustrate how an effective program is one that enhances a person's ability to act, to perform tasks, to take responsibility and to do the things they thought they were previously unable to do. These aspects of program effectiveness are very similar to the 'benefits' described under the same heading earlier.

I04: They are really working on what the individuals are good at. Do they enjoy making things? Do they enjoy fixing things?

I52: You take on a lot more accountability. Once you hit the top job and you're basically running the store and you become the accountable person for everything, but you have to be proactive about it to stay on top of it all.

I13: Okay, the reason I think it's so good it is because they actually get to put into practice what they learn but is very much a life experience it's not just about learning how to use chemicals or learning how to use certain machinery or learning how to undertake vegetation surveys. It's not just those things; it incorporates every life skill I suppose.

I95: No matter how long they'd already been in the service or their age they actually realised that they had more capabilities.

Identity: Social relationships

A total of 57 responses described how social relationships developed through the course of a program were thought to make training effective. The benefits described earlier under the corresponding identity benefits heading and these aspects of effective programs are almost identical. The respondents describe social relationships here in terms of teamwork (I72, I32), communication with peers and supervisors (I13), tolerance (I32) and respect (I98). According to these respondents, programs are effective because they build a participants' understanding of how they fit in or belong to the group. They learn appropriate ways of behaving with their peers and supervisors and understand the significance of their work and social relationships.

I72: And I think this is also crucial to VET… [so it's not done] in a vacuum, that people just don't get pushed off onto of course because it seems like a good idea but it's actually part of some kind of pathway that they want to go down. The importance of…teamwork…So we don't have this isolated kind of approach where people can't see. By going outside they can see the reasons that they're going through this process.

I32: They are just for the first time in their lives just getting a smattering of interest in these issues. And understand them. Tolerance, understanding, fairness. I think the teamwork, HR, personnel management skills…not only will they start participating and leading at a unit level and making decisions at a very young age but they also start contributing to the fostering and mentoring younger cadets with their skills.

I13: You have to be able to communicate with your peers, take direction from your supervisors from other people, like myself for example.

I98: So it hasn't made a harmonious site that we could just disband any requirement for a union but it has allowed a modicum of mutual respect and understanding.

Identity: Awareness

A smaller group of responses (24) reported increased awareness as a factor contributing to effective training programs. This aspect of effectiveness was described mostly in terms of 'knowledge' and 'understanding' that facilitated changes in behaviour arising from an emerging identity. Several respondents spoke of the awareness-raising aspect of training programs, preparing them for work (I48, I59, I87). In these contexts training helped individuals 'understand' what would be required of them. This notion of 'understanding' applied not only to new workforce entrants, but to people who had been working in an industry for some time (I06). The idea of 'broadening horizons', raised earlier as an identity change, is also expressed by Indigenous trainees (I68) whose understanding of other communities was increased by their involvement in training. These illustrations demonstrate that effective training is seen by respondents to include an awareness-raising dimension, helping individuals to better understand their new and existing work environments.

I48: I guess inductions are very effective programs. Effective because they give the participants the knowledge they need before they start working in [Organisation].

I59: Q: What I hear you saying is that it allows them to understand why they do things they do.

That is the most important thing to me. And of course it gives them another perspective on the business as well. For them their part of the business is stacking the shelves, operating the registers. They don't understand why or how the business runs, their link in the chain basically.

I87: They have a reasonable idea of what they are going to come up against, what safety procedures they may have to comply with whereas pre Moura and pre the generic induction you just rocked up and got a job and fumbled about a bit.

I06: I think it's significantly improved people's understanding of the whole range of risk factors with their product, a whole range of issues surrounding chemical handling and so forth and just general consumer safety—I was about to say—but it's the safety of the product when it gets to the consumer.

I68: But joining [Organisation name], the [other trainees] know everything, they know a fair idea about where they are, where the places are.

4.4.1.6 Outcomes

Table 73 shows that about two-thirds of responses relating to outcomes of training were described in terms of wealth and employment activities. The remaining one-third was fairly evenly distributed among non-specific, personal and family or social activities. In the case of the first outcome type, 'wealth' and 'employment' were difficult to separate because things like getting a job, increasing productivity or gaining a promotion, all of which were included, have elements of wealth involved in them. Because of the similarity between employment and wealth outcomes described as contributors to program effectiveness, and employment and economic benefits described earlier (see Wealth and economic benefits, page 237 and Employment-related benefits, page 239), there may be some apparent overlap in the way these outcomes or benefits are described. However, as for aspects of identity described in the previous subsection, the two sets of responses are distinct. The responses here relate only to those things that respondents felt contributed directly to the effectiveness of the programs they had identified and described.

Five of the six contributions to vulnerability were related to 'training for training's sake' in Indigenous contexts. In other words there may not have been a problem with the training but there were question marks about the availability of employment following on from the training. One comment exemplifies this position:

I03: If its' training for the sake of a certificate or for the sake of—I'm predominantly talking Indigenous here at the moment—because some program has a subsidy to get people through a level I…course—they'll do the training, get the certificate but if you talk to them in 6 months, 12 months later, all they remember is that they got a piece of paper from some mob in town who said they did something. But they actually don't implement it and that's the frustrating part about Indigenous communities.

One example of outcome vulnerability from the Bowen Basin was related to skills shortages, such that the program's effectiveness was made vulnerable by the strong demand for those skills outside the community, which could be described as 'poaching': one person provides the training, another uses the trained person.

Table 73 Summary of responses relating to outcomes as ingredients for identified effective training programs

Description	Contributes to effectiveness	Contributes to vulnerability
Wealth and employment activities	98	6
Global and non-specific activities	18	0
Personal activities	16	0
Family, social and community activities	15	0
Grand total	147	6

Outcomes: Wealth and employment activities

The largest group of responses relating outcomes to effective training programs described wealth and employment activities as key outputs of training. That is, respondents who identified job or income generating outcomes from training suggested that one of the key elements that made their program effective was the job that came out of it. This is consistent with the purpose of training, most of which was described in terms of employment (see How training builds community capacity and well-being, page 233).

In some cases, respondents spoke about enterprise development activities as opposed to employment (I61), particularly in relation to Indigenous communities, where ‘self-sufficiency’ was contrasted with dependence. For many respondents the purpose of training was to get people into work (I15, I100)—especially young people or people from disadvantaged backgrounds. For some, the measure of success of the program was how many got jobs at the end of it (I15, I33, I100). The few examples shown below are representative of a broader view that vocational training is all about employment: getting people into jobs or getting people into a position where they are self-sufficient.

I61: They will create an enterprise that will eventually be entirely self-sufficient. And I mean that the people who are on CDEP or whatever else are off that. So that’s a huge benefit for the community.

I15: So I’m close to them and they know the students too. It works very well. And they get a lot out of it…And several other kids have got jobs out of it.

I100: Most of them, I’m trying to think of our statistics, our destinations surveys tell us that all students who finish year 12 here go into some form of work or further training so we don’t have any students who are unemployed following year 12. So it’s a pretty positive outcome.

I33: They were effective because I also put them out to work experience. So out of that my best outcome was, one semester I had 15 students and 13 of them got employed. I've met some of them 10 years later and they are still employed. So I'd say that's a good outcome.

Outcomes: Global and non-specific activities

A much smaller (18) group of responses are here described as global or non-specific activities that were attached to training. For example one respondent, a horticultural industry representative (I06), spoke about the impact of training on chemical handling, which is a vocational activity, but described this in terms of consumer safety. In other words, the ultimate goal of the training was improved consumer safety and that this was the important measure of effectiveness, more so than the short-term vocational outcome. A different kind of outcome, this time described by a correctional services employee in Palmerston (I41), related to outcomes as 'living skills' and prevocational activities such as getting a driver's licence. This response is representative of a view among many who worked with disadvantaged people, which suggested that expectations of employment resulting from attendance at a training course were too high.

I06: I think it's significantly improved people's understanding of the whole range of risk factors with their product, a whole range of issues surrounding chemical handling and so forth and just general consumer safety—I was about to say—but it's the safety of the product when it gets to the consumer.

I41: it gets them a licence usually which is a good start. It is that tactical stuff. Living independently, living skills, probably looking at healthy relationships, stuff like that; it's really the basic stuff.

Another different outcome is described by a safety training provider (I55), who suggested that a reduction in workplace deaths was the ultimate measure of the effectiveness of programs. Another respondent (I90), who described a rural leaders training program, suggested that effectiveness in his nominated program was related to an outcome of being able to lobby politicians. This broad range of outcomes is a reflection of the breadth of scope of vocational education and training beyond simple employment outcomes.

I55: But I think the two-day confined space would be because we didn't start teaching until 1996. The last two deaths in confined space were in 1993.

I90: And many of those have gone on to be quite effective agro-political lobbyists.

Outcomes: Personal activities

The third group of outcomes linked to effective programs are here described as ‘personal activities’—outcomes that relate directly to the individual. The illustrations below describe scenarios where the outcomes are musical (I36), sports related (I61), food related (I65), and also about literacy and numeracy (I91, I61). In each of the cases cited below, the effectiveness of the programs had perhaps an element of surprise or an unexpected outcome that may not have been anticipated, but which nevertheless made it worthwhile, and certainly for the respondents in relation to their nominated programs, they were notable.

I36: And there’s also quite some solid outcomes in terms of people can hear the recordings that they have made.

I61: And that’s another thing that linking with this program. There are actually looking at life skills and literacy and numeracy outcomes that are involved with sports.

I65: What we changed there was the eating habits in the store, canteen, takeaway. Most takeaways will serve chicken and chips by the hundreds of kilos by the day. There we change the menu to include roast kangaroo tail, fried rice, soup, a lot of vegetables and stuff like that. As well as a few dim sims and other bits and pieces, and spare ribs and things like that. Let’s face it we all like that sort of stuff. The mentality of eating changed.

I91: [Other respondent] is talking about the guy reading a book with his kids made that an effective program. That one instance made [Other respondent’s] training effective.

Outcomes: Family, social and community activities

A final group of outcomes related to effective programs are here described under the heading of family, social and community activities. The value of the programs is described in terms of how it enhances a person’s social relationships. The responses shown below reflect a degree of diversity: being able to use a chainsaw to clean up fallen trees in a community (I81), caring effectively for Aboriginal people (I02), presenting a community concert (I39), and sharing culture experiences (I67). All of the illustrations given below come from people with an interest in Indigenous training, which may point to the significance of these kinds of training outcomes for Indigenous people.

I81: With the chainsaw, just general maintenance around town. Like if a tree goes down they can use it.

I02: That program has actually been very successful because it actually has given people basic insight into actually caring for Aboriginal people that they never had before.

I39: They put on this huge concerts and I think nearly every person in the community went to this concert.

I67: They are sharing their culture and the teaching other younger rangers who are coming up through the ranks. So it gives them a sense of belonging on the country and earning money while they are doing what they love.

4.4.1.7 Site and respondent comparisons

This sub-section will compare the quantized results in terms of sites, types of respondents and whether or not the programs had an Indigenous emphasis. The analysis will identify any differences between sites or differences in perceptions among types of stakeholders.

Figure 41 shows a comparison of sites for each ingredient of effectiveness identified by respondents. The pattern for each ingredient is reasonably consistent across all sites. Two significant site differences emerge from chi-squared analysis ($p < .05$) of the results. Respondents from **Bowen Basin** were *more likely to report enablers* than those from other sites. Respondents from **Howard Springs** were *less likely to report outcomes* than those from other sites. This analysis tells us that perceptions of effectiveness are to at least a limited extent dependent on ‘place’ context. For needs, motivators, delivery aspects and identity aspects, the results showed no significant differences across sites.

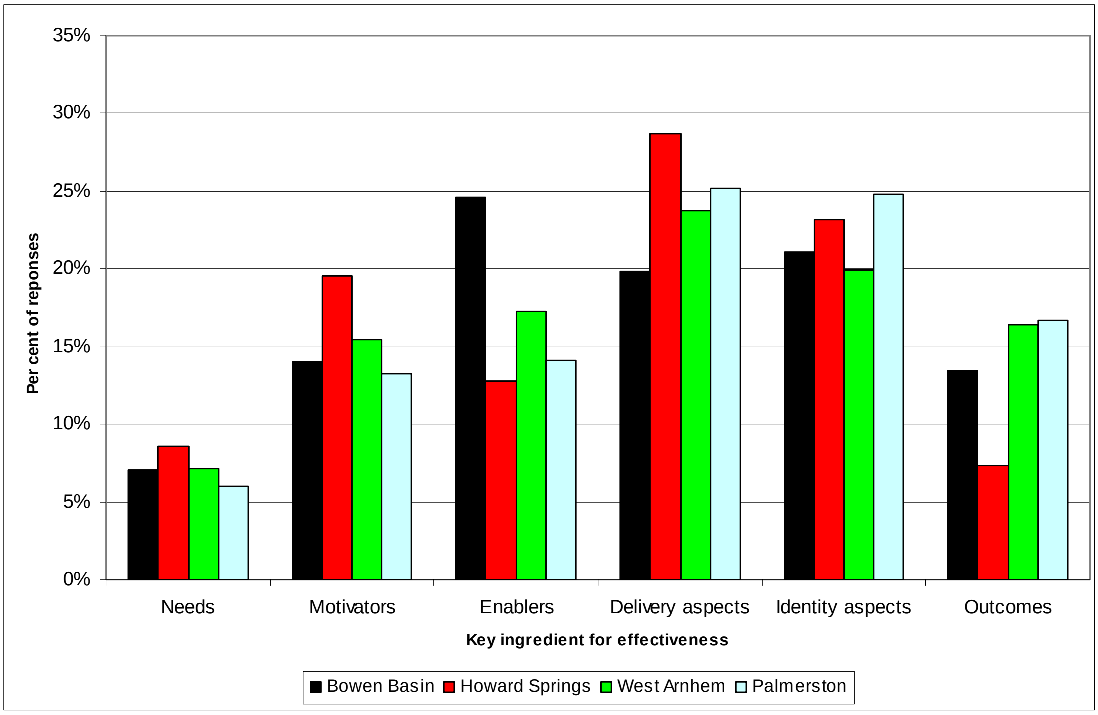


Figure 41 Comparison of key ingredients of effectiveness by site, n = 1015

Figure 42 shows the same results presented by type of respondent. Trainees are excluded from this presentation because they were not targeted and for ease of reading. In this chart, there is a little more variation than the previous one for sites. The pattern for ‘needs’ is the same for each respondent type. However chi-squared tests (p<.05) reveal that **Industry** representatives were *more likely* and **community** representatives *less likely* than others to report *motivators*. **Community** representatives are *more likely to report enablers* than others. **Providers** were *more likely to report aspects of delivery* than other respondents. **Industry** representatives were *less likely to report aspects of identity* than other respondents while **providers** were *less likely to report outcomes* than other respondent types. This chart tells us then that apart from ‘needs’, all other factors that were perceived to contribute to program effectiveness were dependent on the role of the stakeholder in the program.

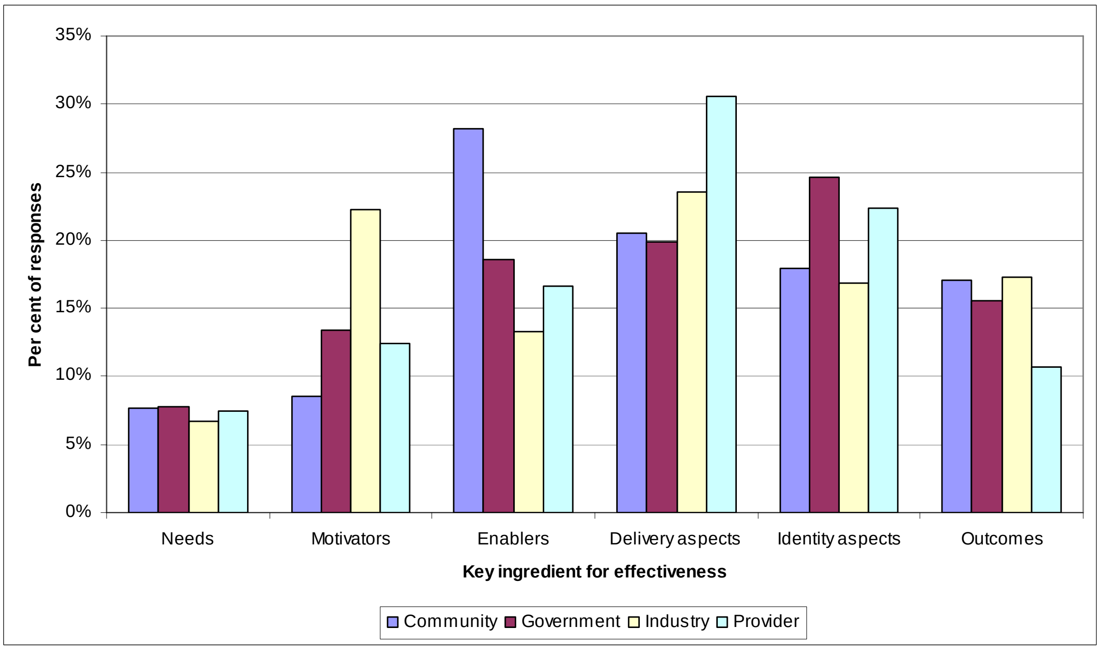


Figure 42 Comparison of key ingredients of effectiveness by type of respondent (excludes trainees), n = 976

Figure 43 shows a comparison of the same results by respondents' interest in Indigenous training. This data should not be confused with perceptions of Indigenous people. Respondents were not asked for their status as Aboriginal and Torres Strait Islanders. The research was not intended to make this distinction (see also Section 6.3.1, page 360). Chi-squared tests reveal that there are no significant differences between the two groups for any of the ingredients of effectiveness identified.

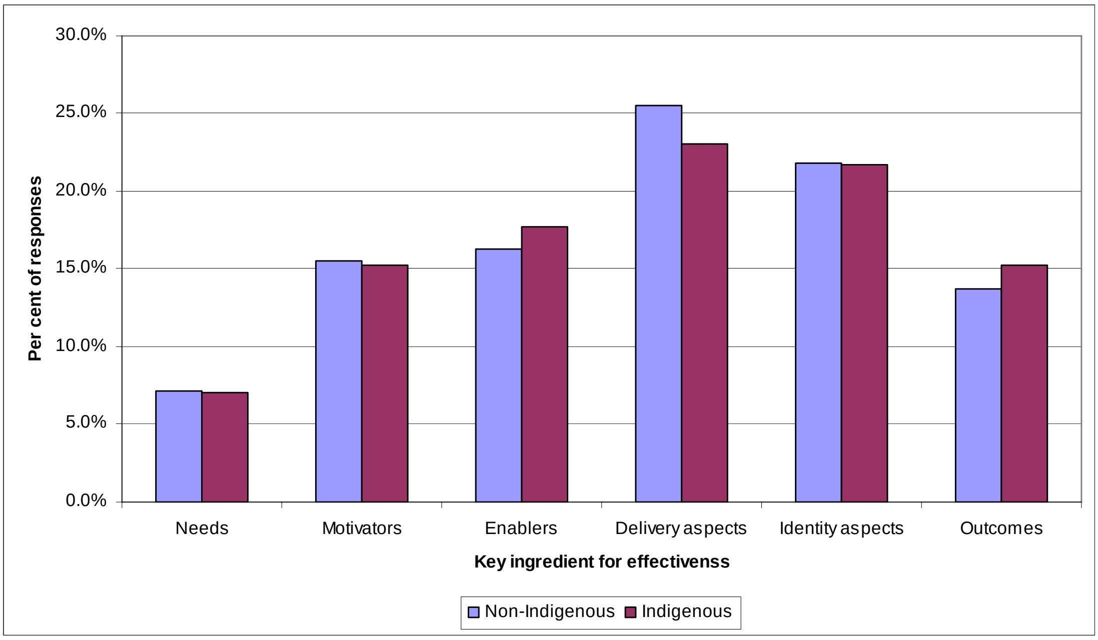


Figure 43 **Comparison of key ingredients of effectiveness by Indigenous interest of respondent, n = 1015**

4.4.2 The role partnerships play in effective delivery

This section will review results about the role partnerships play in effective delivery. This relates to the second part of Research question 3:

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

(b) What role do partnerships play in effective delivery?

Throughout the course of data gathering, a number of partnerships were identified and key stakeholders were interviewed. In this section a selection of these partnerships will be reviewed to examine just how the partnership itself contributes to the effectiveness of training programs. Significant partnerships were identified by respondents from all sites but the largest groups of identified partnerships and the richest data came from West Arnhem and Bowen Basin. A selection of six partnerships from these two sites—all of which were reported at least twice by respondents—will be reviewed here to determine if there are any common roles these partnerships have in building effective programs. Table 74 briefly describes these partnerships and shows the types of stakeholders primarily involved.

Table 74 Key partnerships and stakeholders for effective training delivery identified

Partnership descriptions	Site	Type of stakeholders involved					
		Community/regional development organisation	Industry/enterprise	Government	Schools	Private and public providers	Indigenous interests
A. Construction industry/Land Council partnership	West Arnhem		✓			✓	✓
B. Hospitality / Indigenous Business Association partnerships	West Arnhem		✓			✓	✓
C. Middlemount VET in Schools program	Bowen Basin	✓	✓		✓		
D. Central Highlands Regional development partnership	Bowen Basin	✓	✓	✓		✓	
E. Indigenous community / music industry partnership	West Arnhem		✓	✓		✓	✓
F. Financial services / Indigenous community partnership	West Arnhem		✓			✓	✓

The following subsections detail findings from the data that demonstrate the role of partnerships in building effectiveness into programs. The findings are grouped under three headings: partnerships as facilitators of resources, partnerships providing leadership and direction, and partnerships building relationships. As with previous presentation of results, illustrations from the data will be accompanied by explanation and comment to highlight the key points respondents made. The responses are drawn from the six partnerships highlighted in the table above, which were reported by 16 respondents. Illustrations from respondents are referenced as before with a prefix indicating the partnership referred to in Table 74. While the key characteristics of partnerships described here are shown in a certain order, this is not meant to indicate priority or temporal progression.

4.4.2.1 Partnerships as facilitators of resources

Respondents reported that in the partnerships they described, their role in facilitating resources was crucial to the success or effectiveness of the program(s). There were two main aspects to this facilitative role. The first relates to accessing funding for the program. The second relates to long-term commitment. Several respondents described how the partners or partnership had accessed government funding (A.I76, D.I92, E.I80, E.I61, D.I97). Another described one of the key partner's role in providing financial support for the program from within its own budget (F.I28).

A.I76	[Industry partner's] role was to provide the coordination for the training in terms of acquiring the funding if necessary.
D.I92	We had the funding from state government.
E.I80	We're working with, we've actually got DEST funding to run under SWL which is the structured workplace learning, the whole strategy for that region which is the river's region,
E.I61	The real crux of what made that so special and so effective was the training providers that were involved with most of the training over five years were [Provider A] or [Provider B].
D.I97	They access a lot of funding from the department as well.
F.I28	22 per cent of the budget is training. In fact I'd say it's higher than that at the moment. It's closer to 30.

The second aspect of long-term commitment implies some degree of financial commitment to the process. In one instance shown below (E.I61), the importance of the government department's long-term funding support was noted. Aside from the financial commitment, organisations' long-term commitment to a program or process was noted frequently (B.I73, C.I100, E.I61, E.I79A, E.179B). Taking in these comments as a whole, respondents are saying that funding on its own is insufficient to build effectiveness in to a program. Rather, it is the long-term commitment from all the relevant stakeholders that matters.

E.I61	Partnership, long-term commitment and the funding. [Government Department] even though it didn't necessarily always fit into funding models and had to fight pretty hard to get ongoing support. In the end they did.
B.I73	It began about four years ago, four or five years. It's been running four or five years. There are a few companies I suppose involved with it.
C.I100	It's taken a long time; this is my third year here. It's taken two years of networking and promoting to get that happening.

E.I79A Some kind of ongoing commitment, rather than one-off commitments.

E.I79B Us having a long-term belief that those students can achieve and us having a business that in the end in the next few years will be based around those students.

4.4.2.2 Partnerships providing leadership and direction

There are several aspects to partnerships' roles in providing leadership and direction. Some of these partnership characteristics were attributed to specific partners. However, the comments shown below were all made in the context of a partnership, with each player contributing in one way or another. One of the key functions described was that of providing coordination (B.I62A) or liaison (A.I76A), between providers, employers and participants. One respondent described her role within this function as getting 'commitment from the major employers in our community' (C.I94A). Another respondent described this as a 'brokering' role (D.I92A).

B.I62A The work experience is then carefully coordinated with the formal side of training.

A.I76A Liaising with the training providers to ensure that the appropriate training was delivered.

C.I94A It's just so you need the commitment from the major employers in our community.

D.I92A We had the person doing the hard yards of brokering,

A second aspect of this function was providing clear direction and leadership. This was expressed in a variety of ways. One was through identification of needs, which formed the basis of strategic training plans (A.I76B, A.I80, D.I92B). Another way in which this clear direction was described was in terms of setting 'vision' (E.I79, F.I31). Leadership was expressed by influencing others to adopt the goals of the partnership (C.I94, B.I73, C.I100), 'bringing people together', getting 'commitment from employers', encouraging people to 'get involved' (B. I62).

A.I76B We identified four, three probable areas where we should concentrate on training. The first was pre-employment.

A.I80 So we've actually looked at models, [Model A], how [Model B] goes and a lot of those other models around to try and get what we can actually started in Katherine and further develop it.

D.I92B Early on we did a study, a skills gap audit, and that's become a baseline for a lot of other things that we implemented.

E.I79 I think it's the long-term visions by the training bodies

F.I31 It actually started by one of the founding directors [Director's name] of [Partnership F] who had a vision. All the banks were pulling out their services from remote communities and these people had nowhere to bank money or cash a cheque.

C.I94 That, and I think the other thing is leadership…You need the big players to get out there and say training is good. Get involved, we'll support it and you know not just for the individual but to explain the benefits for the groups in the communities and that.

B.I73 The thing about this town which I have found when it comes to Indigenous training, when it comes to Indigenous training that everyone works together.

C.I100 Our role is to make sure that the red tape is out of the way and show them the benefit of taking a trainee on

B.I62 And they're all involved in delivering this so there's no pulling from different directions; they're all working together. It's a valid partnership of all interested parties. It seems to be producing results.

A third aspect of this function of the partnership is described in terms of 'passion' (F.I31) and 'commitment' (E.I61). One stakeholder talked about this in terms of 'persistence and hard work, dedication' (F.I28).

F.I31: I was so passionate about [Partnership F] because it's wholly training and supporting and providing employment for remote Indigenous people.

E.I61 And the reasons that succeeded were the passion and the commitment of those people involved in that training partnership.

F.I28: Persistence and hard work, dedication, flexibility.

Drawing these three threads together, the responses suggest that partnerships take a leading role in getting a program up and running and perhaps more importantly, keeping it going, which is consistent with the previous comment about 'long-term commitment'. There are strategic planning and coordination processes involved with this. There is also, according to respondents, a lot of hard work. Another important aspect, which will be teased out under the next heading, relates to drawing people together—building relationships.

4.4.2.3 Partnerships building relationships

The third important role of partnerships which respondents identified had to do with building relationships. Again, there were several ways this was expressed—in the context of relationships among partners, between partners and clients and as linkages, for example to funding bodies (F.I34A). At one level it was discussed in terms of 'mentoring' (A.I76A, A.I80A). Embedded within the process was the formation of 'trust' within the relationship (F.I31A, F.I34B), which in one case was at least partly expressed through a joint Memorandum of Understanding (MOU) (A.I76B).

F.I34A So what made it work? My view is that it was the people, a combination, the partnership; the relationship that we had that I believe made it so successful. And it didn't matter, people were happy to go the extra yard.

A.I76A So the mentoring process started from day one as soon as they walked through the door until they started work and beyond when they were working as well.

A.I80A Our mentoring is basically where we are building up a relationship, a trust relationship with our client, giving them a point of focus.

F.I31A That's not for the want…that the people actually want the training it says the history and the trust that you really need to, sort of, it needs to be driven at a different angle; it needs to come from the community.

F.I34B And now we've built up those relationships with the staff at [Partnership F] and you only have to mention the name and it's OK even though you haven't met those people previously.

A.I76B And we actually formed an MOU about eighteen months ago. In that time again as far as the training is concerned we have had some reasonable success,

Communication was a key element in the process (B.I73, C.I94) for building linkages with key players in the community (C.I100) and with businesses and training stakeholders (A.I80B). The end result of the relationship building process, according to one respondent, is 'ownership' (F.I31).

B.I73 And I talked to them in a way; you won't be able to get a transfer unless you got the experience so how about you get the experience here for the next year and a half.

C.I94 I think so because I have the networks. To do community development you really got to know everyone and who you should talk to

C.I100 I'm very lucky in that I've got [Coordinator] who is a specialist of senior school for 10, 11 and 12 and one of the roles is to make sure those links are there… With a small community like us we've actually got the involvement I think of every business in town.

A.I80B [Partner A] is our main partner; in the development of training we've also got relationships with all the Job Network members, group training companies as well. And also some RTOs.

D.I97 It does help if you got that proactive community-based person. Who's prepared to take it, because they don't get paid most of them, some of them work with councils.

F.I31 So it's that element of the ownership for the training that is why it's actually successful for [Partnership F]

The responses above do not adequately represent the diversity that is represented by the respondents who made the comments. However it is this diversity and the bridges that can be established and maintained between what would otherwise be disparate groups of people that is demonstrated and embedded in this selection of responses. Groups that would otherwise find it difficult to work together—such as non-Indigenous and Indigenous, construction and Indigenous land councils, mining industries and schools, local remote communities and a music industry, financial institutions and Indigenous communities—find ways of overcoming differences, working together and using their combined resources to show leadership and inspiration.

4.4.3 Indicators of effective delivery

This section will consider results as they relate to indicators of effective delivery. This relates to the third part of Research question 3:

Research question 3: How can education and learning be applied effectively to produce capacity-building outcomes?

(c) What are indicators of effective delivery?

Another way of phrasing this question is to ask: What can we measure that will tell us whether or not training programs are likely to be effective? The results presented here are qualitative in nature, drawing from the interview transcripts. Suggestions of the possible quantitative measures that relate to these results will be offered in the next chapter. To some extent, the data presented in this section is supplementary to data reported in the previous two sections. Many of the processes described under Research questions 3 (a) and (b) can be directly translated into indicators of effective delivery. Qualitatively these are derived from the main headings under Section 4.4.1, and could be expressed as a series of questions:

> To what extent are the perceived needs of training stakeholders (individuals, communities and industry) being met? Are all the relevant stakeholders being consulted about the real needs of a community?
>
> Are incentives and opportunities for training adequate and correctly targeted to meet the aspirations of participants? Is there an appropriate match between the stated reason for training and the anticipated outcome? What are the demotivators of training in a given context?
>
> To what extent are relational structures in place to support the delivery of training? Is there adequate commitment and funding? How well do the ‘systems’ of government and industry encourage and promote training cultures?
>
> To what extent are training programs fit for their purpose? Does recognition that comes out of training participation reflect the perceived worth of the

> training? How well do the qualifications and the qualities of the trainer fit the training context?
>
> To what extent does the training process build a participant's sense of self? Does the training impact on a person's capacity to make decisions, to act and to better fit in with the world in which he or she belongs? How does training build individuals' awareness of themselves, their community context and the world outside their immediate context?
>
> What kind of positive outcomes does training lead to? To what extent does training assist individuals' capacity to engage with the workforce and their community? What capacity-building outcomes are factored in to the training programs that people engage in?
>
> To what extent do structures support and enhance the formation and maintenance of productive partnerships? What processes are in place to foster the development of cooperative, trusting and collaborative relationships among stakeholders at all levels?

The answers to these questions feed directly into a framework for measuring training effectiveness, which will be discussed in the next chapter. While most of the discussion so far has been about positive aspects of training that feed into effective delivery, two further issues will be reported on in the following subsection, which will also translate into indicators of effectiveness. These are described under headings of 'educational foundations' and 'overcoming barriers'.

4.4.3.1 Educational foundations

Respondents described how 'good' compulsory educational foundations were important components of effective post-compulsory training programs. They also described how literacy and numeracy was both a barrier and a necessary element of an effective training program. This aspect was particularly relevant to Indigenous training programs identified.

Indicators: compulsory education

Several respondents commented on the importance of a sound compulsory education base as a foundation to effective training delivery. All the comments below were either directly or indirectly related to Indigenous training issues and came from the three Northern Territory sites. One respondent from Howard Springs represented the view that there needs to be a return to 'reading, writing, spelling and grammar' (I18). A Palmerston respondent alluded to the significance of completing compulsory education, particularly for the employment-disadvantaged people she was working with (I41): 'but he's got that year 10 level already'.

I18: The way education to some extent, and I'm not knocking education as a whole, but when it comes to the core issues of reading and writing, spelling, grammar I think we've got lost in an education movement that's got tied up in knots.

I41: A young guy who I've got, who's just got an apprenticeship. He's just gone down to Victoria…He's really keen. But he's got that year 10 level already. Not many of our young people have completed year 8.

Taking a somewhat different view to the first response shown above, an employment service provider (I07) suggested that for Indigenous communities, compulsory education curriculum needs to be designed to take into account the employment opportunities that exist. Another lament from a provider working in remote communities (I56) suggested that there were insufficient funds applied to compulsory education to meet the obligation the government has to deliver education to an Australian standard. Regardless of the disparate and wide-ranging views about the compulsory education system, there is a strong indication from many stakeholders that the foundations for post-compulsory training are inadequate or poorly designed, particularly for remote and Indigenous communities.

I07: The whole education curriculum needs to be looked at, that is actually being delivered out on the schools. And that's one of the things that [Community name] was actually doing. Their education and training board that they have set up…is actually looking at the curriculum to be developed into their high school. And the curriculum that they are actually looking into is what is the job opportunities within the community and let's do the curriculum around those job opportunities.

I56: At some point you've got to have recognition that they have an obligation to deliver education to Australian standard to all Australians no matter how difficult it is. The federal government has always accepted this obligation as identified by DEET. Once DEET has identified it as it has done for the last 14 years then it should spend it in that area which it doesn't.

An important indicator of successful post-compulsory training then is the degree to which education conforms to the standards expected in mainstream Australia. This is to some extent related to the next indicator, which is more specifically about English literacy and numeracy.

Indicators: English literacy and numeracy

The issue of English literacy and numeracy was raised repeatedly by respondents as a factor that contributed to the effectiveness of training by taking into account the literacy and numeracy needs of trainees, and as a barrier, because of the difficulties many Indigenous people have with the English language. This is a separate issue to the problem English speakers have with Indigenous language, which was seldom raised by respondents. The issue is described both as a problem and an opportunity. For example, a training manager in a remote community (I82) described how on the one hand training could address some literacy and numeracy issues, but on the other that low literacy was the limiting factor, preventing Indigenous people from accessing higher qualifications and being employed in more responsible positions. She described it as a ‘Catch 22’. This same feeling was expressed by a training manager in a national park (I84). Another respondent contended that participation in VET would ‘automatically’ improve literacy and numeracy standards (I61). A provider (I26), consistent with the discussion above about compulsory education, suggested that in order for Indigenous people to progress, changes in the education system were prerequisite.

I82: But coming on to Cert III he has to be able to work out angles and drawing plans and all that sort of thing and that’s where he may come unstuck. But [Training provider] have said that they can provide numeracy and literacy as well.
…the housing manager role is required to do, be computer literate, be able to run reports, be able to do housing rental reports. I would expect certain reports back, and reports back to government agencies and all these government agencies, it’s a catch 22, they want us to employ Indigenous people but the standard of things that they want back I don’t think an Indigenous person, without a lot of training would be able to do the jobs.

I84: I guess one of the aspects if you look at difficulties with training, because we try to employ local people, Indigenous people in our programs, is the educational level that people arrive at the workplace. So we’re looking at literacy and numeracy training and things like that which some of the other training that you try and run which is a legal requirement, OH&S regulations and things like using chemicals, Chemcert training, to undertake that training there is an expectation that you have that educational standard. So unfortunately a lot of the people that would really like to see work in the park often don’t have that level of literacy and skills.

I61: Anecdotally we say that their literacy and numeracy would automatically improve through being in a process of being involved with VET training.

I26: I think there has to be other changes within the education system to allow us to access students that have better literacy and numeracy levels than what they have at the present time.

The above selection of responses suggest that on the one hand VET is a vehicle for improved literacy and numeracy and on the other it is being limited in its application by the standard of literacy and numeracy of the Indigenous people at entry level.

4.4.3.2 Overcoming barriers

A number of issues were identified as both barriers and factors contributing to effectiveness. For example, funding and resources/infrastructure were identified as both barriers (see ‘Disablers’, page 276) and enablers for effective training (see Enablers: Funding or financial support, page 275). Similarly, aspects relating to training providers were seen both positively and negatively. Other issues such as boredom and substance abuse were identified earlier as ‘demotivators’ (see page 272) as opposed to motivators and could also be described as contextual indicators that contribute to the effectiveness of programs. The barriers described below have not been discussed fully within the context of effective programs and the responses shown are drawn primarily from the last question in the interview schedule (see Appendix 7, page 449), which asked:

> What would make education and learning programs in this community more effective?

Indicators: remoteness and access

One of the inherent contextual factors associated with life in much of Australia’s tropical savanna region is that of remoteness and accessibility (See Rural and remote access, page 65). Generally this was taken as a ‘given’ by respondents with very little additional comment, with regard to the distance itself. There is simply often an acknowledgement of the fact of remoteness. Three responses highlight this (I82, I10, I05), each leaving the comment as a one-sentence statement before moving on. However, others point to the attendant issues of remoteness in some detail. One prefaced lengthy discussion about transient population, student accommodation, training facilities and logistical dramas with the statement: ‘remoteness is an issue’ (I72). Another contrasted the situation of lecturing in Melbourne with that of delivering training in remote communities (I19). One lecturer just had to turn up to the lecture theatre. The other lecturer had to deal with transport, accommodation, Abstudy, literacy and numeracy and a host of other issues—all associated with remoteness.

I82: Probably remoteness, especially during the wet season.

I10: For the territory I think it's distance. [Where places are] geographically located has a huge impact; there are organisations that go out there and assess people.

I05: I think from a community perspective they may perceive barriers as 'we're small and no one wants to come here'.

I72: Remoteness is an issue…[Out here] your opportunities are limited. The problem of having a transient population is difficult. Aboriginal people are transient on a regional level which can sometimes create challenges. There are problems with accommodation especially with communities on outstations. The training facilities for the employers are often in town. You've got this enormous logistical drama…

I19: I'll give you an example. A lecturer at [Institute] or whatever they call it in Melbourne, has to deliver a course so he sits in his office and he prepares a course. He knows that that course is on offer and if he turns up on Monday morning at a particular lecture theatre there will be a bunch of people who want to learn from him. Now that same lecturer delivering the course to Indigenous communities has to work out what crew do I need, how I get there, who's going to pick me up from the airport and take me down there. Where the hell am I going to stay? Do I need a swag? And where am I going to find the students? Where can we do the actual thing, is there a space that we can actually use? Who's organised the enrolments of the students? Have they been enrolled? Are they entitled to Abstudy? Who's going to apply for that? Who's going to help them fill in the forms? Are they actually literate and numerate enough to actually start this? How do I access it? Hey, this is a whole new ballgame.

Very few comments about remoteness were made among respondents describing training at the Palmerston, Howard Springs and Bowen Basin sites. Parts of the Bowen are considered to be quite remote (see Table 78, page 420) but generally these areas were not described as being disadvantaged because of remoteness. Therefore, according to respondents, the issue of remoteness is more about access and opportunity than it is about distance and isolation. One such attendant issue relates to Indigenous language and culture as a barrier.

Indicators: language and culture

It is important to note that by identifying Indigenous language and culture as a 'barrier', respondents were not saying this to suggest a 'deficiency' or 'problem' with the culture. If there is a 'problem', respondents appear to be suggesting that the barrier exists for non-Indigenous stakeholders, who fail to understand and effectively interact with the culture. It is also important to note that there was a distinction made between language and culture as an issue and dysfunctional communities, which were described earlier under the heading of 'demotivators'. The language and culture barrier is exemplified by a response from a government department representative, who pointed out that ‘we don’t talk to them in their own first language’ (I53). It is evident from the responses of trainers that communicating the competencies of training packages, with their own set of English jargon words, is problematic because things ‘get lost in translation’ (I26) and the concepts are difficult to translate (I56). Some respondents noted that for cultural reasons individuals found it difficult to leave their communities (I82) and even if courses were available online, language would restrict their ability to participate (I71).

I53: And we don’t even have the respect, by and large, to talk to them in their own first language. What does that tell you? Now I spent eight years of my life pursuing an Aboriginal interpreter service before it was actually established. Eight years.

I26: OK, the last case where we had...more than 75 per cent of the students couldn’t speak English. They spoke the Yolgnu language. I mean there are ways around it. We use people who can speak the language but sometimes the message will be lost in translation.

I56: And the difficulty is not just the English language but the concepts contained within the English language.

I82: A cultural thing where people don’t want to actually go away and be somewhere else or travel or study somewhere else.

I71: But the feedback I get is that some traditional owners would be interested in doing a certificate I or II in tourism. And if there were enough interested, [University] might be able to run the course out there. That way people can access the training and not have to travel into Darwin. Even doing a course online is a bit of a barrier for traditional owners because of language skills.

The issues raised above are fundamentally about communication. The dilemma faced by both trainers and participants alike is that the knowledge, skills and concepts presented in vocational training are frequently defined around English language and culture and more specifically around VET jargon. One respondent (I74) suggested that the difficulties faced by Indigenous learners are the same as would be faced by non-Indigenous trainers if ‘the boot was on the other foot’.

I74: A couple of years ago I presented to the induction of new staff into [Organisation name], methods of training Aboriginal soldiers and I was interacting with Aboriginal soldiers at all times, I was involving some of the new staff. We had the Aboriginal instructor there teaching his language and you see the white soldiers struggle and they were doing the same thing and as though I was teaching Aboriginal soldiers who didn’t know. So they were looking and copying what the Aboriginal soldier was doing so all of a sudden this turns around and the boot’s on the other foot where you can’t understand them and they’re calling you the stupid nut because you don’t know what you’re doing. The boot is on the other foot and there is a big lesson to be learned here, so instructors that are going into that Aboriginal type environment should be doing a bit of research about methods of instruction to suit that person, research the students, their culture, their literacy, numeracy skills, what attracts them to you and you’ve got to set the scene right from the start or else you’re gonna lose them.

The comments above suggest that there are a number of indicators that could help measure the likelihood of a successful program. One indicator, for example might be the proportion of non-Indigenous people living in a community that can competently speak the local and prevailing language. Others might include the availability of resources that are presented and prepared in participants' first language. A third barrier, which applies across all sites, relates to what is commonly termed 'red tape'.

Indicators: bureaucracy, structures and 'red tape'

A number of respondents spoke about the difficulties they faced dealing with 'the bureaucracy' or understanding 'the system'. The first comment (I13) perhaps ironically comes from a public servant who acted as a coordinator for training through her department. She described the processes as 'stringent', too constraining. Another respondent (I18) described it in terms of 'too much paperwork'. He commented on his experience of working with an industry advisory group this way: 'for the life of me I could not work out what they're talking about'. An industry representative (I04), relatively new to the system, described the system as 'complicated'. His colleague suggested that because of this, many people in industry had 'walked away from it'. A community development worker in the Bowen Basin (I88) suggested that the burden from government funding was such that 'you spend more time fulfilling evaluation requirements' than actually doing work. Finally, one training provider working in Indigenous communities suggested that the decision makers and government actions were 'promoting dysfunctional communities' (I19).

I13: I just wish we could cut down on the bureaucracy and make it a bit more—I suppose my one big criticism of it is that it is so stringent; I suppose that's mainly because of the insurance problems.

I18: There's far too much paperwork, far too much, we talk about those industry groups. I used to be in local government and…local government used to have a local government industry group and for the life of me I could not work out what they're talking about.

I04: R1. Seeing just how complicated the VET system is—I'm just new to it—and seeing there's not just one place that businesses can easily go and find out about what the options out there available to them, it would indicate to me that it's probably the bureaucracy or the government or maybe the schools that have developed a lot of this stuff…

R2. And industry has walked away from it—some industries have—it's all too hard. It doesn't suit our industry.

I88: And so with many government fundings that you spend more time fulfilling the evaluation requirements and there's a whole heap of the energy and time meeting their requirements. Rather than just doing.

I19: So you've got people who are handling the finance, making the decisions and who have the power within their hands now and I contrast that with a system that's being promoted by government put in white-fellas right through the whole place and in fact, much of government, not necessarily policy but government action is accentuating and leading to dysfunctional communities. It's promoting dysfunctional communities.

The above responses point to a broad concern in all sites about the restrictive nature of 'the system'. It was seen to be that way because of 'paper work' and imposed constraints that limited the capacity of organisations to promote effective programs. In terms of indicators, the respondents are suggesting that a reduction in reporting requirements and a simplification of the processes involved in using the system would improve the effectiveness of VET.

4.4.4 Summary of results for Research question 3

This section now summarises the results for Research question 3: *How can education and learning be applied effectively to produce capacity-building outcomes?* Firstly, the key findings about what makes training effective will be presented. This will be followed by brief presentations of the results relating to the role of partnerships and indicators of effectiveness.

4.4.4.1 What makes effective training

The results show that training programs are effective when the following conditions are met. Firstly, the n*eeds of stakeholders are met*, providing them with a reason to engage with learning and training. Secondly, *sufficient motivators are in place*, providing impetus for stakeholders to engage with learning and training. Thirdly, *adequate enablers are accessible to stakeholders*, including relational structures, infrastructure, support and funding—these can be considered as resources that facilitate training. Fourthly, *delivery strategies* incorporate *quality program content*, *positive relationships* are formed between the provider and participant and *qualifications match the perceived* value of the training. Additionally, training *builds the identity of participants*, adding to self-concept, self-efficacy, social relationships and increasing awareness of the wider world. Finally, *outcomes are consistent with the intended purpose of training*—in most cases this was found to be related to employment or wealth creation outcomes.

The above factors were found to be largely site-independent, with the exception of two site differences that were noted. Respondents from Bowen Basin were more likely to report enablers than those from other sites, and respondents from Howard Springs were less likely to report outcomes than those from other sites. The results were however dependent to a larger extent on the type of respondent. Analysis showed that industry representatives are more likely and community representatives less likely than others to report ‘motivators’; community representatives are more likely to report ‘enablers’; providers are more likely to report aspects of ‘delivery’ and less likely to report ‘outcomes’; and industry representatives are less likely to report aspects of ‘identity’ than other respondents. The nature of programs, in terms of their emphasis towards Indigenous or non-Indigenous people, did not make a difference to the elements of effectiveness described above.

4.4.4.2 Role of partnerships

A review of six key partnerships—which were cited frequently by respondents—revealed three important ways in which partnerships added to the effectiveness of programs.

Firstly, these partnerships acted to facilitate access to resources. There were two main aspects to this facilitative role. The first relates to accessing funding for the program. The second relates to long-term commitment.

Secondly, these partnerships provided leadership and direction. One of the key functions described was that of providing coordination, liaison or brokering between providers, employers and participants. A second aspect of this function was providing clear direction and leadership. A third aspect of this function of the partnership is described in terms of passion and commitment.

Thirdly, these partnerships were effective in building strategic relationships with program stakeholders. Again, there were several ways this was expressed—in the context of relationships among partners, between partners and clients, and as linkages, for example to funding bodies. This was sometimes discussed in terms of mentoring. Embedded within the process was the formation of trust within the relationship. One of the important outcomes of the relationship-building process was described in terms of ownership.

4.4.4.3 Indicators of effectiveness

These factors of effectiveness and the role of partnerships can be reinterpreted to suggest a number of indicators of effectiveness. Added to these program and partnership indicators are others that relate to some specific educational foundations and some specific barriers. The educational foundations were described in terms of the compulsory education system and more generally in relation to literacy and numeracy. The specific barriers were described under headings of remoteness and access, language and culture, and bureaucratic structures and red tape. Table 75 summarises the findings of Research question 3 according to the main factors contributing to effectiveness and a qualitative description of indicators that emerge from the data.

Table 75 Summary of indicators of training program effectiveness

Category	Description of indicators
Needs	Needs of stakeholders are met
	Stakeholders are consulted
Motivators	Incentives and opportunities for training are adequate and correctly targeted to meet the aspirations of participants.
	Match between the stated reason for training and the anticipated outcome
	Demotivators are identified and addressed
Enablers	Structures in place to support the delivery of training
	Commitment and funding from key stakeholders
	Systems of government and industry encourage and promote training cultures
Delivery aspects	Training programs are fit for their purpose
	Recognition or qualification that comes out of training participation reflects the perceived worth of the training
	Qualifications and the qualities of the trainer fit the training context
Identity aspects	Training is designed to build participants' self-concept
	Training is designed to impact on a person's capacity to make decisions, to act and to better fit in with the world in which he or she belongs
	Training builds individuals' awareness of themselves, their community context and the world outside their immediate context
Outcomes	Positive outcomes appropriate for the context are identified and established as measures of success
	Training builds individuals' capacity to engage with the workforce and/or their community
	Capacity-building outcomes are factored in to the training programs
Partnerships	Structures support and enhance the formation and maintenance of productive partnerships
	Processes are in place to foster the development of cooperative, trusting and collaborative relationships among stakeholders at all levels
Foundations and barriers	Compulsory education standards are consistent with national benchmarks
	Effective and appropriate English literacy and numeracy strategies are identified and implemented
	Training infrastructure is accessible in remote locations
	Indigenous culture and language specialists are available to non-Indigenous providers
	System constraints are identified and strategies are in place to limit system inhibitors

4.5 Summary of results

This chapter has presented results of the research project, the aims of which are to determine how vocational education and training can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the well-being of communities and regions. The results were reported for each of three research questions.

The task of Research question 1 was to identify a range of well-being indicators that could be applied to the Australian tropical savanna context and then to show how well-being varied across the region. A total of 16 available and comparable indicators were identified that could be readily applied to communities or small regional levels. These were spread across seven of the eight well-being bands. The question also aimed to determine how well-being varied across the savanna. The results of the quantitative analysis have shown that communities have both strengths and vulnerabilities, depending on the type of community. According to the indicators, Indigenous communities tend to be more vulnerable than other community types across an array of measures. Mining, urban and rural communities tend to have a more balanced number of strengths and vulnerabilities, while peri-urban communities tend to have a greater number of strengths than vulnerabilities.

The task of Research question 2 was to identify the link between education and learning and capacity-building in savanna communities. This was done first by identifying the beneficiaries of training and secondly by identifying the benefits of training and learning. The largest group of beneficiaries were described as individuals participating in programs. This was followed by communities, ranked second, and industry, ranked third. With regards to what the benefits of training are, the largest group of benefits identified by respondents related to employment. Some of these benefits were seen to accrue to industry in terms of risk management and productivity. Others were considered to be more for employees: career pathways, work ethic and capacity to perform the tasks required in a job. The second largest group related to personal identity benefits. Four main clusters of data emerged in relation to identity formation benefits. The first group relates to the development of the self-concept; the second to self-efficacy or personal capacity; the third to social relationships; and the last group relates to the individual’s awareness of themselves and the options they had open to them. However a broad range of other well-being benefits were described that aligned with the eight well-being bands identified in the literature.

The task of Research question 3 was to identify how education and learning can be applied effectively to produce capacity-building outcomes. The findings pointed to a series of key factors which contributed to the effectiveness of learning programs. These can be summarised under headings of needs identification, motivators, enablers or resources, aspects of the delivery, identity formation and outcomes. In addition to these factors, partnerships were found to add effectiveness by facilitating resources, providing leadership and direction and by building trusting relationships. Particularly relevant to Indigenous training was a finding that suggested that solid compulsory education and literacy/numeracy foundations were prerequisite for effective training delivery. In addition, respondents felt that addressing some specific barriers would add to effectiveness. These related to remoteness and access, language and culture and bureaucracy/red tape.

Having described the results of the research according to the research questions, the next task will be to discuss the implications of these findings. Chapter 5 will do this, drawing together the discussion with some implications.

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 5: Discussion, synthesis and implications

5 Discussion, synthesis and implications

For the LORD gives wisdom,
and from his mouth come knowledge and understanding.

He holds victory in store for the upright,
he is a shield to those whose walk is blameless,

for he guards the course of the just
and protects the way of his faithful ones.

Then you will understand what is right and just
and fair—every good path.

For wisdom will enter your heart,
and knowledge will be pleasant to your soul.

Proverbs 2:6–10

This chapter builds on the results presented earlier by developing a conceptual framework within which the aims of the research will be further explored, particularly in terms of the implications of the findings. The chapter begins with a discussion of the key conceptual frameworks that emerged from the data. It then goes on to consider the implications of the research.

5.1 Conceptual development

The purpose of this section will be to put forward a conceptual basis for a framework that arises from the findings reviewed in the last chapter. Firstly, given the findings on what makes VET effective and the indicators of success identified, it will be appropriate to explore a model for an evaluative framework of VET. Secondly, given the strength of the findings around identity formation in learning, it will be helpful to explore just how learning in VET builds identity. Thirdly, given the aims of this research being about capacity-building, the discussion will turn to the role of VET in building well-being within savanna communities.

5.1.1 Vocational education and training within a learning 'milieu'

The results highlighted the multifaceted nature of VET in a dynamic learning context. The multiple inputs and outputs of effective training programs describe learning as an interdependent component of an open system. The analogy of a skills 'eco-system' described earlier in the literature (ANTA 2005b; Eddington 2003, 2005) to some extent explains the emerging picture of VET uncovered in this research. Similarly the idea of a 'learning milieu' (Boud 1994) goes some way towards building that picture. The learner's experience in training intersects with a number of other complementary interests within this milieu. Much of the literature seems to imply that the outcomes of effective or successful training are the result of an apparently two-dimensional linear process (see for example, Success for individuals, page 70) where the learner goes into the training program, is injected with knowledge and skills and emerges with a qualification.

However, the emerging picture of VET and learning more generally, which will be developed further in the sections following, shows inputs and outputs at a variety of levels and from several directions—perhaps more consistent with a three-dimensional understanding of the learning process. Learners' experiences in programs are influenced by among other things: the trajectory and direction of the VET system as a whole; the cultural and linguistic background of the 'community' in which they belong; the organisational culture and goals of the workplace and industry within which they fit; and the prevailing socio-economic conditions. Further, the learners' responses to these multiple impacts will in turn produce outcomes not only for themselves and their employers but also outcomes in terms of their family relationships, community networks and to their physical environment.

The 'learning milieu' is therefore just as significant as the training itself. It is fundamentally important for an understanding of what constitutes effective learning outcomes for every different stakeholder group; it shapes the perceptions of the role—and the application—of training within its socio-economic context; and it impacts on pedagogies, practices and ways of learning associated with VET. One of the key findings, which illustrates the significance of the milieu relates to identity formation in VET, which was found to be more significant for respondents than the ultimate 'outcomes' of training programs. The relative importance of identity formation in the learning process demonstrates for example, the significance of several aspects of the milieu. These aspects include the formation of relationships both within and outside the learner's immediate sphere of influence; the exchange of ideas and knowledge that takes place as a result of interacting with different people and places; and the development of an emerging self-concept that flows from engagement in the entire learning process. All of these things are as much a product of the learning milieu itself as it relates to the particular VET training event that takes place. In a sense the milieu and the formal VET-associated learning, while not the same, are to a large extent inseparable from each other.

5.1.2 Conceptual basis for an evaluative framework of VET programs

The results presented in the previous chapter pointed to six elements that contribute to effective VET programs. These can be summarised in terms of: a) meeting stakeholder needs, b) providing adequate motivators or incentives; c) ensuring availability of adequate enablers or resources; d) ensuring effective delivery strategies; e) building identity; and f) targeting appropriate outcomes.

It was noted at Figure 41 (page 290), that there were only two significant differences between sites with regard to the ingredients of effectiveness (Bowen Basin was more likely to report enablers, Howard Springs more likely to report outcomes). This adds weight to an argument that the six factors can be generalised and are largely independent of locational context. These six factors may therefore be used to shape an evaluative framework for VET—subject to further testing and research—that could be applied to almost any Australian context. The relative weight given to the components of effectiveness may suggest a weighting for these components within an evaluation. If this was the case, for example, aspects of delivery would be given greater significance than identification of needs. While the factors of effectiveness described in Figure 40 (page 265) were given relative weight by the analysis, this does not imply that an effective training program does not require a needs analysis, for example. Rather, it implies a weighting in terms of perceptions about these factors. Hence, for most respondents, aspects of delivery were given the greatest weight in terms of the effectiveness of programs they cited—that is, they spoke about delivery more often than other issues.

The data also suggests that these six factors are interdependent. For example, the outcomes from a program will to a large extent be determined by the enablers (resources) applied, by the nature of training delivery, and the degree to which individuals are motivated. This interdependence means that outcomes, which are commonly used to evaluate programs, can be explained in qualitative terms arising out of a combination of interlocking components, all of which contribute to 'outcomes'.

The six factors suggest a possible conceptual basis for evaluation of VET programs. Table 75 (page 309) identified a number of indicators of success grouped according to the six categories plus two others: partnerships and foundations/barriers. While the six factors listed above can be considered as independent of the context, the nature of partnerships (if they exist) will to a large extent determine the effectiveness or success of programs (see Success for partnerships, page 82) and the local/regional context will certainly determine nature and extent of foundational issues that stakeholders will often have little control over (see for example those issues discussed in Sections 2.1.2 and 2.1.3).

Some aspects of this evaluative framework will be explored further in the section on implications, commencing at page 321. The next subsection will, however, deal specifically with the aspect of identity formation in training.

5.1.3 Identity formation in VET: how does it happen?

One of the key findings about the benefits of and the effectiveness of VET related to identity formation. The data revealed that, after factors inherent within the training program, identity formation—in terms of self-concept, self-efficacy, social relationships and awareness—was the most often described ingredient of effective programs. This finding raises several questions, some of which will be addressed later (see section commencing page 340). However an important question which will be discussed here is: how does training aid the process of identity formation?

An important aspect of identity formation in learning is the context in which it occurs. This could be, for example, about the workplace, the relationship with the trainer and other trainees, and interaction with the resources. The literature supports a view that identity is never formed in a vacuum. The section What is identity? (page 132) described identity formation as a socially 'interactive process' (Jopling 2000; Elliott 2001; Purdie et al. 2000). Falk and Balatti (2003) emphasised (page 134) the importance of 'storying' and 'place identity' in learning. Therefore, the qualities associated with identity formed through the process of learning are influenced by the social, cultural, relational, infrastructure and resource environment. The implication here is that the same training program delivered in two different contexts can be expected to have two different identity formation 'results'.

The data suggests that as a person enters training they begin with what I describe as a 'pre-learning identity'. This is important to take into account because the identity with which the individual comes to training will influence their capacity to engage with the training context. For example, an individual who comes to training with an identity as a 'non-English speaker' will face a number of limitations, especially where the training environment depends heavily on English literacy and numeracy. The pre-learning identity will also be shaped by an individual's experience and understanding of history, culture, and family/community background. The literature reviewed supports this view (see Success for individuals, page 70), suggesting in particular that parent and community expectations are determinants of personal training outcomes.

Assuming then that the training context takes into account the individual's pre-learning identity, the first thing that training does is *raise awareness*. Respondents expressed this in terms of 'knowledge of options', 'weighing up risks', 'getting another perspective' and 'looking at things another way'. This step in the process of identity formation is important because it widens the field or scope of opportunity for trainees. It relates to the Clemans et al. (2003) 'learning to know' category of ACE outcomes summarised in Figure 15 (page 134), which discusses outcomes in terms of knowledge of self, community and the wider world.

Next, training raises an individual's *capacity to act*. In other words, choices that were previously unavailable become available. Describing individuals' broadening and developing capacity to act, Falk (2001:6) suggests that in the process of learning, knowledge and sources of knowledge are expanded and 'applied to different yet purposeful tasks and activities'. Options that were not previously thought of are considered. Respondents often spoke of this in terms of 'empowerment' and 'confidence'. They described how trainees' new knowledge and skill gave them the power to choose their own destiny. This was sometimes associated with ideas of 'taking responsibility'. This is consistent with an NCVER (2005) finding discussed earlier in the literature that showed that the greatest benefit perceived by Indigenous

Australians was related to ‘self-confidence and feeling better about self’. In a study of the impacts of learning, Schuller et al. (2002) confirm that self-confidence is the single most significant outcome from training.

> The most fundamental and pervasive benefit from learning of every kind is a growth in self-confidence. This is probably the most commonly reported effect from all relevant research, and our study confirms it. (p. 14)

From a capacity to act, training then facilitates the *decision to act*. It is interesting to note in Schuller et al.’s work cited above that confidence leads to a number of actions at the individual and collective level. These actions include putting forward their own ideas, confronting problems, putting themselves in unfamiliar situations, asking for and offering help, communicating more effectively, and taking on new roles and responsibilities in the family and community. These findings are entirely consistent with the way in which respondents in this research reported the decision to act: in terms of adapting to change, taking on responsibility, taking on leadership roles, taking risks, being disciplined and making choices. They are a mix of individual and socially related actions. The actions are also consistent with the ‘learning to do’ category shown in Figure 15 (page 134) proposed by Clemans et al. (2003), which similarly describes learning outcomes in terms of individual and collective actions.

As noted earlier, many of these actions are commonly referred to in the literature as employability skills, which are frequently cited as desirable by employers. One of the reasons that these attributes are so difficult to place into a training package framework of units and elements of competency, and measure (Curtis 2004) is that they are not necessarily related to job tasks, but are tied inextricably to an individual’s identity. It is evident from this research that what training does for an individual is to build an individual’s capacity to act: not only to perform the measurable technical skills required for the job—that is, they can do it or they cannot do it—but to engage in less measurable actions—described in terms of leadership, risk taking and discipline—that cross the boundaries of units and elements of competency.

The data suggests that the end result of these learning activities—which could in fact be part of an ongoing learning cycle, of which the process described above is just one iteration—is an *emerging identity*. This identity is expressed in terms of self-esteem, ownership, pride, self-worth and sense of dignity. At the end of an effective training program, the participant has a fresh answer to the fundamental question, ‘who am I?’. The answer to the question is shaped by the training process, described above in terms of increased *awareness*, a raised *capacity to act* and a consequent *decision to act*.

5.1.4 Conceptual bases of VET’s contribution to socio-economic well-being

At the heart of this research is the title: ‘VET as a tool for regional planning and management in savanna communities’. Another way of looking at this issue is to answer the question: ‘how does VET fit into the frame of socio-economic well-being?’ or relating this back to the earlier conceptual development: ‘what are the products of the learning milieu for *communities*?’. Part of the evidence obtained to answer this question came from interviews. Other evidence was derived from statistical data and from the literature. The interview data are *perceptions* of VET as they relate to the benefits and beneficiaries. The actual *capacity* of VET to contribute to the well-being of communities is to some extent different from the perceptions. Further, consistent with models of capitals presented in the literature (see Types of capital in a community context, page 96), the human and social capital elements of VET are just two of four or five capital bases on which socio-economic well-being in communities is built.

Figure 44 attempts to show the various overlaps between capacity of VET, perceptions of VET and community well-being. Those segments of the diagram that are outside the community well-being circle relate to aspects of well-being not directly related to communities (such as the well-being of individuals, industries and stakeholders external to the community).

This diagram first suggests that the capacity of VET is considerably greater than that suggested by the perceptions of stakeholders. In terms of community capacity for example, the results of this research suggest that the overwhelming benefit of VET for community well-being is in the area of employment and to a lesser extent the social environment (see Table 63, page 234). On the diagram this is represented by the segment (3) where overlap between the capacity of VET, perception of VET and community well-being occurs. The area represented by the overlap of capacity of VET and well-being (segment 2) relates to those well-being bands which are under-represented by the perceptions of respondents—health, physical environment, safety and culture/leisure—yet which from literature and statistics are able to contribute to capacity. Segment 6 relates to an overlap of perceptions of VET and community well-being where VET does not have capacity to contribute. This could be because of barriers identified or 'disablers' described earlier (see page 276).

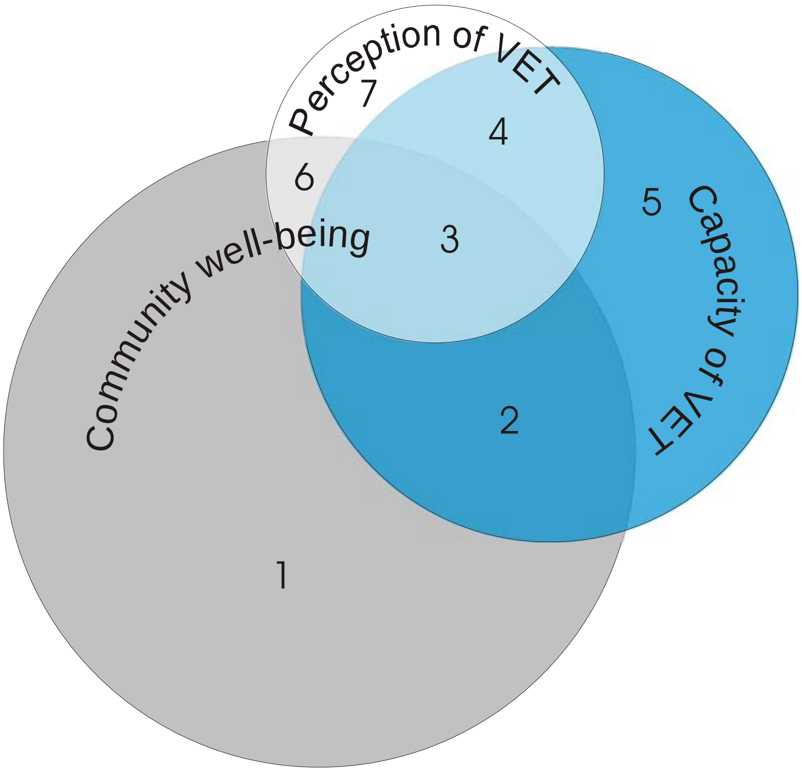


Figure 44 **How VET fits into the frame of well-being**

Segments 7, 4 and 5 relate to ways in which VET contributes to other aspects of well-being, which are not directly related to a community well-being context. In particular, the data suggests that VET can and does strongly contribute to individual identity formation (segment 4). Segment 5 may represent the currently untapped capacity of VET to build capacity in ways not perceived by stakeholders. This may relate for example to aspects of VET's contribution to enterprise development. It may also relate to the perceptions of stakeholders not consulted in this research. For example, while no attempt was made to identify or distinguish between Indigenous and non-Indigenous respondents in the sampling process, it could be argued that while the views *about* Indigenous training have been well captured, the views *of* Indigenous people as a group are not well represented. The implications of this untapped aspect of VET will be considered in more detail later (see page 335). Segment 7 represents areas where VET is perceived to have a benefit—or where there should be a perceived benefit—for which VET does not have the capacity. For example there may be a perception in some contexts that VET should have a capacity to contribute to individuals' literacy and numeracy needs but, for a number of reasons, this contribution is not possible.

The above diagram helps explain how VET fits into the frame of community well-being and hence how it can be and is being used as a tool for regional planning and management in savanna communities. The evidence from the data suggests that VET is being used as a tool for capacity-building in areas of employment, education, wealth and income and to some extent for the benefit of the social environment. It is equally evident that VET is capable of—but not perceived to be as useful for—building community health, enhancing the physical environment, developing the cultural and leisure environment and addressing issues of personal safety. These issues will be explored in more detail in the next section.

5.2 Implications

This section will draw together the findings presented in the last chapter with a consideration of the implications. Because the issues and implications of the research cut across the three research questions, the section will be structured to focus more on the implications than the research questions. At the same time the headings will be used to address the main aim of the research, which is to determine how VET can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the well-being of communities and regions.

The implications described in the following sections are drawn from the strategies of analysis built into the research design. Generalisations that are made from inferences in the data are done so within the methodological framework described in Chapter 3 (see Research design, page 148). A combination of inductive and deductive analytical processes, drawing on both quantitative and qualitative data, is used to arrive at the implications described in this chapter. The first major task will be to consider the role of VET for well-being in savanna communities.

These implications draw on and build on the conceptual frames developed in the previous section. They assume therefore that: 1) VET is part of an open, multidimensional system akin to a *milieu* or an *eco-system* with several inputs and outputs; 2) the effectiveness of VET is dependent not just on the immediate training context, but also on a number of other interdependent factors; 3) for individuals, one of the most significant products of their learning experience is the impact that training has on their identity—self concept, awareness, relationships and self-efficacy; and 4) the contribution of VET to socio-economic well-being is to some extent constrained by a perception that limits its impact largely to employment and education outcomes. The implications are articulated in practical terms in some cases to offer practical suggestions to contextual issues and in other cases, to raise questions about issues.

5.2.1 VET and well-being in savanna communities

The literature suggests that well-being can be broadly defined across several ‘bands’ as described in the section headed ‘What is well-being?’ (page 102). VET has traditionally been defined in terms of employment in a narrow set of trades occupations (see Apprenticeships and traineeships, page 24) and therefore it comes as no surprise that perceptions of VET are still heavily oriented toward an employment focus. Table 66 (page 236) showed the biggest single benefit of VET perceived by respondents (35 per cent of responses) to be employment. The largest group of beneficiaries described by respondents was individuals (56 per cent of responses). The largest group of benefits for individuals, however, was not employment-based, but rather identity-related. The implications of this finding will be considered separately (VET and identity formation, page 340).

Four of the eight bands of well-being (health, culture/leisure, personal safety, and physical environment) are relatively under-represented with a combined total of just over 10 per cent of responses relating to these categories. Within these categories some aspects were very seldom mentioned. These include: natural resource management or land management; housing issues; tourism (from the client's perspective); learning for pleasure/leisure; cultural and language issues; health (either from the professional/para-professional or community perspective); and addressing crime, violence and dysfunctional behaviours in families and communities. However, the lack of reports of VET's contribution to well-being as it relates to these issues should not be taken as an indication of low importance or minimal benefit. Rather, the lack of reports points to a perception problem: while the evidence points to wide application of VET to these areas, stakeholders are not thinking of learning as a tool to address these issues.

Both the literature and some respondents point to the application of VET to these areas. ANTA's (2003a) strategy for 2004 to 2010 points to a much broader range of applications of VET than is represented by the two-thirds of responses identifying education, employment, wealth and some social benefits. This raises questions about why non-traditional areas of training activity continue to have such a low profile. It is apparent from the findings presented here that the rhetoric of the ANTA strategy has not as yet filtered down to the community or practitioner level. The findings also raise questions about what in fact are the opportunities for the use of VET in the non-traditional areas of learning, such as land management and natural resource management. Perhaps, building on the findings about partnerships (see page 292), the answers lie in the formation of effective collaborations. Finally, given the unique context of VET in the tropical savanna region, what role can training play to provide innovative solutions for the challenges the region faces? One possible reason for the relatively narrow perception of VET as a capacity-building tool stems from the view that VET should be judged in terms of outcomes—in particularly, employment outcomes. In the light of this, the discussion of implications turns firstly to a further exploration of the conceptual bases for an evaluative framework, raised in the previous section.

5.2.1.1 Evaluating VET and well-being

The conceptual basis offered earlier (see Conceptual basis for an evaluative framework of VET programs, page 315) presents an opportunity for the development of a generic evaluation framework, which takes into account community well-being. In an evaluation of VET at the institutional or program level, the set of questions put forward in section 4.4.3 (page 298) can be asked. They are restated below for the convenience of the reader. The questions that are asked of informal, community or enterprise level programs would of course be tailored to suit the particular context.

> To what extent are the perceived *needs* of training stakeholders (individuals, communities and industry) being met? Are all the relevant stakeholders being consulted about the real needs of a community?
>
> Are incentives and opportunities for training adequate and correctly targeted to meet the aspirations of participants? Is there an appropriate match between the stated reason for training and the anticipated outcome? What are the demotivators of training in a given context?
>
> To what extent are relational structures in place to support the delivery of training? Is there adequate commitment and funding? How well do the 'systems' of government and industry encourage and promote training cultures?
>
> To what extent are training programs fit for their purpose? Does recognition that comes out of training participation reflect the perceived worth of the training? How well do the qualifications and the qualities of the trainer fit the training context?
>
> To what extent does the training process build a participant's sense of self? Does the training impact on a person's capacity to make decisions, to act and to better fit in with the world in which he or she belongs? How does training build individuals' awareness of themselves, their community context and the world outside their immediate context?
>
> What kind of positive outcomes does training lead to? To what extent does training assist individuals' capacity to engage with the workforce and their community? What capacity-building outcomes are factored in to the training programs that people engage in?

Evaluation on this basis could be expected to be both qualitative and quantitative. Table 76 lists tools and measures that could be applied. Qualitative tools would typically be perception/attitude/satisfaction surveys of stakeholders, particularly employer and employee clients. A range of quantitative measures could be used to support these tools from audits, assessment of dollars spent per person, qualifications obtained and employment outcomes achieved. The exact set of tools and measures that should be applied will be determined by the context. The qualitative tools are dependent on perception surveys. While these are listed separately they could be rolled into one survey, which could easily be set up as a self-administered questionnaire.

Table 76 Tools and measures that could be applied to the evaluative framework

Category	Qualitative tools	Quantitative measures
Needs	Perceptions of various stakeholders	Audits: e.g. has a needs analysis been conducted?
Motivators	Client aspiration survey	Availability and extent of complementary incentives
Enablers	Client support satisfaction survey	Financial resources applied per person Training facilities and resources available to trainees and trainers
Aspects of delivery	Client training satisfaction survey	Audits: conformance to quality management standards Trainee performance: e.g. graded assessments Qualifications attained Level of qualifications attained Number of participants Hours of delivery/contact
Identity	Client perception interviews/surveys Assessment of attitudes and world view	Changes in networks
Outcomes	Satisfaction surveys	Skills learned match skills used Employment outcomes Income outcomes

Note: Clients are here defined as employers and trainees

5.2.1.2 Low profile of VET in non-traditional areas of performance

The results presented below in Figure 45 (adapted from Table 66, page 236) show that more than half of the benefits of VET identified by respondents are related to the outcomes that would traditionally be expected from VET according to literature: employment (34 per cent), wealth and economic well-being (9 per cent) and education (9 per cent). These outcomes correspond neatly with the criteria used in the *Report of the Inquiry into the Quality of Vocational Education and Training in Australia* (SEWRSEBC 2000), which was charged

> with providing an assessment of the quality of vocational education and training based on two criteria: its effectiveness in developing the educational skills of the Australian people; and its effectiveness in providing for the skills formation and productivity of the Australian workforce. (p. 37)

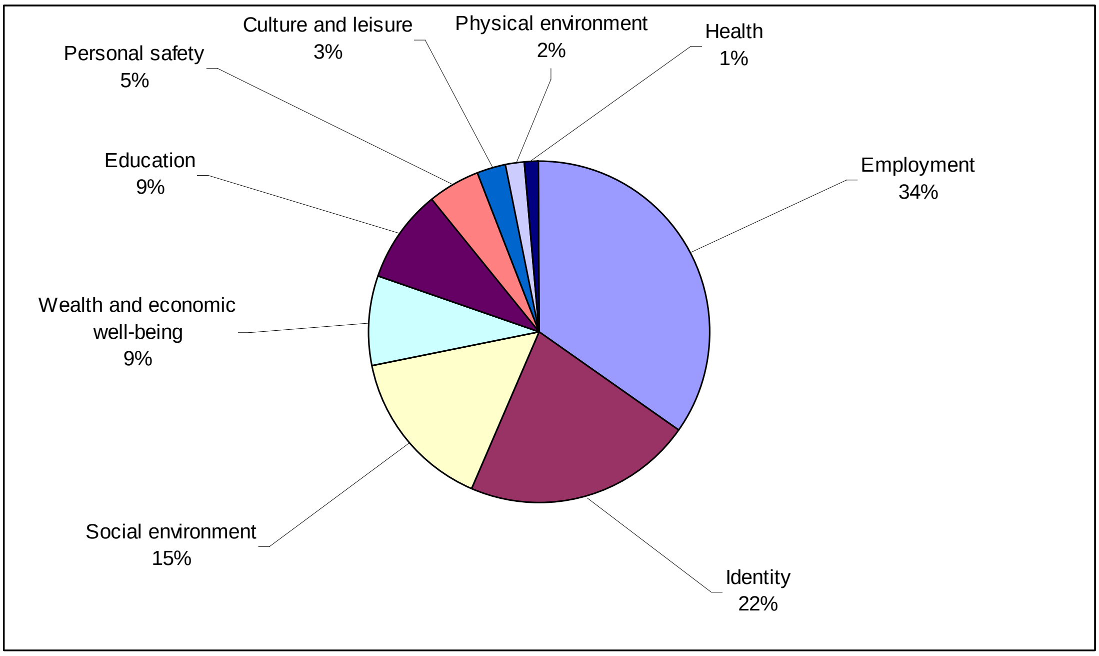


Figure 45 Benefits of learning identified by respondents (n = 643; multiple responses allowed)

Four of the remaining benefit groups (health, physical environment, culture and leisure, and personal safety) occupy only 11 per cent of the ‘pie’ shown in the chart above. This suggests that outcomes associated with these categories are very low on respondents’ lists of priorities. This is despite a reasonably strong representation of those ‘bands’ as fields of study. Table 24 (page 122) shows that approximately one-quarter of all trainees nationally participate in courses associated with those four areas. While it is possible that when people referred to ‘employment benefits’ they had in mind employment in occupations related to health, tourism and natural resource management, the examples cited by respondents suggest that what they meant was employment in occupations traditionally associated with VET—that is, trades and related occupations and to some extent fields that are increasingly being accepted as the domain of VET such as retail and business services. Summarising this discussion, the data shows that respondents generally do not see a connection from their learning to a range of important indicators of well-being.

5.2.1.3 Opportunities for land management and other non-traditional training

The importance of and need for capacity-building across a number of well-being areas in the tropical savanna region is rarely disputed. Data presented in this research confirm the need for capacity-building in areas such as health (see Figure 24, page 197), education (see Figure 24 and Figure 25, page 200), housing and community infrastructure (see Table 2, page 35 and Figure 39, page 222), particularly in Indigenous communities (NT Government 2005:5–6). Added to these ‘problems’ is the importance of maintaining and developing areas of cultural and natural significance, including World Heritage-listed areas such as Kakadu National Park, Purnululu National Park, the Riversleigh Fossil Mammal Site and the Great Barrier Reef.

For many of the issues identified above there are significant employment opportunities, to which VET can and ought to contribute. These include the areas of health, education and housing. In other areas, which fall outside the domain of what is sometimes referred to as ‘real jobs’ but certainly within the domain of meaningful and necessary work, there is increasing recognition of the need for skills. For example, ‘Caring for Country’ is now an accepted umbrella for a range of natural resource management and land management programs across the Top End, with employment opportunities for over 350 Aboriginal people (NT Government 2005). The Northern Territory Government’s *Indigenous Economic Development Strategy* notes that:

> Caring for Country contributes to strengthening the customary economy by maintaining biodiversity and intact ecosystems for sustainable harvest. Major biodiversity conservation benefits are delivered through the re-establishment of customary fire management regimes, and monitoring and controlling weeds and feral animals (p. 26).

Similarly, in relation to Caring for Country and sustainable environmental development Altman and Whitehead (2003) conclude that:

> Aboriginal people are chronically under-represented in the mainstream workforce in northern Australia. This situation is contributing to severe social and human health problems. The biophysical health of the country is suffering as well, because too few people are actively intervening to deal with a daunting array of new and old problems. Aboriginal people are well equipped, through a remarkable existing skills base, demonstrable commitment, and location, to address both opportunities and challenges in achieving a new level of sustainable and equitable management of resources. (p. 7)

While generalisations coming out of the methodological processes of this research may be treated with some caution, the evidence from the findings presented suggests that the profile of training for these kinds of programs is very low. However it is increasingly recognised that training can have a role in Caring for Country programs (Australian Broadcasting Corporation 2004; Cochrane 2005; NLC 2003b; NT Government 2005; Storrs et al. 2003). On the face of it however, this recognition is largely rhetorical as shown by the results of this research. VET stakeholders at this point in time simply do not generally make the connection between livelihood opportunities such as Caring for Country, and VET training. The same could be said for community health initiatives, where VET’s contribution to health and well-being is, according to this research, largely ignored.

Stakeholders in these areas must themselves raise the profile of VET as a valid means of capacity-building. This means that key non-government agencies (e.g. those in health and natural resource management) must work hard to form strategic alliances with government agencies and funding bodies to state the case for a greater share of funding for strategically important programs that can then be highlighted for their worth. While there is some evidence of this beginning to happen, for example with the North Australia Indigenous Land and Sea Management Alliance (NAILSMA), it is evident that the push for training is still very much directed at traditional skill and occupation areas.

5.2.1.4 Partnership opportunities

One of the important ways in which these strategic initiatives can be effectively ‘marketed’ is through the use of partnerships. The stand-out examples of partnerships cited in this research (see Table 74, page 293) were frequently cited because they had been widely publicised and well documented and marketed. Given their effectiveness in facilitating resources, providing leadership and direction and building strategic relationships (see The role partnerships play in effective delivery, page 292), partnerships offer one means by which training can be used more effectively as a tool to deliver capacity-building outcomes for savanna communities. However, this does require a degree of commitment and support that is not always inherent within some of the culturally and geographically disparate groups within the tropical savanna region.

One of the messages from the findings about partnerships for training providers is that effective partnerships underpin the success of programs that would otherwise 'fall over' due to funding, infrastructure, expertise or any number of barriers. Therefore, in order to achieve sustainability in provisions and outcomes, training providers need to actively seek out potential partners for new initiatives and foster cooperative relationships with other key training stakeholders (government, community, industry) with clear goals and outcomes in mind. The same applies to communities, industries and non-government agencies that see training opportunities as a way forward in their particular sector. It could be argued that because of the unique context within which providers of the savanna region work, and because of the bounded geographical scope imposed within the methodology of this research, these implications do not apply more generally to other regional contexts within Australia. However, there is a large and growing body of other research that supports these assertions (see Success for partnerships, page 82).

The lessons from the stand-out partnerships cited apply to Indigenous and non-Indigenous contexts equally. For the stakeholders involved, the identified mutual benefits that accrued to mining industries and communities in the Bowen Basin were just as important as those that accrued to Indigenous communities and tourism/arts/construction industries in the West Arnhem site. Statements from the Northern Territory Government (DCDSCA 2003; NT Government 2005) suggest that they too see merit in the formation of strategic alliances between industries, communities, regions and government for a variety of capacity-building outcomes. Indeed there is emerging evidence that internationally, use of partnerships is being seen as a policy instrument to effect better cooperation and coordination in adult learning (OECD 2005).

5.2.1.5 VET and innovation

It was noted in the literature (see Success for industry, page 72) that VET and innovation are not generally aligned together the way that science, research or technology and innovation are (Commonwealth of Australia 2003; Selby Smith et al. 2001). By way of example, at the 2005 Northern Territory Research and Innovation Awards (NTRIB 2005), out of 16 different entries just one had application for VET: the 'MARVIN community development software platform' (MARVIN 2004). While it is recognised that VET and innovation can go together and possibly even should go together (Buchanan et al. 2001), in practice they do not go together. Curtain (2004:30), in considering TAFE involvement in innovation, commented that 'a search for other evidence of VET involvement with innovation showed meagre results'. It may be that the reason they are not associated is because of an ingrained belief that research and innovation is outside the domain of VET and yet well within the domain of higher education. Middleton (2005) suggests that research is not a valued activity in VET institutions.

In the context of the tropical savanna region, given that VET *can* be used as a tool for innovative development, how might it be used innovatively and how might it be used for innovative activities? With regard to the former, there were several examples of innovative application of VET given in the data. These included: remotely supporting financial service trainees through video links; development of adaptable tools using multimedia that can be applied to a variety of language and cultural contexts; a VET in Schools program that built a racing car and tested it out on a Darwin race track to teach automotive skills; a drug education program facilitated by a community organisation in Palmerston that used video production to help students engage with the learning material; and a music program designed for disengaged youth in Palmerston, where students were able to write their own songs.

Each of these programs demonstrated innovation in application of resources, delivery process or outcomes. Many are consistent with examples available from the literature (e.g. Lester 2004; Lester & Rickert 2004; NTCOSS 2004; Young et al. 2005), which cite examples of use of technology, alternative delivery and learning strategies, and creative resource utilisation. However, in terms of diffusing innovative practices to overcome local problems or to build capacity and well-being, there were very few examples from the data—if any—that suggested that VET was being used in this way. Perhaps one exception was an illustration given of a land management training program—which also made use of creative resource design and learning methods—to build the skills of traditional owners in West Arnhem Land to overcome land use and management issues. VET in this instance was used as a means of diffusing knowledge and skills in a land management context. One reason for this lack of innovation and VET relates to the problem that training lags behind technological innovation.

It could be argued that the more highly qualified researchers and scientists who would want to diffuse their knowledge—particularly in areas such as ecological sustainable land management practices, fire management, health, information and communication technology and eco-tourism—have more difficulty transferring their knowledge to savanna stakeholders than VET providers and practitioners would. However in these key areas, it is apparent that VET has a very low profile among the training stakeholders interviewed. Figure 45 (page 326) shows that only three per cent of all responses described either physical environment (which includes natural resource management and information technology) or health benefits.

Notwithstanding existing attempts to use education and training in this way (e.g. Liddle & Young 2001; Shulz 2001), because VET is an under-utilised resource in these areas it would be relatively easy to justify a case for funding VET to aid the knowledge diffusion processes in the areas of health and ecologically sustainable development outcomes for savanna communities—on the basis that these outcomes are exemplars of innovation in a region that, given appropriate skills, would benefit from the capacity built. Drawing on the findings presented in this research a number of strategies are required in order for this knowledge diffusion to happen. These could include: a) raising the profile of health and Ecologically Sustainable Development (ESD) outcomes among VET providers; b) adapting information diffusion strategies to conform to VET funding constraints/conditions; c) raising the profile of VET among health and environmental management professionals; and d) developing more intentional partnerships with stakeholders to ensure that all stakeholders are adequately engaged with the process of information diffusion.

There are some examples where these kinds of initiatives are occurring. For example the NAILSMA is structured to build key partnerships, and develop appropriate TAFE training programs and 'explore innovative ways to address the broad spread of indigenous interests in plants and animals across the wet-dry tropics and their relationship with commercial interests' (Armstrong 2004:22).

5.2.2 VET and skills shortages for industries of savanna communities

The research here has shown that savanna communities are relatively heavy users of vocational skills. This is due to the relative strength of the key industries of employment: agriculture, forestry and fishing; mining, retail trade and government administration and defence, shown in Table 13 (page 60), all of which traditionally have strong VET sectors. Table 5 (page 43) shows that males across the savanna region were more likely to hold certificate qualifications than males in Australia as a whole. This is particularly notable in Queensland. The same pattern does not however hold true for females, who are slightly under-represented in terms of VET skills across the savanna. These data set the context for the following discussion about the role of VET in addressing skills shortages in the savanna region.

5.2.2.1 Changing the mindset from fly-in/fly-out to strategies that incorporate regional skills ecosystems

One of the problems associated with skills shortages relates to highly skilled populations that are highly mobile. In some industry sectors (notably health and mining), one way of addressing the problem of skills shortages is to use what are commonly described as 'fly-in/fly-out' strategies (see also Success for industry, page 73). Analysis of Census data for savanna communities reveals a strong relationship between post-school qualifications held and mobility such that the higher the mobility, the higher the skill-set in the community (see Figure 46). In other words, the likelihood of fly-in/fly-out strategies being used is greater where the skills demands of the community are greater.

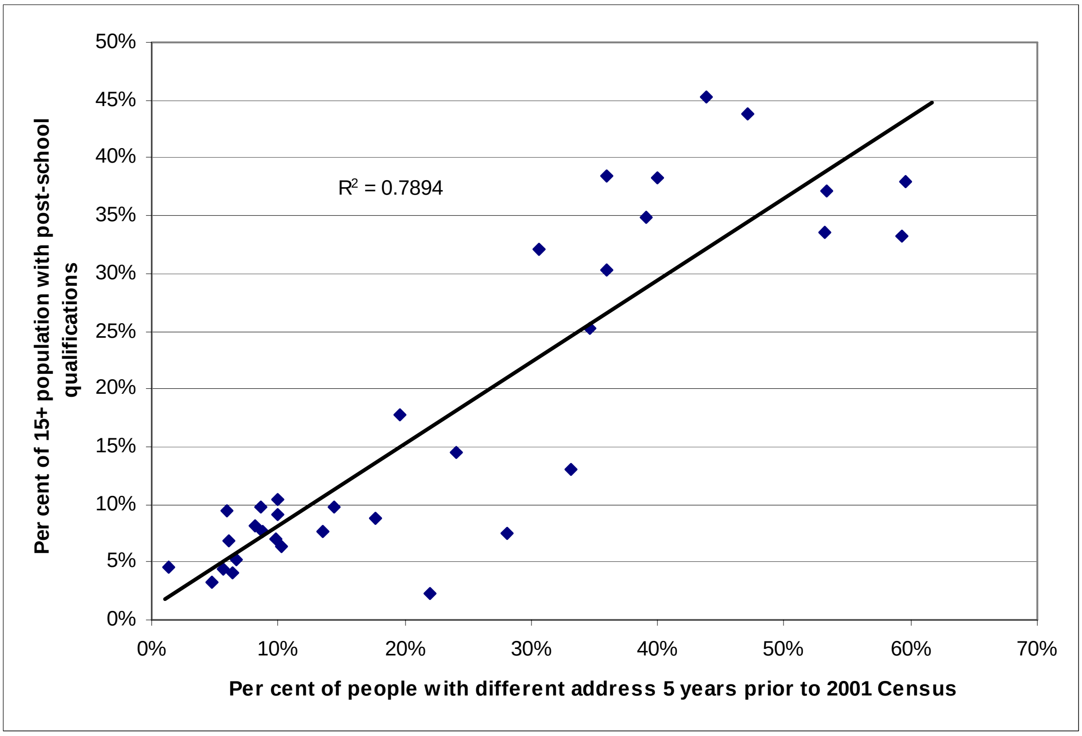


Figure 46 Relationship between mobility (different address 5 years prior to 2001 Census) and qualifications (per cent of 15+ population with post-school qualifications), UC/Ls ASGC 2001, 2001 Census
(Source: ABS 2002b)

As noted in the literature review (see Success for industry, page 72), the shift to fly-in/fly-out work arrangements (and the high staff turnover rates) may also be contributing to increased costs associated with training. Buchannan et al. (2001) reported that among industry groups, training expenditure per employee had increased most in mining industries in the period 1993 to 1996—up more than 30 per cent in that time. Partly with these issues of cost, turnover and skills shortages in mind the concept of *skills formation networks* and *skill ecosystems* has been proposed as one possible solution.

While this concept probably works well in urban and metropolitan areas of Australia, in remote areas the breadth of possible partners in such an ecosystem is more limited. The findings from this research suggest that in savanna contexts the skill ecosystem needs to include a broad range of other stakeholders that may then contribute to the skills deficits of industries. Most notably, there is evidence in savanna communities that Indigenous community stakeholders are increasingly being incorporated to build the skill capacities of industry—particularly mining.

5.2.2.2 Turning barriers into opportunities

Most of the barriers identified in the research relate to Indigenous training contexts. The potential issue of remoteness was not seen as a barrier in itself, except in relation to its attendant problems, such as accommodation and logistics. In some ways, ‘remote community’ is synonymous with ‘Indigenous community’ in the minds of many people interviewed. As such, the barriers associated with remoteness—as far as respondents were concerned—are the barriers associated with Indigenous communities.

It was noted in the literature that there are numerous opportunities for VET to be used as a catalyst for ameliorating the multiple disadvantages associated with life in Indigenous communities (see Success for communities, page 76).The research findings presented here support this assertion with empirical data. The findings suggest that while skills shortages would appear for many industries to hold back growth, there is ample evidence to suggest that, given the right strategies and resources, the largely untapped pool of labour in the form of currently disengaged (from the workforce) Indigenous people has the capacity to offer solutions to the ‘crisis’ of skill supply. The evidence of the literature suggests that, particularly in the mining industry, this is beginning to happen (Barker & Brereton 2004).

Another opportunity that exists relates to use of women in strategic areas of the labour market. A comparison of Census labour force data (ABS 2002b) shows that, while nationally 44.6 per cent of women did not participate in the labour force, in savanna SLAs 41.6 per cent of women did not participate. However, as Table 5 (page 43) suggests, women in savanna SLAs are relatively underskilled compared to women nationally—at all levels of qualification. The challenge then is to build the skills of working women to enable them to participate in skilled jobs demanded by the key savanna industries of employment. To this end, the key industries can do more to support and encourage women into pathways that lead to skilled jobs. Additionally, governments may offer targeted incentives for the key industry groups to persuade women to upskill.

5.2.3 VET and new enterprise development

The research highlights a very small sample of good examples of VET applied to enterprise development. Most of these examples relate to opportunities for Indigenous people. Given the perceived potential use of training for building new and sustainable enterprises in Indigenous contexts (See Indigenous learning, page 44, e.g. NT Government 2003c, 2005; Storrs 2003) it would be reasonable to ask the question: ‘why is there so little evidence of VET being used in conjunction with enterprise development?’. ANTA’s (2000a:30) *Partners in a learning culture* boldly stated: ‘economic and enterprise development can expand opportunities for Indigenous people in VET, particularly through New Apprenticeship initiatives’. In the light of this question, this section will first examine what the opportunities for enterprise development might be and then consider how VET might be used to greater effect in this area. The section concludes with consideration being given to the role of CDEP as a pathway into new enterprise development.

5.2.3.1 Multiple opportunities for pathways to new enterprise development

The unique characteristics of Australian tropical savanna landscapes, the region’s climate and its peoples, create opportunities for enterprise development. In terms of tourism alone, according to many of the respondents surveyed in this research, the experiences offered by the region are arguably not found anywhere else in the world—particularly those relating to its cultural heritage. The evidence of the findings supports a view that opportunities exist for the region’s Indigenous and non-Indigenous people. The May 2005 Indigenous Economic Development Forum (DCDSCA 2005; NT Government 2005) categorises the opportunities for Indigenous business development into seven categories: horticulture and bush food; tourism and parks; mining and major enterprises; arts, knowledge and media; retail and service; natural resource management; and pastoral and aquaculture.

These opportunities include a combination of new enterprise development and existing enterprise development. Nevertheless, the organisations represented in the Forum demonstrate the breadth of opportunity that exists for enterprise development in the Northern Territory alone. Similar opportunities have been identified in the *Cape York Partnerships Economic Development Policy Strategy* (DSDI 2003).

5.2.3.2 New enterprise development in Indigenous communities requires strategic partnerships and broad long-term commitment

It was noted in the previous chapter that VET was occasionally associated with new enterprise development in Indigenous communities. Respondents also made comments about the need for entrepreneurial skills to be built in the context of partnerships between a variety of Indigenous and non-Indigenous stakeholders. According to the data, the skills gaps necessarily require significant and sustained effort on the part of all stakeholders involved in order to be filled. In the handful of examples cited by respondents, new enterprises that did get established required strategic partnerships and long-term commitment to make them work.

The Nabarlek (Harrison 2004) example (described earlier in The role partnerships play in effective delivery, page 292) is a good case in point. This music industry enterprise involved funding commitment from NT DEET, support from a CDEP management organisation, commitment from a key music industry stakeholder, and two training providers. Harrison's case study of Nabarlek identifies five separate Territory and Commonwealth funding sources and commitment (in-kind and sponsorship) from several commercial enterprises. While the exact amount is not specified in the case study, the combined resources applied to this band, comprising 12 members, represents a significant financial investment. While the goal of sustainability is evident from the case study it appears to be very tenuous and highly dependent on ongoing funding support. Some would undoubtedly question the 'business sense' of a model like this when viewed from a short-term profit-focussed perspective. While mainstream music enterprise initiatives could not be expected to attract such support there is some justification for the ongoing support in terms of training, sponsorship and in-kind support. This justification, according to Harrison, is based on the following. Firstly, issues of remoteness and accessibility require significant resources, especially in terms of training provision, infrastructure and access to training materials (see also Rural and remote access, page 65). Secondly, the educational starting point of many Indigenous communities is well below what might be expected in the mainstream (see Indigenous learning, page 44); and thirdly, the model serves as an example to other Indigenous communities that can be emulated in other remote contexts.

The evidence from interviews conducted in this research suggest that the lessons from Nabarlek could be expected to repeat themselves in other art/cultural/music new enterprise initiatives. They will require significant, ongoing investment and support. They will require strong partnerships with local communities, industry, providers and government agencies. Without these things, the sustainability of the initiatives could be expected to be tenuous.

5.2.3.3 Providers and potential businesses need to be equipped to train for new enterprise development

While new enterprise development happens frequently in non-Indigenous communities the connection between learning and new enterprises in these contexts was not made by respondents. The reasons for this lack of connection is related in part to the issues around VET and innovation described earlier and also in part due to an emphasis in VET on providing technical skills for existing enterprises rather than the mix of skills required for starting and building a new business. The lack of training in this area may contribute to failure rates of new business—the Productivity Commission reports that around one-quarter of new businesses in Australia fail within the first three years of operation (Bickerdyke et al. 2000). However, if training is a key to developing new enterprise skills, training providers and resources need to be available to facilitate this.

Table 77 Numbers of training providers registered to deliver selected units required for enterprise development (within the Business Services Training Package)

Code	Unit	NT	QLD	WA
BSBSBM404A	Undertake business planning	0	1	0
BSBMGT503A	Prepare budgets and financial plans	0	1	1
BSBMGT506A	Recruit, select and induct staff	0	1	1
BSBMGT510A	Determine needs of customer populations	0	0	0
BSBMGT511A	Develop a business opportunity	0	0	0
BSBMGT603A	Review and develop business plans	0	0	0
BSBMGT611A	Develop risk management strategy	0	0	1
BSBMKG501A	Evaluate marketing opportunities	0	0	0
BSBMKG404A	Forecast market and business needs	0	0	0

Source: http://www.ntis.gov.au/cgi-bin/waxhtml/~ntis2/pkg.wxh?page=82&inputRef=166

Evidence from the National Training Information Service (NTIS) database suggests that the numbers of providers in tropical savanna jurisdictions that are equipped to facilitate training in units of competency related to business development are few and far between. Table 77 above highlights a selection of units drawn from the Business Services Training Package that are particularly relevant to new enterprise development. The units of competency shown that are related to business development are all at AQF level IV and above and those providers that do exist in savanna jurisdictions are all based outside the region.

Outside of the accredited training pathways described above there are few agencies that provide business development support in the form of training. In the Northern Territory for example, the Department of Business, Industry and Resource Development (DBIRD), through its Indigenous Business and Industry Services (IBIS) Branch, provides limited information to Indigenous people wanting to start a business (e.g. DBIRD 2003). DBIRD also sponsor a number of *Upskill Short Courses* (DBIRD 2005) for small businesses more generally. In Queensland, the Department of State Development and Innovation has created an online learning resource aimed at assisting small business operators with the skills required to build a new enterprise (DSDI 2005). Queensland also has targeted programs designed to assist Indigenous enterprise development. These include the *Cape York Partnerships Economic Development Policy Strategy* (DSDI 2003), the *Indigenous Business Establishment Program*, and the *Indigenous Business Capacity Building Program*, all of which include skill and knowledge development components.

Given that governments view new enterprise development as a critical means of building pathways for sustainable economic development, particularly (but not only) for Indigenous communities (see Indigenous learning, page 44), it is apparent that a lot more work needs to be done at the provider level to ensure that the critical skills needed for business management are available. Firstly, the relevant units need to be made available, and training practitioners with experience—particularly those with understanding of the unique savanna context—need to be accessed. Further, given that the existing units of competency are all at AQF levels IV and above, to be accessible to the majority of Indigenous communities, units of competency would need to be developed at AQF levels III and below. This is not just an issue for Indigenous enterprise development. It is an issue across a wide spectrum of industry sectors and population groups in the tropical savanna region. Training provided for new small business entrants would have application in a number of contexts. Consider the following scenarios, which arise from illustrations given in respondent interviews:

> A Humpty Doo resident wants to take advantage of the land on his ‘five acre’ block and plant some mango trees for additional income. If he does decide to go ahead and plant the trees, where does he get the business skills he needs to establish the farm?
>
> A Middlemount spouse of a mine worker wants to establish a small retail craft business with possible sales options on the Internet. Who will provide the mix of skills required to ‘get the ball rolling’?
>
> An Indigenous community in Arnhem Land sees an opportunity to provide unique adventure tourism experiences on their land. They know their land well, but how will they learn the skills needed to market their product?

The answer to the question in all these scenarios will inevitably be non-existent or negative. There simply are no VET providers, no VET courses and very few associated resources to assist people to make the decisions they need to make in order to establish a sustainable new enterprise.

5.2.3.4 Is there a role for CDEP?

There was little evidence in this research that CDEP plays a significant role in building new enterprises. Nor was there much evidence for this in the literature reviewed (see page 47). This is despite VET playing a significant role in CDEP programs. ANTA’s (2004c) *Partners in a Learning Culture: Blueprint for Implementation Mid-term Review, final report,* states quite clearly that CDEP does have a role to play in establishing new enterprises. It states that one role for CDEP is as ‘a springboard for local Indigenous enterprise development’ (p. 81). While there may be an argument for this, it seems that the conditions required for CDEP to become this ‘springboard’ are seldom present. Indeed there was almost no direct evidence from the data to suggest that CDEP was playing this role, with one exception being the Nabarlek (Harrison 2004) example cited earlier, where musicians continued to be employed and resourced through the program while undergoing training. There were a small number of examples where CDEP was used as a springboard for employment in existing enterprises, but these were generally non-Indigenous enterprises (such as a mine or tour guiding operation) and were feeding into an established business.

This is not to say that the opportunities do not exist. They do. But for a variety of reasons the examples of CDEP cited did not have the right conditions to make new enterprises happen. This relates at least in part to the limitations associated with trainers not being equipped to train for enterprise development, and to the nature of CDEP itself. The conclusions from this research then is that CDEP—in its current form—is not effective as a springboard for new enterprise development. In order to be an effective catalyst for new enterprise development, the orientation of many CDEP programs would need to change from being focussed on community service to being entrepreneurial. The emphasis of training would also need to change towards business development instead of low-level technical skills.

5.2.4 VET and identity formation

One of the significant findings of this research is that identity formation is a key component of effective training programs. Identity formation has been earlier described in terms of the development of self-concept, of self-efficacy, of awareness, and in terms of the development of a sense of belonging—within communities, workplaces teams and organisations. The importance of identity formation was found not to be site dependent or related to whether or not programs were directed towards Indigenous people. Therefore, the findings related to identity formation have significance for a broad range of training and learning activities. The process by which identity is formed in training has already been discussed (see Identity formation in VET: how does it happen?, page 316). This section will now consider how identity formation can be built into programs and how providers can foster identity formation.

5.2.4.1 What would it mean for program design and assessment?

If, as suggested in this research, identity formation is critical to the effectiveness of training programs, what might this mean for program design? How can identity formation be built into a program? Should identity formation be assessed as a ‘competency’?

Firstly, in response to the last of the foregoing questions, this research suggests that identity formation is not a competency that can be assessed in the same way that other skills are assessed. However, as indicated earlier in Section 5.1.3, the relationship between individual skills and knowledge formation and individual identity formation are tightly interconnected. Further, one influences the other and both influence—and are influenced by—the outcomes, training and socio-cultural contexts in which the program is embedded.

With these interconnections in mind the question of assessing ‘employability’ or ‘generic skills’ becomes very straightforward. Taking a list of generic skills identified by Clayton et al. (2004b:160), those skills that are assessable and those that belong under identity formation can be identified:

- personal values, attitudes, attributes and qualities, for example, ethics and integrity, confidence and self-esteem, respecting the ideas and opinions of others, respecting diversity, initiative and creativity, reliability and responsibility
- self-management, for example, punctuality, hygiene, personal presentation
- work management, for example, organisation of own work, meeting deadlines, understanding systems, stress management
- industry awareness, for example, awareness of the industrial landscape, business knowledge, occupational health and safety
- customer service, for example, telephone skills
- responsibility for own learning.

Values, attitudes, ethics, integrity, respect, creativity, reliability, confidence, self-esteem and responsibility are related to identity. In other words they relate to a person’s self-concept, self-efficacy, awareness and relationships. While psychological assessments could well be conducted to measure these personal attributes, training practitioners are not qualified to conduct such assessments. Training practitioners are however qualified to assess *competency*. Therefore, again using the above list for illustration purposes, competencies related to work management, industry awareness, occupational health and safety, punctuality, and hygiene are very easy to assess according to performance criteria. For example, if the standard for punctuality is ‘turning up to work by 9 a.m. if the individual turns up to work at 9:15 a.m., according to that criterion he or she is not competent.

Clayton et al. go on to contend that: ‘The explicit incorporation of generic skills into performance criteria would increase the degree of confidence that practitioners have in assessing them’ (p. 171). If this assertion applies to the whole list of identified generic skills described earlier, then quite on the contrary, this would be almost impossible for practitioners to confidently assess. What criteria would be applied to self-confidence or self-esteem for example? If, however, the statement applies to the subset of assessable competencies, then it may be a reasonable assertion. What Clayton et al. and others have failed to do—and what needs to be done before further consideration is given to assessment of generic skills—is to separate out aspects of identity formation from assessable generic skills.

Returning to the questions that were posed at the beginning of this section then, what can be done to build identity formation into a training program? Following the identity formation model explained in Section 5.1.3 (page 316), some suggestions are offered below.

Awareness can be built in a number of ways. While the scope of much on-the-job training is necessarily contained to a constrained set of tasks, particularly in the early days of training, a ‘bigger picture’ of the job can be presented by the training provider and employer negotiating alternative work experiences. Group training organisations are ideally positioned to do this because the employee can—and sometimes necessarily is—moved from one employment situation to another. Another way of dealing with this is to facilitate trainee exchanges where learners change places with each other for short periods of time. Awareness raising of this kind is embedded in the principles of structured workplace learning, which encourages learners to ‘taste and see’ or ‘try before you buy’. The same principle can be applied to trainees who are employed.

If the idea of ‘workplace exchange’ is not possible, awareness can also be increased by bringing in new ideas to the training context. For example, instead of having one person assigned to training and assessment through the course of a traineeship, a few assessors could be used, each bringing their own experiences and perspectives to the training context. Building an element of mentoring into the program is another way that this could be achieved. Yet another way of building awareness is through the development of peer support networks. This can be done either informally or intentionally. In some cases for example, using team projects as a vehicle for these networks may work. In other instances, providing linkages electronically through instant messenger interfaces or online forums may be helpful.

The second building block in identity formation presented earlier (see Identity formation in VET: how does it happen?, page 316) relates to an individual’s *capacity to act*. Within the design of a program, trainees can be encouraged in various ways to take responsibility and to make choices. Instead of simply telling a trainee what to do, practitioners can offer choices and elicit ideas from within the training context to help an individual take some responsibility for their learning inputs and outputs. For adults, learning that allows individuals to discover knowledge and skills may be helpful.

Further, learning that promotes the ‘how and why’ of a task, not just the ‘what’ of a task, may begin to empower the learner. Training package competencies are often not written to explicitly demand the ‘how’ and ‘why’ of a task. The focus of assessment of competency is frequently directed at answering the question: ‘can the trainee do the task?’ rather than also asking ‘does the trainee understand why they are doing the task?’. A Certificate IV unit from the Business Services Training Package ‘BSBADM403A Develop and use complex databases’ is used here for illustration purposes. The five elements associated with this unit are:

BSBADM403A/01	Use safe work practices
BSBADM403A/02	Develop a linked database solution

BSBADM403A/03	Develop database record forms and reports
BSBADM403A/04	Automate and standardise database operation
BSBADM403A/05	Use databases

Each of these elements includes clearly defined and assessable tasks. However, nowhere in the unit documentation is it explicitly specified that the person must understand why they must do these tasks. For example, under element 2 it states:

> Databases are designed and constructed to meet the requirements of the given situation.

Implied, but not explicitly stated within that criterion is an assumption that the trainee understands why design principles are important. It is possible to assess the trainee as competent without them knowing that design is important for avoiding errors and preventing duplication, to mention just two reasons. When trainees understand why these principles are important, the next time they create a database, they will be able to apply the principles to a different scenario. Putting it another way, the new understanding builds the individual's capacity to act in a variety of contexts.

The third building block along the path to identity formation relates to the *decision to act.* This involves encouraging trainees to make decisions, to take charge and take control of situations that they previously would not have. This may involve taking trainees out of their comfort zones. It may also involve a degree of experimentation and risk taking. However these risks are still taken in the bounds of a training environment. To illustrate this the reader is reminded of a quote from an interview presented earlier (see Social benefits for communities, page 246):

> Training is a safe way to overcome usual social barriers while providing people with an opportunity to network, socialize and get to know each other, which forms the basis for social capital and building community capacity beyond skills development.

In effect, the respondent is suggesting that training provides the necessary safety net to allow people to take risks—in her words, 'to overcome usual social barriers'—

without having to fear failure. This kind of risk taking can easily be built into a training environment where it cannot be built into a more clearly defined job role, where it is assumed that those risks do not need to be taken and where competence is assumed.

5.2.4.2 How do you build effective external linkages into isolated communities?

One of the challenges associated with life in a remote community is that of connecting with people outside. While it could be expected that a ‘fly-in/fly-out’ mine employee would have extensive external linkages, for many people living in purpose-built mining towns, such as those in the Bowen Basin, the sense of isolation is strong. Remote Indigenous communities are often similarly isolated, not just in the notional sense but also in the physical sense, with roads being cut during wet seasons, and in terms of restricted ICT access.

If, as suggested earlier, building external linkages is important, how can these be built into a program when physical isolation might otherwise prevent access to the ‘broadened horizons’ that some respondents described. While on the surface this may seem to be problematic there are several ways that this sense of isolation—whether it is perceived or real—can be broken down. Several examples were offered by respondents citing effective programs.

In some of the examples cited earlier, trainees were brought out of their communities to attend training and graduation ceremonies in Darwin. Trainees valued these opportunities and reported that they took back ideas to their communities. Most of the training providers, who had an interest in remote Indigenous community training, did not live in those communities. This coming in and going out contributed to an interface where ideas not only from the urban centres, but also from other remote communities, could be shared. Flexible learning opportunities allow trainees to connect with trainers and other trainees from several locations. An example of how this is being applied in the Northern Territory is the use of Interactive Distance Learning (IDL) being developed by the Northern Territory Open Education Centre (NTOEC) in both Indigenous and non-Indigenous contexts (AFLF 2004).

The method is not that important. What appears to be important from this research is that opportunities be given for these kinds of external interactions. In some remote communities, particularly the Bowen Basin, these interactions occurred naturally as a result of frequent migration in and out of the community. For example in Middlemount, the school principal commented on the high turnover of staff. If this turnover is too high this then creates other problems with local connectedness (see also Learning and culture/leisure, page 117).

5.2.4.3 How can non-Indigenous trainers be better supported to bridge cultural/language/world view divides?

It was noted earlier that one of the important benefits from training in Indigenous contexts is that it provides a place, where not only knowledge and skills are imparted from trainer to trainee, but where knowledge, culture and world view is *exchanged* (see Social environment/social cohesion benefits, page 246). In the training environment this exchange is achieved by people with different world views/values engaging together.

While these external linkages are important for identity formation, one of the difficulties associated with making this work effectively for Indigenous communities is the cultural/language/world view divide that exists between Indigenous communities and trainees and non-Indigenous training practitioners. The divide was highlighted in the previous chapter (see Indicators: language and culture, page 303) with an illustration—repeated in part here for convenience—from a long-time practitioner who also described this scenario in terms of the ‘boot being on the other foot’:

> We had the Aboriginal instructor there teaching his language and you see the white soldiers struggle and they were doing the same thing and as though I was teaching Aboriginal soldiers who didn’t know.

That illustration highlighted a number of important issues. One is related to the exchange that occurs between learner and trainer when there are different languages involved. The second is about the importance of trainers understanding the culture and language of their trainees—understanding the context of the training. Much of the literature that is available for non-Indigenous trainers about Indigenous culture is written from a non-Indigenous perspective. Therefore the assumptions contained within the author’s world view are often perpetuated in the practitioner’s teaching style. The illustration also pointed to the value of ‘the boot being on the other foot’ for training practitioners. It suggests that pedagogies built around exposure to learning experiences within the culture/language/world view context are important for effective communication of knowledge and skills. The views expressed are consistent with Trudgeon’s ideas about world view exchange and Harris’ ‘both ways’ learning discussed earlier in the literature (see Indigenous learning, page 44).

The ideas go well beyond the idea of ‘cultural awareness programs’ or professional development approaches that are sometimes offered as effective strategies for pedagogical development of non-Indigenous teachers and trainers (MCEETYA 2003). For example, DEST (2005b), in its *National Report to Parliament on Indigenous Education and Training*, summarises non-Indigenous professional development for teaching staff such that:

> Cross-cultural awareness training remains a priority in a number of systems. Such courses are often associated with developing culturally-inclusive approaches to literacy and numeracy, and culturally-inclusive curricula. (p. 51)

However, having trainers who have the broad range prerequisite skills required for effective communication into Indigenous contexts is important, even though it may be a ‘big ask’ for many providers. Commenting on training required for natural resource management programs supported by the NLC’s Caring for Country Unit, Storrs et al. (2003) identify what could be considered as ‘selection criteria’ for trainers:

> In the context of these community-based natural resource management programs, delivery to the participants on-site is seen as important. Also necessary is a training provider with: a flexible approach; extensive experience in remote communities; familiarity with the differing learning styles of Aboriginal participants; and familiarity with learning requirements and anticipated outcomes of natural resource management training programs.

Trudgeon (2001), adds further insight:

> This kind of effective cross-cultural/cross-language education is impossible without specialised training. Until this training happens, ineffective education will continue to waste human potential and resource in the mono-cultural,

> monolingual march forward, leaving the Yolŋu, through no fault of their own, straggling far behind—convinced that the age of knowledge and thinking is at an end. (p. 136)

Many of these issues have been identified to some degree or other in other research (e.g. CDU/NTDEET 2004), and have been discussed earlier (see Indigenous learning, page 44). However, the issue of concern here, is how can this kind of world view exchange be better facilitated beyond current professional development efforts that already exist. Fundamentally, a first step must be a shift in emphasis in professional development that training practitioners are about helping Indigenous learners adapt to non-Indigenous culture, which is demonstrated loudly in the emphasis on *English* language literacy and numeracy, rather than development of both English and Indigenous language literacy and numeracy skills, which will be discussed in the next section.

5.2.5 VET and training for training's sake

The perceptions of respondents that were associated with 'training for training's sake' were always applied to training in Indigenous contexts and always applied to other trainers (see Outcomes, page 286). The common factor in the understanding of the issue is that it is training that does not lead to anything. Respondents often spoke of Indigenous trainees who had several VET qualifications at Certificate I and II level but were unable to apply their skills and when they were in a position to put the knowledge and skills into practice, they had forgotten what they had learnt. It is argued that this kind of training is a waste of resources and rather than building the identity of the individual, has a negative impact on a participant's self-concept and sense of dignity. It is suggested in the following sections that training for training's sake will only go away when foundational issues and barriers are addressed; when effectiveness is built in rather than assumed to come from outcomes (which may not exist); and when there is a focus on livelihoods and capacity-building outcomes as opposed to mainstream 'real jobs'.

5.2.5.1 Addressing foundational issues and barriers

Much of the emphasis described in the literature is about imparting Western knowledge and skills into a region that to a large extent is quite alien in comparison to the norms, values and practices of the prevailing mainstream culture. Along with this expectation that knowledge will be imparted is an expectation that the outcomes of the knowledge will automatically be jobs, and not just any job, but ‘real jobs’ (see Indigenous learning, page 44).

The literature reviewed in this research and comments made by some respondents, suggest that the notion of ‘work’ and ‘jobs’ in many Indigenous contexts is markedly different from that understood in mainstream Australian contexts, particularly in non-Indigenous rural and urban settings. Therefore the application of the ‘vocational’ elements of VET needs to be tailored to suit these distinctive ‘work’ scenarios. Further, the development of training packages to meet the demands of these work environments—if that is indeed what should be developed—ought to be considered from an Indigenous perspective and quite possibly written (not just translated) in the Australian Indigenous languages for which they are designed. These are big ‘asks’ for training providers and professionals who are well acquainted with the jargon and structure of training packages but who have little understanding of the language and cultural contexts in which the packages are to be applied.

The literature reviewed earlier (see Indigenous learning, page 44) agrees with the proposition posited above: that training packages developed for the mainstream are at best difficult to apply in Indigenous language contexts. The evidence from NCVER (2005) statistics reviewed supports this view in that Indigenous people in remote locations are less likely to achieve higher certificate outcomes than those in urban and regional areas. These statistics are confirmed in a variety of ways by the ABS (2004a) statistics as well. For example, in the Northern Territory, nearly three-quarters of remote Indigenous people speak an Aboriginal/Torres Strait Islander language as their first language. Only eight per cent of Indigenous persons living in non-remote areas speak an Indigenous language as their first language. In the same jurisdiction, remote Indigenous people are less than one-fifth as likely to attend a post-school institution, about eight times more likely to be employed in CDEP, and are less than half as likely to have a certificate or diploma than Indigenous people in non-remote settings.

The above highlights just a few of the foundational issues associated with language and remoteness and the difficulties associated with applying the principles and language of training packages in a remote setting. The evidence from this research suggests that in order for Indigenous peoples of the savanna region to take advantage of the opportunities that VET training offers, a number of things need to occur. Firstly there needs to be an acceptance that ‘work’ as it is known in the mainstream is not the same as ‘work’ in remote Indigenous communities. Secondly, the foundational issues of compulsory education must be addressed. For some people (Indigenous and non-Indigenous) this may mean accepting the validity of other peoples’ language as a primary language. Following on from this, when literacy and numeracy are described as barriers, it must be clear whose literacy and numeracy are barriers.

5.2.5.2 Build in effectiveness rather than assuming it will all be addressed through employment or through quality assurance

It is evident from the data that ‘outcomes’ in terms of employment are just one of many factors that contribute to the effectiveness of training programs. The assumption underpinning many funding regimes is that employment is the primary—if not the only—measure of effectiveness. Consistent with earlier discussion (see Conceptual basis for an evaluative framework of VET programs, page 315), in order to build effectiveness of programs and avoid the perception of ‘training for training’s sake’ a more strategic approach could be taken when criteria for success are applied to training programs. While this may require a major reorientation in the thinking of all stakeholders, a range of criteria aimed at assessing the effectiveness of a program can be considered. In addition to the aspects of delivery and employment these might include a more rigorous needs assessment and consultation process with all stakeholders; an assessment of incentives or ‘drivers’ that underpin the likelihood of greater and lasting attendance; a minimum number of financial and organisational/networking/relationship resources that are applied to a program; consideration of the full range of ‘work’ outcomes that will ensue from the training; and the inclusion of intentional identity formation activities that reinforce the intended outcomes.

In July 2005, following the abolition of ANTA, DEST assumed the responsibilities of overseeing the VET system in Australia. Foreshadowing changes to the VET system, *Skilling Australia* emphasised the need for quality training. A key plank in the proposed plan (DEST 2005a) to strengthen quality is:

> Introducing a strong focus on the outcomes of training–including through developing an outcomes-based audit model and introducing State-level measurement of key outcomes in the Commonwealth–State Training Funding Agreement, such as employer satisfaction rates. (p. vii)

The rhetoric of this statement is entirely consistent with the rhetoric about quality discussed earlier (see Quality, page 28, and How is success defined in education and learning?, page 69): quality assurance through conformance to outcomes audits. Indeed, the proposed changes appear to suggest a second layer of ‘complementary activities [that would] enhance the emphasis on quality in the system’ (p. 24). By definition, outcomes audits, which include the ‘completion’ measures discussed earlier (Robinson 2001), do not take into account the factors identified in this research that contribute to effectiveness—and arguably quality—of training programs. Given the ‘sameness’ of the new arrangements in regard to quality, it would be reasonable to deduce that these new arrangements will not make any difference to perceptions of training for training’s sake.

5.2.5.3 A focus on livelihoods and a range of capacity-building

While the ideal of ‘real’ jobs from training appears—at least from a non-Indigenous mainstream urban perspective—to be sensible (some would say necessary), in reality, for many remote Indigenous communities, ‘real’ jobs do not exist. Harrison (2004), commenting on the role of training in the arts in Indigenous communities of the Northern Territory, describes this ideal as ‘fundamentally flawed’:

> A key issue arises from government policies based on the view that funding of training is only appropriate where ‘real’ job outcomes are able to be clearly identified. This approach has a fundamental flaw. In any Indigenous community, the number of ‘real’ jobs available is probably less than 10% of the population. For example, in the case of one of the biggest communities in the NT, Galiwin’ku, which has a population of 1800–2000, the number of ‘real’ jobs is in the order of 100. Most of these jobs are filled by non-Indigenous people and require high levels of training, such as the tertiary qualifications required for teachers, nurses and so on. (p. 20)

While there may not be ‘real jobs’ there most certainly is real work in every community. In some cases that ‘work’ is done under the banner of CDEP and might fit within what could be described as environmental health or community service work. This kind of work is typically done by and funded through local governments in communities across Australia.

In addition, other important and ‘real work’ is carried out by Indigenous peoples within and outside communities that does not have a mainstream basis for measurement or comparison. This kind of work is represented by caring for country activities, by cultural and religious ceremonies and activities, and by community obligation activities which might be related, for example, to caring for immediate and extended family. To disqualify these kinds of activities as not ‘real’ is probably an equivalent to telling a single parent that his or her role caring for a young child is meaningless and not ‘work’.

Referring again to Figure 44, it is apparent that while VET certainly can contribute to ‘work’ in these multiple roles, the perception of VET among stakeholders is that it does not. Therefore what is required is a shift in perception. Often shifts in perception are initiated by leaders who take a stand on an issue and articulate it in a way that resonates with the general populace. While not wanting to diminish the importance of paid employment in its traditional form, as long as leaders continue to draw a distinction between ‘real’ and artificial jobs, in the public’s mind the roles that are performed as part of CDEP, caring for country, or as part of cultural or community obligation will be seen as invalid and not worth funding or supporting through training. In short, what is required is a shift in rhetoric, from a spurious distinction between ‘real’ and artificial jobs to a new rhetoric, which talks about livelihoods that encompass a range of meaningful activities.

Vocational education and training (VET) as a tool for regional planning and management: Case studies from Australian tropical savanna communities

Chapter 6: Conclusions

6 Conclusions

> Now all has been heard;
> here is the conclusion of the matter:
> Fear God and keep his commandments,
> for this is the whole duty of man.
>
> For God will bring every deed into judgment,
> including every hidden thing,
> whether it is good or evil.
>
> Ecclesiastes 12:13–14

This research was designed to determine how vocational education and training (VET) can be used most effectively as a tool for regional and remote savanna communities and stakeholders to enhance regional planning as it relates to the well-being of communities and regions. This concluding chapter will now draw together the findings as they relate to that stated purpose. It will then summarise the implications described in the previous chapter. Finally, it will identify gaps in knowledge on which future research may be able to shed light.

6.1 Key findings

Rather than restate the results presented in Chapter 4, the approach here will be to distil and summarise the important new knowledge that has been generated through this research project. These key findings are stated in the subheadings of this section. The next section will go on to summarise the implications of these statements.

Underpinning the key findings is an emerging understanding of the significance of the milieu in which vocational education and training is situated. Not only is this milieu both complex and multi-faceted it is fundamentally significant for the outcomes of training, for the perceptions about the application of training, and for the pedagogies, practices and ways of learning associated with VET. This foundational understanding is implicit in the key findings presented in the following sections.

6.1.1 The capacity of VET to contribute to well-being is greater than people's perceptions of its contribution

This first key finding is related to Research question 1: 'How is well-being defined across the savanna region?' and Research question 2: 'What is the link between education and learning and capacity-building in savanna communities?'

The results showed that in terms of the eight well-being bands, respondents' perceptions were clearly focussed on employment as the primary way in which learning builds capacity. More than one-third of responses about the benefits of VET described employment outcomes. Very few responses (11 per cent) described how VET contributed to community well-being in terms of health, the physical environment or culture and leisure. The evidence, however, is that VET can and does contribute to outcomes in the full range of well-being bands. However, because of funding regimes, policy directions, and a history of VET that is firmly embedded in industry skill outcomes, the broader options are either not thought of or not available in some areas. There are several implications that flow on from this, which will be reviewed in section 6.2, page 355.

6.1.2 Effective VET programs are described by six key factors: needs, motivators, enablers, delivery aspects, identity aspects and outcomes

The second key finding is related to Research question 2: 'What is the link between education and learning and capacity-building in savanna communities?' and Research question 3: 'How can education and learning be applied effectively to produce capacity-building outcomes?'. The results pointed to a broad range of factors that contribute to effective VET programs. While much of the emphasis in policy is perhaps rightly on outcomes, especially employment outcomes, when assessments and evaluations are carried out, a broader range of criteria can be drawn on to accurately reflect the value or success of a program. These include an assessment of training precursors: how well the program meets individual, industry and community needs; the extent to which motivators or incentives are applied and used by stakeholders; and the extent to which enablers are applied and used to facilitate the training program. Evaluation should also include an assessment of delivery processes and outputs as well as consideration of the outcomes, whether they be employment or other outcomes. Importantly also, a measure of the effectiveness of a program ought to include an evaluation of the extent to which identities have been shaped in terms of awareness, self-concept, self-efficacy and social relationships.

6.1.3 Identity formation has been found to be a critical and necessary component of effective vocational learning

The third key finding is related to Research question 3: ‘How can education and learning be applied effectively to produce capacity-building outcomes?’. The results suggest that ultimately training is as much or more about what it does for the participant’s identity as it is about the skills developed. While it may be difficult to measure identity formation—it is certainly beyond the scope of a training assessor to do this—it is very feasible to build identity forming processes into a training program. The findings suggest that identity is progressively built in effective programs through engagement with the training context: first by raising awareness or expanding horizons, second by giving participants the capacity to act, and third by empowering participants to make choices. The end result is an emerging self-concept that exhibits itself in higher self-esteem, pride and self-worth.

6.2 Implications

Flowing on from these key findings are a number of implications. These implications will be briefly reviewed according to the order in which they were presented in the last chapter. The implications cut across the research questions and therefore no attempt is made here to tie these implications to the research questions.

6.2.1 VET and well-being in savanna communities

The results suggest that VET stakeholders in savanna communities place relatively little value on areas of well-being outside the traditional orientation of VET. That is, the connection with aspects of well-being outside the role of VET for employment, income, and education purposes was not readily identified. There is however a critical need to consider a broader application of VET for a broad range of livelihood purposes, particularly in the area of natural resource management and community health. This is particularly true for the large number of Indigenous communities that are scattered throughout the region. For governments this means allocating a greater share of resources to those capacity-building activities which may not strictly fall under the heading of ‘VET for employment outcomes’.

The results also showed that strategic partnerships can be effective in producing outcomes over the long-term. Partnerships can be effective in accessing funds, providing leadership, and building strategic relationships, where individual efforts will otherwise fail. To this end, providers need to seek out strategic alliances with government, industry and community representation. Similarly, community stakeholders need to identify appropriate potential partners to form these relationships. The role of government and industry in partnership development cannot be understated. While respondents were sometimes reluctant to admit to the value of government for its financial support, the reality is without that support partnerships would not be nearly as effective or sustainable.

It was noted that VET *can* be used as a tool for innovative practices and solutions in savanna communities but that there are few examples of where it actually does. While a number of programs were identified that used VET in innovative ways, this is not the same as using VET for innovative outcomes. However, it is suggested that VET *is* the appropriate vehicle in savanna communities for knowledge and skill diffusion, because of its adaptability and uptake by a broad spectrum of people in communities, and because it has the capacity to work in this role where academics in higher education institutions will fail. The research suggests that providers, researchers and professionals should begin to think of VET in these terms if innovative knowledge diffusion outcomes are to be achieved.

6.2.2 VET and skills shortages

The growing significance of skills shortages to the major industries of the savanna was noted through the course of this research. Many of the major projects and industries that develop in the tropical savanna region typically employ men and men with high-level VET qualifications. While women are employed at rates consistent with those of other women in the rest of Australia, their skill levels are notably lower. A strategic focus on assisting women into more highly skills jobs therefore would be one way of addressing the skills shortage issue.

The trend to fly-in/fly-out work arrangements in many mining operations, which on the surface saves on infrastructure development, costs considerably in terms of staff turnover and training. Drawing on the resources of the region, particularly in terms of Indigenous people, should therefore become a focus for industry in savanna communities. While this would require significant investment in terms of basic level training, the evidence shows that there is considerable opportunity for less mobile Indigenous people to work their way up into higher level positions in many savanna industries.

6.2.3 VET and new enterprise development

Very few examples of VET being used in conjunction with new enterprise development were found through the course of this research. Those that were identified related to Indigenous enterprises. It was noted that there are, however, numerous opportunities and pathways to new enterprise development for innovative entrepreneurs across the savanna region. However, VET is an under-utilised tool in this regard. It was suggested that partnerships may offer a way forward in this regard. The lessons from effective partnerships identified, showed that they require heavy, sustained support and commitment from the partners involved.

One reason for the low utilisation of VET for these purposes was found to be the lack of providers who were adequately equipped to deliver business development-related units. There is clearly an opportunity for providers in and to savanna communities to take up these opportunities. In the Northern Territory for example, across a range of nine Business Services units that could be applied well to new enterprise development, a scan of NTIS reveals no providers who were registered to deliver the units. While some government departments (notably DBIRD in the Northern Territory) did provide informal courses for entrepreneurs, if the expectations of Territory strategies for business development are to be realised, VET providers need to rise to the challenge.

The question of the role of CDEP in relation to enterprise development was also examined. Here again there were few examples where CDEP was used as a springboard for employment within existing industry and even fewer where it was used as a vehicle within an enterprise development framework. New opportunities may arise from changing arrangements for CDEP and SRAs but at the time of writing it was too early to assess this.

6.2.4 VET and identity formation

The implications relating to identity formation were considered in some detail. Firstly, consideration was given to the implications for program design and assessment. In terms of the latter, it was concluded that while there is much talk about assessing employability skills, these really need to be separated into two baskets: those that are related to individual skills and knowledge formation—and which are assessable, and those that are related to building identity—and which are not assessable. Employability skills such as personal values, attitudes and self-esteem need to be built into program design but cannot properly be assessed by a training practitioner. They are not the basis of performance criteria in the same way that skills and knowledge are. There is no doubt, however, that it is possible to create a program that builds participants' awareness, their capacity to act, and their decision to act.

Associated with the need for increased awareness as a component of identity formation, the question of how this might be done in isolated communities was addressed. Several models were suggested that could facilitate this kind of linkage. While the method of 'world view exchange' was not found to be important, it was considered important to provide opportunities and a space for ideas and knowledge exchange. This could be done through a flexible learning medium or it might be achieved through a combination of taking people out of isolated places for a period of time, or bringing providers in for periods of time.

Finally, under the heading of VET and identity formation, the question arises of what can be done to support non-Indigenous trainers in bridging cultural, world view and language divides. This is a significant barrier for effective exchange of ideas as outlined above. It was suggested that in order to be effective, professional development for training practitioners needs to go well beyond 'cultural awareness programs'. While the full range of expected skills demanded by some Indigenous stakeholders might be unachievable for the majority, a foundational first step is required. This would involve changing the perception that Indigenous language and literacy is of little significance compared to English language and literacy.

6.2.5 VET and training for training's sake

In Indigenous training contexts there were perceptions that 'training for training's sake' is an ongoing issue. There is a perception that training often does not lead to 'real jobs' and as a consequence is not effective. However, it was noted that training packages developed for the mainstream are at best difficult to apply in Indigenous language contexts. Apart from the obvious problem of language that inhibits effective communication from non-Indigenous trainer to Indigenous trainee, notions of what constitute ‘work’ in the mainstream do not readily translate to a remote Indigenous context. Further, while virtually all of the discussion here has focussed on making vocational education and training programs effective, an important factor outside of VET is the effectiveness of the compulsory education sector. This must also be addressed in order for Indigenous communities to take full advantage of the multiple opportunities that are emerging for employment in savanna contexts.

Another factor that would reduce the likelihood of ‘training for training’s sake’ would be to ensure that effectiveness was built into programs rather than relying on quality assurance measures—which are largely administrative, or job outcomes—which in many cases do not exist. It is suggested that in order to build in effectiveness, a number of things could be done. There should be a greater emphasis on needs assessment and consultation with all stakeholders. There should be an assessment of the incentives or drivers that underpin the likelihood of greater and lasting attendance. Consideration needs to be given to the resources that are applied, not only in terms of financial resources, but in terms of organisations/networking/ relationship resources also. Importantly, serious consideration needs to be given to the full range of ‘work’ outcomes that might ensue from training—not just so called ‘real jobs’. Finally, programs need to intentionally include identity formation activities. The new arrangements for DEST’s takeover of responsibility of VET in July 2005 offer little hope that the existing outcomes (‘real jobs’) and quality emphasis will change.

Consistent with these suggestions, the discussion concluded that there needs to be a fresh emphasis on livelihood and capacity-building options rather than ‘real jobs’. VET leaders need to progressively reiterate a new rhetoric that replaces the ‘real jobs’ mantra, with a focus on ‘livelihoods’ in Indigenous contexts.

6.3 Further research

While the key findings and the corresponding implications provide useful new knowledge, the limitations of the project suggest the need for further research. In particular, further research is warranted that tests the generalisability of the findings to other regional Australian contexts. The other limitation of the study, which could provide an additional reference frame, relates to the limited number of Indigenous participants and trainees.

6.3.1 Indigenous perspective

The perspectives brought to the findings of this research were largely non-Indigenous. While this was not intentional it was a direct result of the intentions of the methodology. Questions remain about the perceptions of Indigenous stakeholders in VET across the savanna region. What are their perceptions about effectiveness? Indeed, what are their perceptions about the outcomes and livelihood strategies suggested above? How do Indigenous stakeholders see the role of VET in relation to CDEP? What impact will new arrangements for CDEP and SRAs have on training outcomes? These questions alone mean that the assumptions of non-Indigenous stakeholders described here and the resulting implications need to be tested with Indigenous stakeholders. By involving Indigenous researchers and participants it may be possible to overcome potential biases that reflect non-Indigenous, Western assumptions.

6.3.2 Trainee perspective

Another area for further research would be to investigate the trainee perspective. While this was not critical for this project, understanding how trainees perceive effectiveness and how they understand identity formation would add significantly to the understanding of other stakeholders.

6.3.3 Longitudinal aspects

This research was conducted at a time of considerable change. The policy and contextual references for this research changed substantially during the three years it was conducted. Given that a Census is due in 2006, a follow-up study to review indicator trends would help practitioners and policy-makers understand the general direction of industry, VET participation, and other contextual factors which have been used in this study. The fact that Census data has been used extensively here does mean that it would be relatively simple to repeat the analysis to determine trends.

6.3.4 Identity formation and VET

The new understanding about VET and identity formation offered by this project leads to questions about the validity of models proposed and the application of these models to training contexts. In particular the findings challenge ideas about the assessment of employability skills. They also raise questions for astute practitioners who will ask if it is practicable to build identity formation activities into programs. These questions will present new opportunities for research and practice in this field.

References

> The words of the wise are like goads, their collected sayings like firmly embedded nails—given by one Shepherd. Be warned, my son, of anything in addition to them.
> Of making many books there is no end, and much study wearies the body.
>
> Ecclesiastes 12:11–12

Australian Broadcasting Corporation 2004, *Daluk Rangers*, Earthbeat, June 26, 2004, Transcript available online: http://www.abc.net.au/rn/science/earth/stories/s1139266.htm [Accessed May 2005].

Australian Bureau of Statistics (ABS) 1997a, *Aspects of Literacy. Assessed Skill Levels Australia*. Cat. 4228.0, Australian Bureau of Statistics, Canberra.

ABS 1997b, *CDATA96*, Cat. 2019.0.30.001, Australian Bureau of Statistics, Canberra.

ABS 1998a, *How Australians Use Their Time 1997*, Cat. 4153.0, Australian Bureau of Statistics, Canberra.

ABS 1998b, *Information paper: 1996 Census of population and housing—Socio-economic index for areas,* Cat. 2039.0, Australian Bureau of Statistics, Canberra.

ABS 1999, *Australian Social Trends (1998),* Cat. 4102.0, Australian Bureau of Statistics, Canberra, Available online: http://www.abs.gov.au [Accessed March 2005]

ABS 2000, *Australian Mining Industry*, Cat. 8414.0, Australian Bureau of Statistics, Canberra.

ABS 2001a, *ABS Views on Remoteness*, Cat. 1244.0, Australian Bureau of Statistics, Canberra.

ABS 2001b, *Outcomes of ABS Views on Remoteness Consultation, Australia*, Cat. 1244.0.00.001, Australian Bureau of Statistics, Canberra.

ABS 2001c, *Measuring Well-being: Frameworks for Australian Social Statistics 2001*, Dennis Trewin, Cat. 4160.0, Australian Bureau of Statistics, Canberra.

ABS 2001d, *Voluntary Work, State Tables*, Cat. 4441.0.55.001, Australian Bureau of Statistics, Canberra.

ABS 2002a, *Housing and Infrastructure in Aboriginal and Torres Strait Islander Communities, Australia 2001*, Cat. 4710.0, Australian Bureau of Statistics, Canberra.

ABS 2002b, *Census of Population and Housing: Basic Community Profile*, Cat. 2001.0, Australian Bureau of Statistics, Canberra.

ABS 2002c, *Indigenous profile*, Cat. 2002.0, Australian Bureau of Statistics, Canberra.

ABS 2002d, *Year Book Australia, Australian Demographic Statistics*, Cat 1301.0 Australian Bureau of Statistics, Canberra.

ABS 2002e, *Integrated Regional Data Base 2001 (IRDB), Australia*, Cat. 1353.0. Australian Bureau of Statistics, Canberra.

ABS 2002f, *Social capital and social wellbeing, Discussion paper August 2002*, Australian Bureau of Statistics, Canberra.

ABS 2002g, *National Health Survey: Aboriginal and Torres Strait Islander Results, Australia 2001*, Cat. 4715.0, Australian Bureau of Statistics, Canberra.

ABS 2002h, *National Health Survey: Aboriginal and Torres Strait Islander Results, Australia*, Cat. 4715.0, Australian Bureau of Statistics, Canberra.

ABS 2002i, *Tourism indicators, Australia*. Cat 8634.0, Australian Bureau of Statistics, Canberra.

ABS 2002j, *Population Distribution, Aboriginal and Torres Strait Islander Australians 2001*, Cat. 4705.0, Australian Bureau of Statistics, Canberra.

ABS 2003a, *Review of Statistics on Adult and Community Education,* Available online: http://www.abs.gov.au [Accessed January 2005].

ABS 2003b, *Year Book Australia 2003, Communications and Information Technology—Internet activity,* Cat. 1301.0, Australian Bureau of Statistics, Canberra.

ABS 2003c, *Integrated Regional Data Base 2003 (IRDB), Australia*, Cat. 1353.0. Australian Bureau of Statistics, Canberra.

ABS 2003d, *Time Series Profile,* Cat. 2003.0, Australian Bureau of Statistics, Canberra.

ABS 2003e, *ASGC Remoteness Classification: Purpose and Use (Census Paper No. 03/01),* Australian Bureau of Statistics, Canberra.

ABS 2003f, *Education and work*, Cat. 6227.0, Australian Bureau of Statistics, Canberra.

ABS 2003g, *Selected Characteristics for Urban Centres and Localities*, Cat. 2016.3/5/7, Australian Bureau of Statistics, Canberra.

ABS 2003h, *ABS draft social capital indicators (for comment),* Family and Community Statistics Section, Australian Bureau of Statistics, Canberra.

ABS 2003i, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples,* Cat. 4704.0, Australian Bureau of Statistics, Canberra.

ABS 2003j, *Expanded Community Profile,* Cat. 2005.0, Australian Bureau of Statistics, Canberra.

ABS 2003k, *The Comparability of Major Sources of Data on Education and Training,* National Centre for Education and Training Statistics, Available online: http://www.abs.gov.au [Accessed February 2005]

ABS 2003l, *Crime and safety,* Cat. 4509, Australian Bureau of Statistics, Canberra.

ABS 2003m, *Corrective Services, Australia*, 4512.0, Australian Bureau of Statistics, Canberra.

ABS 2003n, *Suicides, Australia*, Cat. 3309.0, Australian Bureau of Statistics, Canberra.

ABS 2003o, *Attendance at Selected Cultural Venues and Events, Australia*, Cat. 4114.0, Australian Bureau of Statistics, Canberra.

ABS 2003p, *Darwin and Palmerston. A social atlas*, Cat. 2030.7, Australian Bureau of Statistics, Canberra.

ABS 2004a, *National Aboriginal and Torres Strait Islander Social Survey 2002*, Cat. 4714.0, Australian Bureau of Statistics, Canberra.

ABS 2004b, *Australian Standard Geographical Classification (ASGC) 2004*, Cat. 1216.0, Australian Bureau of Statistics, Canberra.

ABS 2004c, *Demography Working Paper 2004/3—Calculating Experimental Life Tables for Use in Population Estimates and Projections of Aboriginal and Torres Strait Islander Australians*, Cat. 3106.0.55.003, Australian Bureau of Statistics, Canberra.

ABS 2004d, *Measuring Social Capital. An Australian Framework and Indicators 2004*, Information paper, Cat. 1378.0, Australian Bureau of Statistics, Canberra.

ABS 2004e, *General Social Survey: Summary Results, Australia*, Cat. 4159.0, Australian Bureau of Statistics, Canberra.

ABS 2004f, *Household Income and Income Distribution, Australia*, Cat. 6253.0, Australian Bureau of Statistics, Canberra.

ABS 2004g, *Information paper, Measuring learning in Australia, Plan to Improve the Quality, Coverage and Use of Education and Training Statistics*, Cat. 4231.0, Australian Bureau of Statistics, Canberra.

ABS 2005a, *Labour Force Australia*, Cat. 6202.0, Australian Bureau of Statistics, Canberra.

ABS 2005b, *The economic contribution of tourism*, Year Book Australia, Cat. 1301.0, Australian Bureau of Statistics, Canberra.

ABS 2005c, *Australian Labour Market Statistics*, Cat. 6105.0, Australian Bureau of Statistics, Canberra.

ABS 2005d, *Underemployed Workers, Australia*, Cat. 6265.0, Australian Bureau of Statistics, Canberra.

ABS 2005e, *Measuring Australia's Progress. At a glance 2005*, Cat. 1383.0.55.002 2005, Australian Bureau of Statistics, Canberra.

ABS 2005f, *Household Income and Income Distribution, Australia*, 2003-04, Cat. 6523.0, Australian Bureau of Statistics, Canberra.

ACCI/BCA 2002, *Employability Skills for the Future*, Research conducted by the Australian Chamber of Commerce and Industry and the Business Council of Australia, Department of Education Science and Training, Canberra.

AEU 2003, *No increases under Commonwealth funding 'offer'*, AEU TAFE funding campaign fact sheet No. 12 June 2003, Australian Education Union, Southbank.

AFLF 2003, *Rural and Remote Learners (R018R) Access and Equity in Online Learning*, Australian Flexible Learning Framework, Australian National Training Authority, Brisbane.

AFLF 2004, 'Megan Spiers' audio presentation on CDROM in *From ideas to action: Leading flexible learning on the ground*, Australian Flexible Learning Framework, ANTA, Brisbane.

Ah Kit, J 2003a, *Building stronger regions—stronger futures*, Statement at the launch of the Building Stronger Regions Stronger Futures Strategy. Available online: http://www.dcdsca.nt.gov.au/dcdsca/intranet.nsf/Files/LGRDministersspeeches/$file/14May03_Ahkit.pdf [Accessed December 2004].

AIHW 2002, *Australia's health 2002*. Australian Institute of Health and Welfare, Canberra.

Allen Consulting Group 2001, *Indigenous Communities & Australian Business*, Report to the Business Council of Australia, Melbourne.

Altman, J & Whitehead, P 2003, *Caring for country and sustainable Indigenous development: Opportunities, constraints and innovation*, CAEPR Working Paper No. 20/2003, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Altman, J 2003, *Economic Development and Participation for Remote Indigenous Communities: Best Practice, Evident Barriers, and Innovative Solutions in the Hybrid Economy*, Presentation to Ministerial Council for Aboriginal and Torres Strait Islander Affairs (MCATSIA), Sydney, 28 November 2003.

Altman, J Gray, M & Levitus, R 2005, *Policy Issues for the Community Development Employment Projects Scheme in Rural and Remote Australia*, Discussion paper No. 271/2005, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Andrews, K 2004, *New CDEP Focus For New Year*, Media Release KA3204 31/12/04, Available online: http://www.dewrsb.gov.au [Accessed January 2005].

Australian National Training Authority (ANTA) 1999, *Australian Recognition Framework Arrangements*, Australian National Training Authority, Melbourne.

ANTA 2000a, *Partners in a learning culture—national strategy*, Australian National Training Authority, Brisbane.

ANTA 2000b, *Partners in a learning culture—blueprint for implementation*, Australian National Training Authority, Brisbane.

ANTA 2001, *Flexible Learning for the Information Economy: Australian Flexible Learning Framework for the Vocational Education and Training System 2000–2004*, Australian National Training Authority, Brisbane.

ANTA 2002a, *Report: Rural and Remote Learners (R018R) Access and Equity in Online Learning,* Available online: http://flexiblelearning.net.au, [Accessed August 2005] Australian National Training Authority, Brisbane.

ANTA 2002b, *Learning Communities National Project 2001, Audit Report 2002,* Toowoomba Learning Community Network, Australian National Training Authority, Brisbane.

ANTA 2003a, *Shaping our future—National strategy for VET 2004–2010,* Australian National Training Authority, Brisbane.

ANTA 2003b, *Increasing the vocational education and training participation and achievement of mature age workers: Ideas for action.* Australian National Training Authority, Brisbane.

ANTA 2003c, *Your choice, your future, flexible learning futures,* Australian Flexible Learning Framework, Australian National Training Authority, Brisbane.

ANTA 2004a, *Annual national report on the Australian vocational education and training system 2003,* Australian National Training Authority, Brisbane.

ANTA 2004b, *Statement of User Choice policy, revised November 2003,* Australian National Training Authority, Brisbane.

ANTA 2004c, *Partners in a Learning Culture: Blueprint for Implementation Mid-term Review, final report,* Australian National Training Authority, Brisbane.

ANTA 2005a, *Glossary: A to E,* online document, Australian National Training Authority, Available online: http://www.anta.gov.au/gloAtoE.asp [Accessed March 2005].

ANTA 2005b, *Skillecosystem.net: About the project,* online document Australian National Training Authority, Available online: http://www.skillecosystem.net/about_project/ [Accessed May 2005].

Antonakis, J Cianciola, A & Sternberg, R 2004, *The nature of leadership*, Sage, Thousand Oaks, CA.

Armstrong, R 2004, *A Structure for the Strategic Development of the North Australian Indigenous Land and Sea Management Alliance, Discussion Paper*, Available from Tropical Savannas CRC, Available online: http://savanna.ntu.edu.au/centre/nailsma.html [Accessed May 2005].

Ashmore, R & Jussim, L 1997, 'Introduction: Toward a Second Century of the Scientific Analysis of Self and Identity', Chapter in *Self and Identity: Fundamental issues*, Rutgers series on self and social identity Volume 1, Oxford University Press, Oxford.

Aspen Institute 1996, *Measuring community capacity-building*, Version 3/96, The Aspen Institute Rural Economic Policy Program. Available online: http://www.aspeninstitute.org/index.asp [Accessed March 2005].

ATSIC 1998, *As a matter of fact—second edition.* Aboriginal and Torres Strait Islander Commission, Canberra.

ATSIC 1999, *Submission to the Human Rights and Equal Opportunity Commission Inquiry into Rural and Remote Education in Australia from the Aboriginal and Torres Strait Islander Commission*, November 1999, Available online: http://www.atsic.gov.au/issues/Disadvantage/education/HREOC_remote_education/default.asp [Accessed February 2005].

Australian Government 2005, *Adult & Community Peak & Professional Bodies*, Available online: http://www.education.gov.au/goved/browse/0,general,aused,acepeak [Accessed July 2005].

Balatti, J & Falk, I 2000, *Community Capacity and Vocational Education and Training*, Discussion Paper D4/2000, CRLRA Discussion Paper, Series ISSN 1440-480X, University of Tasmania, Launceston.

Baldwin, T 2003, *Setting directions for training mature aged and older unemployed people in VET*, Equity Research Centre, Collingwood.

Barker, T. & Brereton, D. ‘Aboriginal Employment at Century Mine’ in *Mining Research* Paper No. 3, April 2004.

Batterham, R 2000, *The Chance to Change*, Commonwealth of Australia, Available online: http://www.dest.gov.au [Accessed January 2005].

Bauert, P Brown, N Collins, B Martin, C 2001, Indigenous Australian children: educating for health, Editorial in *Medical Journal of Australia*, Vol. 174, pp. 488-489.

Beach, R & Cliff, D 2003, ‘FIFO: Facts, Opinion and Theories’, *AusIMM Bulletin* Sept/Oct 2003 (5): 64–65.

Beach, R Brereton, D & Cliff, D 2003 *Workforce Turnover in FIFO Mining Operations in Australia: An Exploratory Study*, Centre for Social Responsibility in Mining Research Report in conjunction with MISHC, Brisbane.

Beauvais, C & Jenson, J 2002, *Social Cohesion*, *Updating the State of the Research*, paper for the Department of Canadian Heritage, Quebec.

Becker, GS 1993, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, Third Edition, University of Chicago Press, Chicago.

Becker, GS 2002, ‘Human Capital’. *The Concise Encyclopedia of Economics*, ed. David R. Henderson, Liberty Fund, Inc., Indianapolis. Available online: http://www.econlib.org/library/Enc/HumanCapital.html [Accessed February 2005].

Bell, M 2004, *Regional Population and Reality*, Presentation to SEGRA Conference Alice Springs 6–8 September 2004.

Benson, R Wearne, G & Young, R 1997, *Australia's Tropical Savannas: An Education and Training Database*, Tropical Savannas CRC, Darwin.

Bernard, HR 2000, *Social Research Methods: Qualitative and Quantitative Approaches*, Sage, Thousand Oaks, CA.

BHC 2003, *Report of the review of the Department of Health and Community Services*, Banscott Health Consulting Pty Ltd, Darwin.

Bickerdyke, I Lattimore, R & Madge, A 2000, *Business failure and change: An Australian perspective*, Productivity Commission Staff Research Paper, Ausinfo, Canberra.

Birch, E-R Kenyon, P Koshy, P & Wills-Johnson, N 2003, *Exploring the social and economic impacts of adult and community education,* National Centre for Vocational Education Research (NCVER), Leabrook, SA.

Black, A & Hughes, P 2001, *The identification and analysis of indicators of community strength and outcomes,* (Commonwealth Department of) Family and Community Services, Canberra.

Blom, K & Meyers, D 2003, *Quality indicators in vocational education and training, International perspectives*, National Centre for Vocational Education Research, Adelaide.

Blöndal, S Field, S & Girouard, N 2002, *Investment in human capital through post-compulsory education and training: Selected efficiency and equity aspects*, Economics department working paper No. 333, Organisation for Economic Co-operation and Development, Paris.

Borthwick, J Knight, B Bender, A & Loveder, P 2001, *Scope of ACE in Australia: Implications for improved data collection and reporting,* Volumes 1 and 2, National Centre for Vocational Education Research, Leabrook, SA.

Boud, D 1994, *Conceptualising learning from experience: Developing a model for facilitation*, Published in Proceedings of the 35th Adult Education Research Conference, 20-22 May 1994, Knoxville, Tennessee: College of Education, University of Tennessee, 49-54.

Bourdieu, P 1983, Ökonomisches Kapital, kulturelles Kapital, soziales Kapital, in *Soziale Ungleichheiten (Soziale Welt, Sonderheft 2),* edited by Reinhard Kreckel. Goettingen: Otto Schartz & Co. pp. 183–98. (Translated by R Nice).

Bourdieu, P 1991, *Language and symbolic power.* Edited and introduced by John B Thompson, Polity Press, Cambridge.

Brooks, L 2004, *Australian vocational education and training statistics: Trends in 'traditional apprenticeships'*, National Centre for Vocational Education Research, Leabrook, SA.

Brown, A 2004, *A dynamic model of Occupational identity formation*, Institute of Employment Research, University of Warwick, Available online: http://www.theknownet.com/ [Accessed November 2004].

BRS 1999, *Country Matters—Social atlas of rural and regional Australia.* Bureau of Rural Sciences, Agriculture, Forestry and Fishing—Australia (AFFA), Kingston, ACT.

BTRE 2004, *Focus on Regions No. 2: Education, skills and qualifications,* Information paper 51, Bureau of Transport and Regional Economics, Canberra.

Buchanan, J Schofield, K Briggs, C Considine, G Hager, P Hawke, G Kitay, J Meagher, G Macintyre, J Mounier A & Ryan, S 2001, *Beyond flexibility: Skills and work in the future,* report for NSW Board of Vocational Education and Training, Australian Centre for Industrial Relations Research and Training (ACIRRT), University of Sydney, and Research Centre for Vocational Education and Training (RCVET), University of Technology, Sydney.

Buczkowsky, A 2005, *Researching change drivers and their implications for Vocational Education and Training,* Paper presented to 8th AVETRA Annual Conference, Brisbane April 13–15, 2005.

Burrell, G & Morgan, G 1979, *Sociological paradigms and organisational analysis,* Heinemann, London.

Buultjens, J 2005, *Education and Indigenous tourism: An exploration of Southern Cross University initiative,* Paper presented to CAUTHE conference, Alice Springs 2005.

Carino-Abello, A Pederson, D & King, A 2000, *An Application Using the 1994–1997 Survey of Employment and Unemployment Patterns,* National Centre for Social and Economic Modelling, University of Canberra.

Catts, R & Gelade, S 2002, *Rhetorics and Realities: Equating the delivery of Indigenous VET to the demands of its context: Commonalities from Two Research Projects,* Conference paper: 5th Annual Conference of the Australian VET Research Association (AVETRA) March 20–22, 2002.

Cavaye, J 2004, *Understanding Community Development*, Cavaye Community Development, Available online: http://www.communitydevelopment.com.au [Accessed February 2005].

CDU 2004a, *CDU Human Ethics Policy,* Charles Darwin University, Darwin, Available online: http://eagle.cdu.edu.au/ntu/apps/ntuinfo.nsf/WWWView/Policy_721 [Accessed March 2005].

CDU 2004b, *Procedures for completing the application form for ethical clearance,* Charles Darwin University, Darwin, Available online: http://eagle.cdu.edu.au/ntu/apps/ntuinfo.nsf/WWWView/Procedure_739 [Accessed March 2005].

CDU/NTDEET 2004, *Report on Future Directions for Secondary Education in the Northern Territory,* Charles Darwin University, (Northern Territory) Department of Employment, Education and Training, Darwin.

CGC 2001, *Indigenous Funding Inquiry Final Report*, Commonwealth Grants Commission, Canberra.

Chappell, C 2003, *An industry-led VET system: Where to from here?*, The sixth Australian VET Research Association Conference “The Changing Face of VET” 9–11 April 2003, Australian Technology Park, Garden Street, Eveleigh NSW, Sydney, Australia.

Chappell, C & Hawke, G 2003, *An industry-led system: issues for policy, practice and practitioners: Report 7–Integrating report*, OVAL Research Working Paper 03-07, Centre for Organisational Vocational and Adult Learning, University of Technology, Sydney.

Charmaz, K 2000, ‘Grounded theory: Objectivist and constructivist methods’, chapter in *Handbook of qualitative research*, Second edition, Eds Norman Denzin & Yvonne Lincoln, Sage Publications, Thousand Oaks, CA.

Chen, W-H & Corak, M 2005, *Child Poverty and Changes in Child Poverty in Rich Countries since 1990*. Innocenti Working Paper No. 2005–02., UNICEF Innocenti Research Centre, Florence.

Chickering, A 1993, *Education and identity*, Jossey-Bass Higher and Adult Education Series, Jossey-Bass, San Francisco.

Christensen, P & Lilley, L 1997, *The Road Forward? Alternative Assessment for Aboriginal and Torres Strait Islander Students at the Tertiary Level*, Department of Employment, Education, Training and Youth Affairs, Canberra.

Christians, C 2000, Ethics and politics in qualitative research, chapter in *Handbook of Qualitative Research*, Second Edition, Eds Norman Denzin & Yvonna Lincoln, Sage, Thousand Oaks, CA.

Clayton, B Blom, K Bateman A & Carden P 2004a, *What works where you are? The implementation of training packages in rural Australia*, National Centre for Vocational Education Research, Adelaide.

Clayton, B Blom, K Meyers, B & Bateman, A 2004b, ‘Assessing and certifying generic skills’ in *Generic skills in vocational education and training. Research readings*, Ed. J Gibb, National Centre for Vocational Education Research, Adelaide.

Clemans, A Hartley, R & Macrae, H 2003, *ACE outcomes*, National Centre for Vocational Education Research, Adelaide.

Cochrane, MJ 2005, *The Djelk Ranger Program: An Outsider’s Perspective*, Working Paper No. 27/2005, Centre for Aboriginal Economic Policy Research, Canberra.

Coleman, J 1988, Social Capital in the Creation of Human Capital, *American Journal of Sociology,* 94 Supplement S, pp. 95–120

Coleman, J 1990, *Foundations of Social Theory,* Bellknap Press, Cambridge, MA.

Collins, B 2000, *Kakadu Region Social Impact Study Community Report*, Report on initiatives from the Kakadu Region community and government, on the implementation of the Kakadu Region Social Impact Study, November 1998 – November 2000, Darwin.

Collits, P 2000, *Small Town Decline and Survival: Trends, Success Factors and Policy Issues,* Conference on A Future for Rural Towns, Bendigo, 28 June 2000.

Commonwealth of Australia 2003, *Mapping Australian Science and Innovation*, Science Innovation Mapping Taskforce, DEST, DCITA, DITR, Available online: http://www.dest.gov.au [Accessed January 2005]

Côté, S 2001, The Contribution of Human and Social Capital, *isuma* (*Canadian Journal of Policy Research),* Volume 2 N° 1, Spring 2001

Country Education Project Inc. & Youth Resource Centre 2001, *Vocational education and training in small rural communities*, National Centre for Vocational Education Research, Leabrook.

CQRPAC 2002, *Central Queensland Regional Growth Management Framework*, Central Queensland Regional Planning Advisory Committee, (Queensland Department of) Local Government and Planning, Brisbane.

Creswell, J 1998, *Qualitative inquiry and research design: Choosing among five tradition*, Sage, Thousand Oaks, CA.

Creswell, J 2003, *Research design: Qualitative, Quantitative and Mixed Methods Approaches*, Second Edition, Sage, Thousand Oaks, CA.

CRLRA 2000, *Managing change through VET: The role of vocational education and training in regional Australia*, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA 2001a, *Building Dynamic Learning Communities: Ten Regional Case Studies*. Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA 2001b, *Learning communities in education and training*. Vol 1 and 2. Report on the Role of VET in Regional Australia project for ANTA. October. Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Cumming, J 1997, *The quantitative literacy performance of Australians: Implications of low level skills,* Aspects of Literacy—Assessed Skill Levels Australia 1996, Cat. 4228.0, Australian Bureau of Statistics, Canberra.

Cunningham, J 2003, *Education for What? Partnerships in Indigenous Education in the Pilbara*, paper presented to the Indigenous Economic Forum, 2003, Alice Springs.

Curtain 2004, *Vocational education and training, innovation and globalisation,* National Centre for Vocational Education Research, Adelaide.

Curtis, D 2004, ‘The assessment of generic skills’, in *Generic skills in vocational education and training*, Ed. J. Gibb, National Centre for Vocational Education Research, Adelaide.

Dawe, S 2003a, *Determinants of successful training practices in large Australian firms*, National Centre for Vocational Education Research, Leabrook, SA.

Dawe, S 2003b, *The changing training practices in large Australian firms*, Paper presented to the 2003 AVETRA conference, Sydney 9–11 April 2003.

Dawe, S 2004, *Enabling learners: Diverse outcomes*, Australian Vocational Education and Training Research Association Conference: 7th Annual Conference, Canberra, 2004.

DBIRD 2003, *A Business Guide for Indigenous People*, Northern Territory Government, Department of Business, Industry and Resource Development, Darwin.

DBIRD 2005, *Upskill short courses*, available from Department of Business, Industry and Resource Development Territory Business Channel, Available online: http://kakadu.nt.gov.au/pls/portal30/url/folder/DBIRD_TBC/ACQUIRING_SKILLS [Accessed May 2005].

DCDSCA 2003, *Building Stronger Regions - Stronger Futures Strategy*, Department of Community Development, Sport and Cultural Affairs, Darwin.

DCDSCA 2005, *Our Place, Our Progress, Our Potential, The second Indigenous economic development forum*, 25–26 May 2005, Northern Territory Government, Department of Community Development, Sport and Cultural Affairs, Darwin.

DCITA 2003, *Discussion paper: IT training and IT support*, Department of Communications, Information Technology and the Arts, Canberra. Available online: http://www.dcita.gov.au [Accessed January 2005].

DEET 2002, *DEET Annual Report 2001/2002,* Northern Territory Government, Department of Employment, Education and Training, Darwin.

DEET 2005a, *Skill Shortage Trades Employment Incentive Scheme*, (Northern Territory) Department of Employment Education and Training, Available online: http://www.deet.nt.gov.au/training/training_organisations/skill_shortage_gap/index.shtml [Accessed January 2005].

DEET 2005b, *Workforce NT Report*, Northern Territory Department of Employment, Education and Training, Darwin.

DEH 2004, *Working with Indigenous Knowledge in Natural Resource Management, guidelines for regional bodies,* Natural Heritage Trust, Department of the Environment and Heritage, Canberra.

DEH 2005, *Information Services*, Department of Environment and Heritage, Available online: http://www.deh.gov.au/erin/ [Accessed March 2005].

DeMoulin, D 1998, *I like me! Enhancing self concept in Kindergarten-age children through Active School/Business Partnerships*, National Association of School Psychologists Communiqué, Vol. 27, No. 8. http://www.nasponline.org [Accessed February 2005].

Denzin, N & Lincoln, Y (Eds) 2000, *Handbook of Qualitative Research*, Second Edition, Sage, Thousand Oaks, CA.

Department of Victorian Communities 2003, *Victorian Community Building Information Sheet,* Available online: http://www.communitybuilding.vic.gov.au/cb_initiatives/about_initiative.asp [Accessed February 2005].

DEST 2002*, Nature and causes of skill shortages: Reflections from the Commonwealth National Industry Skills Initiative Working Groups, Department of Education, Science and Training,* Available online: http://www.skillsinitiative.gov.au/ [Accessed January 2005].

DEST 2003a, *Adult Learning in Australia, a consultation paper: You can too.* Department of Education, Science and Training, Canberra.

DEST 2003b, *Working together for Indigenous Youth, a national framework.* Department of Education, Science and Training, Canberra.

DEST 2004, *Australian Technical Colleges: A new Australian Government initiative for Years 11 and 12 students interested in a skilled career*, Department of Education Science and Training, Available online: http://www.dest.gov.au/schools/technicalcolleges/ [Accessed January 2005].

DEST 2005a, *Skilling Australia, New Directions for Vocational Education and Training*, Department of Education Science and Training, Canberra.

DEST 2005b, *National Report to Parliament on Indigenous Education and Training, 2003,* Department of Education Science and Training, Canberra.

DET 2002a, *Breaking the Unemployment Cycle Initiative Review, (Queensland)* Department of Employment and Training, Brisbane.

DET 2002b; *Training and Employment Strategy for Central Queensland*, Queensland Government Department of Employment and Training, Brisbane.

DET 2003, Smart Investment—Queensland Employment and Training Priorities 2003–2004, Queensland Department of Employment and Training, Brisbane.

DET 2004, *Employability Skills Framework Paper,* Western Australian Department of Education and Training, Available online: http://www.training.wa.gov.au [Accessed November 2004].

DEWR 2004, *National and State Skill Shortage Lists, Australia 2004,* Department of Employment and Workplace Relations, Canberra.

DEWR JSCM 2002, *Review of Australia's Skilled Labour Migration and Temporary Entry Programs*, Submission by the Department of Employment and Workplace Relations to the Joint Standing Committee on Migration, Available online: http://www.aph.gov.au/house/committee/mig/skillmig/subs/sub31.pdf [Accessed January 2005].

Dey, I 1993, *Qualitative Data Analysis. A user friendly guide for social scientists,* Routledge, London.

Dey, I 1999, *Grounding Grounded Theory: Guidelines for qualitative inquiry*, Academic Press, London.

DHAC 1999, *Measuring remoteness: Accessibility/Remoteness Index of Australia (ARIA)*, Department of Health and Aged Care Occasional Papers, New Series No. 6, Canberra.

DHAC 2001, *Measuring remoteness: Accessibility/Remoteness Index of Australia (ARIA)*, Department of Health and Aged Care Occasional Papers, New Series No. 14, Canberra.

DHAC 2005, *Viability Funding fact sheet*, Department of Health and Aged Care, Available online: http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/ageing-rescare-rescprov-viabfact.htm [Accessed January 2005]

DHCS 2004, *Building Healthier Communities*, A framework for health and community services, 2004–2009, Northern Territory Government Department of Health and Community Services, Darwin.

DHHS 2003, *Towards an affordable housing strategy—Community Capacity Consultation Paper*, Department of Health and Human Services, Hobart.

DIMIA 2003, *Fact Sheet: State/territory specific and regional migration,* Department of Immigration and Multicultural and Indigenous Affairs, Canberra.

DIMIA 2004, *General Skilled Migration*, Department of Immigration and Multicultural and Indigenous Affairs, Canberra.

DIPE 2002, *Litchfield Planning Concepts and Land Use Objectives 2002*, Department of Infrastructure, Planning and Environment, Northern Territory Government, Darwin.

DIPE 2003, *City of Palmerston Development and Demographic Overview*, Northern Territory Government, Department of Infrastructure, Planning and Environment, Darwin.

DITR 2004, *Indigenous Partnerships Program Case Studies*, Department of Industry, Tourism and Resources, Available online: http://www.industry.gov.au/content/itrinternet/cmscontent.cfm?ObjectID=5F6E940E-CB3E-4F32-82E6F79F1E07BE26&CFID=8153753&CFTOKEN=27552807 [Accessed February 2005].

DK-CRC 2005, *Growing the desert online forum*, hosted by Desert Knowledge CRC, Available online: http://www.desertknowledge.com.au [Accessed May 2005].

Dodson, M 2004, *Inquiry into Capacity Building in Indigenous Communities Private Round Table Meeting*, ANU Institute for Indigenous Australia, Canberra.

DoE 2003, *Local Access… Global Reach*, Evaluation of the Tasmanian Communities Online Program, (Tasmanian) Department of Education, Hobart.

DoE 2004, *Tasmanian Vocational Education and Training Strategy 2004*, Tasmania Department of Education, Hobart.

DoT 2002a, *Graded Performance Assessment In a Competency Based Environment: An Environmental Scan and Analysis*, Western Australian Department of Training, Perth.

DoT 2002b, *Western Australian State Training Profile 2003–2005*, Western Australia Department of Training, Perth.

Doucouliagos, C & Sgro, P 2001, *Enterprise return on a training investment*, Research readings, Ed. A Smith, National Centre for Vocational Education Research, Leabrook, SA.

Down, C 2004, *Employability Skills: Revisiting the Key Competencies or a new way forward?*, paper presented to NCVER 13th Annual VET Research Conference 13–16 July 2004, Tweed Heads.

Doyle, L Kerr, E & Kurth, B 2000, *Knowledge work—the rise of the office economy*. Australian National Training Authority, Brisbane.

DPIF 2005, *Building Rural Leaders Program Overview*, (Queensland) Department of Primary Industries and Fisheries, Available online: http://www.dpi.qld.gov.au/community/11968.html [Accessed March 2005].

DSDI 2003, *Cape York Partnerships Economic Development Policy Strategy*, (Queensland) Department of State Development and Innovation, Available online: http://www.sdi.qld.gov.au/dsdweb/v3/guis/templates/content/gui_cue_doc.cfm?id=4014 [Accessed May 2005].

DSDI 2004a, *Indigenous Business Establishment Program Summary of Funding Guidelines*, (Queensland) Department of State Development and Innovation, Available online: http://www.sdi.qld.gov.au/dsdweb/v3/guis/templates/content/gui_cue_doc.cfm?id=4006 [Accessed January 2005].

DSDI 2004b, 'McGrady calls meeting to assist Central QLD manufacturing', media Release 21/10/2004, (Queensland) Department of State Development and Innovation, Available online: http://www.sdi.qld.gov.au/dsdweb/v3/guis/templates/content/gui_cue_cntnhtml.cfm?id=5407 [Accessed January 2005].

DSDI 2005, *Smart skills—Online business learning,* (Queensland) Department of State Development and Innovation, Available online: http://www.sdi.qld.gov.au/virtual/dots/www/welcome.cfm [Accessed May 2005].

Dumbrell, T 2000, *Measuring the outcomes of vocational education and training*, National Centre for Vocational Education and Research, Leabrook, SA.

DVC 2005, *Community Regional Industry Skills Program (CRISP)—Communities*, Department of Victorian Communities, Available online: http://www.employment.vic.gov.au [Accessed January 2005].

EA 2002, *Are We Sustaining Australia? Report Against Headline Sustainability Indicators,* Environment Australia, Canberra.

Eddington, N 2003, *Towards skills ecosystems for new times: Addressing Skill Shortages*, VET Research and Analysis, Planning and Purchasing, DET, Brisbane.

Eddington, N 2005, *Skills shortages: An action learning program in Queensland*, Presentation to NCVER Annual Conference, Wodonga, July 5–8, 2005.

Eickenloff, P & Hughes, W 2004, *Road to Transition—Improved Pathways for Operator Certification: Final Report,* The Report of the Transition Working Group, National Occupational Health and Safety Commission, Canberra and Queensland Government Department of Employment and Training , Brisbane.

Elliott, A 2001, *Concepts of the self (key concepts)*, Polity Press, Cambridge.

Elu, J 2004, 'The Year to Focus on Indigenous Economic Development', *Indigenous Australians in Business*, Edition 05, August 2004.

Environment Australia 2002a, *Environment Australia Annual Report 2001–02*, Environment Australia, Canberra.

Environment Australia, 2002b, *Are We Sustaining Australia? Report Against Headline Sustainability Indicators*, Environment Australia, Canberra.

ERA 2003, *Social and environment report 2003*, Energy Resources of Australia, Darwin.

ERIN 2001, *River Disturbance Values, Northern Territory, Queensland and Western Australia*, Environment Resource Information Network, Environment Australia. Accessed online: http://www.heritage.gov.au/anlr/code/rivmaps.html [Accessed January 2005].

FaCS 2000, *Participation Support for a More Equitable Society*, Interim report to the Reference Group on Welfare Reform, (Commonwealth Department of) Family and Community Services, Available online: http://www.facs.gov.au [Accessed February 2000].

Falk, I & Balatti, J 2003, *Role of identity in VET learning*, 11th International Conference on Post-compulsory Education and Training:, Gold Coast, Australia, 2003, Enriching learning cultures: Proceedings of the 11th annual international conference on post-compulsory education and training: Vol. 1. Griffith University. Faculty of Education. Centre for Learning Research (CLR) p. 179–186.

Falk, I & Guenther, J 2002, *Literacy and numeracy for the new world of un/employment—Implications of a fully literate Australia*, ALNARC. Language Australia, Melbourne.

Falk, I & Kilpatrick, S 2000, What is Social Capital? A study of interaction in a rural community, *Sociologia Ruralis*, 40 (1), pp. 87–110.

Falk, I & Mulford, B 2001, ‘Enabling leadership: A new community leadership model’, chapter in *Learning to manage change, developing regional communities for a local-global millennium*, Ed. I Falk, National Centre for Vocational Education and Research, Leabrook, SA.

Falk, I & Smith, T 2003, *Leadership in vocational education and training,* National Centre for Vocational Education and Research, Adelaide.

Falk, I (Ed) 2001, *Learning to manage change—Developing regional communities for a local–global millennium*, NCVER, Leabrook, SA & University of Tasmania, Launceston.

Falk, I Golding, B & Balatti, J 2000, *Building Communities: ACE, Lifelong Learning and Social Capital*. Melbourne: Adult, Community and Further Education Board, Victorian Government.

Faverro, J 2003, *'Quality' training—challenges for teachers of workplace training for trainees and apprentices,* paper presented to AVETRA 2003 conference: 'The Changing Face of VET', Sydney, April 2003.

Feinstein, L 2002a, *Quantitative Estimates of the Social Benefits of Learning, 1: Crime*, The Centre for Research on the Wider Benefits of Learning, London.

Feinstein, L 2002b, *Quantitative Estimates of the Social Benefits of Learning, 2: Health (Depression and Obesity)*, The Centre for Research on the Wider Benefits of Learning, London.

Ferrier, F Trood, C & Whittingham, K 2003, *Case Study 7—Sustainable Tourism*, Going boldly into the future A series of case studies of co-operative research centres and their relationships with the VET sector, National Centre for Vocational Education Research, Leabrook, SA.

Figgis, J 2001, 'What convinces enterprises to value training and learning, and what does not?' in *Return on investment in training. Research readings*, Ed. A. Smith, National Centre for Vocational Education and Research, Leabrook, SA.

FLAG 2003, *Your Future, Your Choice: Flexible Learning Futures*, Flexible Learning Advisory Group Sectoral Consultation paper, Available online: http://flexiblelearning.net.au [accessed January 2005]

Fontana, A and Frey, JH 2000, ‘The interview: From structured questions to negotiated text’, chapter in *Handbook of Qualitative Research*, Second Edition, eds Norman Denzin and Yvonna Lincoln, Sage, Thousand Oaks, CA.

Gibb, J & Curtin, P 2004, *Overview*, in Generic skills in vocational education and training, (Ed. J. Gibb), National Centre for Vocational Education Research, Adelaide.

Glaeser, E 2001, The formation of social capital, *isuma* (*Canadian Journal of Policy Research)*, Volume 2 N° 1, Spring 2001

Glaser, B & Strauss, A 1967, *The discovery of grounded theory: Strategies for qualitative research*, Aldine de Gruyter, Hawthorne, NY.

Glezer H & Wolcott, I 1998, *Work and Family Life: Reciprocal Effects, paper presented to Changing families*, challenging futures, 6th Australian Institute of Family Studies Conference. Melbourne 25–27 November 1998.

Golding, B & Pattison, S 2004, *Inequity in Australian vocational education and training by location*, In Equity in vocational education and training: Research readings, edited by Kaye Bowman. National Centre for Vocational Education Research, Adelaide.

Golding, B Davies, M & Volkoff, W 2001, *Review of research: A consolidation of ACE research 1990–2000*, National Centre for Vocational Education Research, Leabrook, SA.

Gollan, P 2001, *AWA Employee Attitude Survey*, September 2001, Office of the Employment Advocate, Canberra. Available online: http://www.oea.gov.au/ [Accessed March 2005]

Gray, J & Beresford, Q 2002, Aboriginal non-attendance at school: Revisiting the debate, *The Australian Educational Researcher*. Vol. 29, No.1, pp. 11–42.

Green, A Preston, J & Sabates, R 2003, *Education Equity and Social Cohesion: A Distributional Model*, The Centre for Research on the Wider Benefits of Learning, London.

Greene, J 2000, ‘Understanding social programs through evaluation’, chapter in *Handbook of Quantitative Research,* Second Edition, eds Norman Denzin and Yvonna Lincoln, Sage, Thousand Oaks, CA.

Greenwood, G & Cheers, B 2002, Doctors and nurses in outback Australia: Living with bush initiatives. *Rural and Remote Health 2* (online), 2002: 98. Available online: http://rrh.deakin.edu.au [Accessed February 2005].

Griffith, D 2002, *Chalk or cheese? Distinguishing between access disadvantage and geographic classifications in Australia*, Paper presented at the 11th Biennial Conference of the Australian Population Association, 2–4 October 2002, Sydney.

Grootaert, C & van Bastelaer T 2001, *Understanding and Measuring Social Capital: A Synthesis of Findings and Recommendations from the Social Capital Initiative.* SCI Working Paper No. 24, The World Bank Social Development Department, Washington DC.

Grootaert, C Narayan, D Nyhan Jones, V & Woolcock, M 2004, *Measuring Social Capital, an integrated questionnaire*, Working Paper No. 18, The World Bank, Washington DC.

Guenther, J & Falk, I 2000, *Measuring trust and community capacity: Social capital for the common good*, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Guenther, J & Falk, I 2003, *Student Flows: A review of trends in education in the Northern Territory*, Learning Research Group, Charles Darwin University, Darwin.

Guenther, J & Kilpatrick, S 2003, *Survey of computers, Internet and broadband,* Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Guenther, J & Millar, P 2004, *Evaluation of the Break O'Day Volunteer Resource Centre*, Cat Conatus, Ulverstone.

Guenther, J 2003, *Savanna capacity profile*: *A review of indicators and well-being in Australian savanna communities.* Tropical Savannas Cooperative Research Centre, Available online: http://www.savanna.cdu.edu.au [Accessed January 2005]

Guenther, J 2004a, 'Indigenous desert snapshots: Indicators of well-being', Support document for *Growing the desert: Effective educational pathways for remote Indigenous people*, Stage One report to National Centre for Vocational Education Research, Adelaide and Desert Knowledge CRC, Alice Springs.

Guenther, J 2004b, *Relationship between vocational qualifications and community well-being in remote communities of the Northern Territory, Australia*, Tropical Savannas CRC, Available online: http://www.savanna.cdu.edu.au/education/vocational_educatio.html [Accessed December 2004].

Guenther, J Young, M Boyle, A Schaber, E & Richardson, J 2005, *Growing the desert: Effective educational pathways for remote Indigenous peoples*, Desert Knowledge CRC and National Centre for Vocational Education Research, Adelaide.

Gugerty, M & Kremer, M 2000, *Does development assistance help build social capital?* The World Bank Social Development Department Social Capital Working Paper Series, The World Bank, Washington DC.

Haberkorn, G Kelson, S Tottenham, R & Magpamtay, C 2004, *Country Matters: Social atlas of rural and regional Australia*, Bureau of Rural Sciences, Canberra.

Harris, S 1980, *Culture and Learning: Tradition and Education in North East Arnhem Land*, Northern Territory Department of Education, Darwin.

Harris, S 1988, *“Coming up level” without “losing themselves”: the dilemma of formal tertiary training for Aborigines*, in Wikaru 16 from the Institute of Applied Aboriginal Studies, ‘Learning my Way’ Papers from the national conference on Adult Aboriginal Learning, Perth 1988.

Harris, S 1990, *Two-way Aboriginal Schooling: Education and Cultural Survival*, Aboriginal Studies Press, Canberra.

Harrison, G 2004, *From Outstation to Out There. Nabarlek: A Music industry case study*, Northern Territory Cultural, Recreation and Tourism Training Advisory Council, Darwin.

Hart, M. 2000, *Sustainable Measures*, Available online: http://www.sustainablemeasures.com [Accessed February 2005].

Hawken, P Lovins, A & Hunter Lovins, L 1999, *Natural capitalism: Creating the next industrial revolution*, Little, Brown and Company, Boston.

Hazzlewood, J & Kilpatrick, S 2001, *Seniors online: Learning outcomes from Internet access*, Centre for Research and Learning in Regional Australia, for Telstra Research.

Hazzlewood, J 2001, *The TALANT: The third age learner accessing new technology*, Paper for the 10th National Conference of NCVER, 10–13 July 2001.

Healy, T 2001, *The Human Capital Approach and the OECD: How Clear is the International Agenda and where is it going?* Queen’s International Institute on Social Policy, August 27–29, 2001.

Henry, J Arnott, A Clark, T Dembski, L Langton, M & Wells, J 1998, *Djama and VET: Exploring Partnerships and Practices in the Delivery of Vocational Education and Training in Rural and Remote Aboriginal Communities. Vols. I & II.* Northern Territory University Press, Darwin.

Hillman, K & Marks, G 2002, *Becoming an adult: Leaving home, relationships and home ownership among Australian youth*, Longitudinal Surveys of Australian Youth, Research Report No. 28, Australian Council of Education Research, Camberwell.

Hockey, J 2004, ‘Minister’s Article: The Way Forward for Indigenous Tourism’, *Indigenous Australians in Business*, Edition 05, August 2004.

Hollwig, O & Lloyd, R 2000, *Sociodemographic Barriers to Utilisation and Participation in Telecommunications Services and Their Regional Distribution: A Quantitative Analysis*, National Centre for Social and Economic Modelling, University of Canberra, ACT.

HREOC 2000, *Recommendations: National Inquiry into Rural and Remote Education*, Human Rights and Equal Opportunity Commission, Sydney.

HRSCATSIA 2004, *Many Ways Forward*, Report of the inquiry into capacity-building and service delivery in Indigenous communities, House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, Canberra.

HRSCET 2004, *Learning to work*, Report on the inquiry into vocational education in schools, House of Representatives Standing Committee on Education and Training, Parliament of the Commonwealth of Australia, Canberra.

Huckle, J 2001, *Education for Sustainability and Ecological Citizenship in Europe: A challenge for teacher education in the 21st Century*, paper to conference at the University of Thrace, Alexandroupolis.

Hughes, H & Warin, J 2005, *A New Deal for Aborigines and Torres Strait Islanders in Remote Communities*, Issue Analysis, No. 54, Centre for Independent Studies, St Leonards, NSW.

Hughes, P & More, A 1997, *Aboriginal ways of learning and learning styles*, Paper presented to the Annual Conference of the Australian Association for Research in Education, Brisbane, December 4, 1997.

Hunter, B 2004, *Indigenous Australians in the contemporary labour market*, Cat. 2052.0 Australian Census Analytic Program, Australian Bureau of Statistics, Canberra.

I&J Management Services 2004, *Evaluation of the Australian Flexible Learning Framework 2000–2004, Phase Two Evaluation—Final Evaluation Report*, Australian National Training Authority, Brisbane.

IBA 2004, *Indigenous Business Australia Annual Report 2003–2004*, Indigenous Business Australia, Woden.

IEP 2002, *Breakthrough*, Indigenous Enterprise Partnerships, Available online: http://www.iep.net.au/ [Accessed February 2005].

IEP 2004, *Lessons Learned and Future Directions. The first three years of Indigenous Enterprise Partnerships (IEP)*, Indigenous Enterprise Partnerships, Cairns.

INE 2002, *'gettin em n keepin em'*, Report of the Indigenous Nursing Education Working Group to the Commonwealth Department of Health and Ageing, Office for Aboriginal and Torres Strait Islander Health, Canberra.

Jackson, S 1981, Measurement of commitment to role identities, in *Journal of Personality and Social Psychology*, Vol. 40, No. 1, pp. 138–146.

Jopling, D 2000, *Self-knowledge and the self*, Routledge, London.

JSCM 2004, *To make a contribution, Review of skilled labour migration programs 2004*, Joint Standing Committee on Migration, The Parliament of the Commonwealth of Australia, Canberra.

Kane, J & Warton, P 2000, Vocational education: The effects of employment preparation programs on self-concept in low academic achieving students, in *Australian and New Zealand Journal of Vocational Education Research* , Vol. 10 , No. 1 , 2002, pp. 23–37.

Karmel, T 2004, *Current directions in Australia's vocational education and training system*, Paper presented to the International Vocational Education Conference, October 2004, Tianjin, China.

Kearns, P 2004a, *Towards a Learning Revolution in Australia: A Consultation Paper on Future Directions for Lifelong Learning*, Adult Learning Australia, Canberra.

Kearns, P 2004b, *VET and social capital: A paper on the contribution of the VET sector to social capital in communities*, National Centre for Vocational Education Research, Adelaide.

Kilpatrick, S & Bell, R 2001, 'Support networks and trust: How social capital facilitates learning outcomes for small businesses', chapter in *Learning to manage change, developing regional communities for a local-global millennium*, Ed. I Falk, National Centre for Vocational Education and Research, Leabrook, SA.

Kilpatrick, S & Bound, H 2002, *Delivering online in regional Australia*, Conference paper: 5th Annual Conference of the Australian VET Research Association (AVETRA) March 20–22, 2002.

Kilpatrick, S & Falk, I 2001, *Benefits for All: How learning in agriculture can build social capital in island communities*, Discussion Paper D2/2001, Centre for Research and Learning in Regional Australia, Launceston.

Kilpatrick, S & Guenther, J 2000, *Parent perceptions of VET in Schools programs*, A report for Launceston Workplace Learning, Centre for Research and Learning in Regional Australia, Launceston.

Kilpatrick, S & Guenther, J 2003a, *Farmbis Annual Industry Survey*, Final report fro Department of Agriculture, Fisheries and Forestry, Research and Learning in Regional Australia, University of Tasmania Launceston.

Kilpatrick, S & Guenther, J 2003b, 'Successful VET partnerships in Australia'. *International Journal of Training Research*, Vol. 1.

Kilpatrick, S & Millar, P 2004, *People with poor language, literacy and numeracy skills. A hidden equity group?* In Equity in vocational education and training: Research readings, edited by Kaye Bowman. National Centre for Vocational Education Research, Adelaide.

Kilpatrick, S 2003, *The role of VET in building social capital for rural community development in Australia*, Paper D4/2003, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Barrett, M & Jones, T 2003, *Defining learning communities,* Discussion Paper D1/2003, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Field, J & Falk, I 2001a, *Social Capital: An analytical tool for exploring lifelong learning and community development,* Discussion Paper 13/2001, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Fulton, A & Bell, R 2001b, *Providing Client-Focused Education and Training: A report for Agriculture, Fisheries & Forestry Australia*, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Hamilton, V & Falk, I 2001c, *Issues of Quality Learning: Apprenticeships and Traineeships in Rural and Remote Australia*, Discussion Paper D4/2001, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Johns, S Mulford, B Falk, I & Prescott, L 2001d, *More than an education: Leadership for rural school-community partnerships,* A report for the Rural Industries Research and Development Corporation. Kingston, ACT.

King, G 2003, *Townsville City Council: A Social Atlas*, Community and Cultural Services Department, Townsville City Council, Townsville, Qld.

Knack, S & Keefer, P 1997, ‘Does Social Capital Have an Economic Payoff? A Cross Country Investigation’ in *The Quarterly Journal of Economics,* Vol CXII., The MIT Press, Cambridge.

Knight, A & Nestor, M 2001, *A glossary of Australian vocational education and training terms*, National Centre for Vocational Education and Training, Leabrook, SA.

Kral, I & Falk, I 2004, *What is all this learning for? Indigenous adult literacy practices, training, community capacity and health*, National Centre for Vocational Education Research, Adelaide.

Kral, I & Schwab, R 2003, *The realities of Indigenous adult literacy acquisition and practice: Implications for capacity development in remote communities*, No. 257/2003, Centre for Aboriginal Economic Policy Research, ANU, Canberra.

Krishna, A & Uphoff, N. 1999, *Operationalizing Social Capital: Explaining and Measuring Mutually Beneficial Collective Action in Rajasthan, India*. The World Bank. Washington, DC.

Kvale, S 1996, *Interviews: An introduction to qualitative research interviewing*, Sage, Thousand Oaks, CA.

Lee, L 2000, *Success without college: Why your child may not have to go to college right now… and may not have to go at all*, Random House, New York.

Lester, D & Rickert, M 2004, ‘Bridging the digital divide’, *Training Agenda*, Vol. 12 No. 4 Summer 2004/05, pp. 19–22.

Lester, D 2004, ‘VET issues for Aboriginal people and their communities’, *Training Agenda*, Vol. 12 No. 4 Summer 2004/05, pp.11–12.

Liddle, L & Young, E, 2001, ‘Bridging the Communication Gap’: Transferring information between scientists and Aboriginal land managers, Chapter in *Working on country: Contemporary Indigenous Management of Australia’s Lands and Coastal Regions,* Eds Richard Baker, Jocelyn Davies and Elspeth Young, Oxford University Press, Melbourne.

Light, R & Quay, J 2003, Identity, physical capital and young men’s experience of soccer in school and community-based clubs, *Melbourne Studies in Education,* Vol. 44, No. 2 pp. 89-106.

Lin, N 2001, *Social capital: A theory of social structure and action*, Structural Analysis in the Social Sciences, No. 19, Cambridge University Press, Cambridge.

Lincoln, Y & Guba, E 2000, ‘Paradigmatic controversies, contradictions and emerging confluences’, chapter in *Handbook of Qualitative Research,* Second Edition, eds Norman Denzin & Yvonne Lincoln, Sage, Thousand Oaks, CA.

Long, M 2001, ‘Training and economic return to workers’ in *Return on investment in training. Research readings*, Ed. A. Smith, National Centre for Vocational Education and Research, Leabrook, SA.

Long, M Frigo, T & Batten, M 1998, *The School to work transition of Indigenous Australians, A review of literature and statistical analysis*, Department of Employment, Training and Youth Affairs, Canberra.

Macadam, R Drinan, J Inall, N & McKenzie, B 2004, *Growing the Capital of Rural Australia - The Task of Capacity Building,* A report for the Rural Industries Research and Development Corporation, RIRDC Publication No 04/034, Barton.

Marika, B Lane, C Smith, H & Reinke, L 2004, Working towards an Indigenous training model: Learning from Gamarrwa Nuwul Landcare, Yirrkala, in *Equity in vocational education and training, Research readings.* Ed. K Bowman, National Centre for Vocational Education Research, Adelaide.

Marshall, C & Rossman, G 1999, *Designing Qualitative Research*, Third Edition, Sage, Thousand Oaks, CA.

MARVIN 2004, a*bout marvin,* Available online: http://www.marvin.com.au/marvin/about/index.asp [Accessed May 2005].

Maxwell, G Noonan, P Bahr, M & Hardy, I 2004, *Managing better Measuring institutional health and effectiveness in vocational education and training,* National Centre for Vocational Education Research, Adelaide.

Maxwell, J 2005, *Qualitative Research Design: An interactive approach*, Second edition, Applied social research methods series, No. 41, Sage, Thousand Oaks, CA.

McCauley, C 2004, 'Successful and unsuccessful leadership', chapter in *The nature of leadership*, Eds John Antonakis, Anna Cianiolo & Robert Sternberg, Sage, Thousand Oaks, CA.

MCEETYA 2000, Report of MCEETYA Taskforce on Indigenous Education, Ministerial Council on Education, Employment, Training and Youth Affairs, Available online: http://www.curriculum.edu.au/mceetya [Accessed January 2005].

MCEETYA 2002, *Ministerial declaration on Adult Community Education,* Ministerial Council on Education, Employment, Training and Youth Affairs, Carlton South.

MCEETYA 2003, *National Report on Schooling in Australia 2002*, Ministerial Council on Education, Employment, Training and Youth Affairs, Available online: http://cms.curriculum.edu.au/anr2002/index.htm [Accessed May 2005].

Melbourne. Morehead, A Steele, M Alexander, M Stephen & K Duffin, L 1997, *Changes at work, the 1995 Australian Workplace Industrial Relations Survey*, Longman, South Melbourne.

Merlo, R & McDonald, P 2002, *Outcomes of home-ownership aspirations and their determinants*, Australian Housing and Urban Research Institute, Australian National University Centre, Canberra.

Merriam, S 1998, *Qualitative research and case study applications in education*, Revised and expanded, Jossey-Bass, San Francisco.

Middleton, S 2005, *Research as a second career: Research culture in a VET setting*, paper presented to AVETRA 2005 Conference, "Emerging Futures—Recent, Responsive & Relevant Research", Brisbane, April 2005.

Millar, P & Falk, I 2000, *Seniors Online: Online literacy and learning by senior citizens in rural centres*, Adult Literacy and Numeracy Australian Research Consortium -ALNARC, Victoria University, Melbourne.

Millar, P & Kilpatrick, S 2004, *How community development programs can foster re-engagement with learning in disadvantaged communities: Leadership as process*, University of Tasmania, Research and Learning in Regional Australia, Launceston.

Miller, P & Chiswick, B 1997, 'Literacy, numeracy and the labour market', Article 3 in *Aspects of Literacy. Assessed Skill Levels Australia*. Cat. 4228.0, Australian Bureau of Statistics, Canberra.

Miller, W & Crabtree, B 2000, 'Clinical research', chapter in *Handbook of Qualitative Research*, Second edition, eds Norman Denzin and Yvonne Lincoln, Sage, Thousand Oaks, CA.

Misko, J 2004, *The role of Community Development and Employment Projects in rural and remote communities*, National Centre for Vocational Education Research, Adelaide.

Mitchell, J & Wood, S 2001, *Evidence of high-skilled VET practitioners and high-performing VET organisations*, ANTA.

Morse, J 2003, ‘Principles of mixed methods and multi-method research design’, chapter in *Handbook of mixed methods in social and behavioural research,* eds Abbas Tashakkori & Charles Teddlie, Sage, Thousand Oaks, CA.

Moy, J 2001, ‘Showing that enterprise training pays: Lessons from the literature’ in *Return on investment in training. Research readings,* Ed. A. Smith, National Centre for Vocational Education and Research, Leabrook, SA.

Muller, J 1999, ‘Narrative approaches to Qualitative Research in Primary Care, chapter in *Doing Qualitative Research,* Second edition, eds Benjamin Crabtree and William Miller, Sage, Thousand Oaks, CA.

Nakata, M 2003, Some thoughts on literacy issues in Indigenous contexts, *The Australian Journal of Indigenous Education.* Vol. 31, 2003, pp 7–15.

National Economics 2004, *State of the Regions 2003,* Report for the Australian Local Government Association. National Institute of Economic and Industry Research, Clifton Hill.

NCVER 2000, Total quality learning or total quality management? *Insight.* Issue 2, December 2000, NCVER, Adelaide.

NCVER 2001a, *Fact, Fiction and Future: Australian Apprenticeships,* National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2001b, *Australian adult and community education: An overview,* National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2001c, *Statistics 2001: Survey of Employer Views on Vocational Education and Training, National Report,* National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2002a, *Student outcomes survey—in summary 2002*, NCVER, Leabrook, SA.

NCVER 2002b, *Australian apprentice and trainee statistics—Annual 2001*, NCVER, Leabrook, SA.

NCVER 2003, *Australian vocational education and training statistics 2001: Adult and community education: An overview*. National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2004a, *Australian vocational education and training statistics Students and courses 2003*, National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2004b, *Australian vocational education and training statistics: Student outcomes 2004*, National Centre for Vocational Education Research, Leabrook, SA.

NCVER 2004c, *Australian vocational education and training statistics Financial information 2003*, National Centre for Vocational Education Research, Adelaide.

NCVER 2005, *Australian vocational education and training statistics. Indigenous Australians' training experiences 2004*, National Centre for Vocational Education Research, Adelaide.

NCVER 2006, *Australian vocational education and training statistics. Apprentices and trainees, September quarter 2005*¸ National Centre for Vocational Education Research, Adelaide.

NEIR 1998, *State of the regions*, National Economics, Clifton Hill.

National Economics/ALGA 2004, *State of the regions 2003–2004*, National Economics/ Australian Local Government Association, Clifton Hill.

Nelson, B 2004, *A new approach to tackling skills shortages in trades*, Media Release 6 April 2004, Available online: http://www.dest.gov.au/ministers/nelson/april_04/n673060404.htm [Accessed January 2005].

Newman, I Ridenour, C Newman, C & DeMarco, G 2003,‘A typology of research purposes and its relationship to mixed methods’, chapter in *Handbook of mixed methods in social and behavioural research*, eds Abbas Tashakkori & Charles Teddlie, Sage, Thousand Oaks, CA.

NHMRC 1999, *National Statement on Ethical Conduct in Research Involving Humans*, National Health and Medical Research Council, Canberra.

NLC 2002, *Annual Report 2001–2002*, Northern Land Council, Darwin.

NLC 2003a, *An inclusive future is the challenge: Yunupingu*, Media release, Northern Land Council, July 18, 2003 http://www.nlc.org.au [Accessed January 2005].

NLC 2003b, *Annual Report 2002-2003*, Northern Land Council, Darwin.

NLC 2003c, *Railway jobs initiative highlight of PM’s visit*, Media release, Northern Land Council, 5 August 2003, Available online: http://www.nlc.org.au [Accessed January 2005].

NOHSC 2002, *National OHS Strategy 2002–2012*, National Occupational Health and Safety Commission, Canberra.

NOHSC 2004, *National Occupational Health and Safety Commission Annual Report 2003–2004*, National Occupational Health and Safety Commission, Canberra.

NOHSC 2005, *The NOHSC Online Statistics Interactive National Workers’ Compensation Statistics Databases*, National Occupational Health and Safety Commission, Available online: http://www.nohsc.gov.au/OHSInformation/NOSI/ [Accessed February 2005].

Northouse, P 2004, *Leadership: Theory and Practice*, Sage, Thousand Oaks, CA.

NRE 2001, *Social Capability in Rural Victoria: The Food & Agriculture and Natural Resource Management Sectors*, Department of Natural Resources and Environment, Bendigo.

NSSS 2004, *Innovative Skills Shortages Projects*, National Skills Shortages Strategy, (Commonwealth) Department of Education, Science and Technology, Canberra.

NSW DET 2005, *The Industry Skills Training Program Guidelines and Application Form 2004–2005*, New South Wales Department of Education and Training, Sydney.

NSW Government 2003, *Community Capacity Building Programs And Approaches*, Presentation notes by Gary Moore, NSW Premier's Department, for NSW Health Promotion Director's Forum, 19 Feb 2002, http://www.communitybuilders.nsw.gov.au/builder/what/capb_progs.html [Accessed February 2005].

NT Government 2003a, *Workforce Employment and Training Strategy—2003–2005*, Northern Territory Government Department of Employment, Education and Training, Darwin.

NT Government 2003b, ‘Success for remote students’ *Building a better Territory: the regions of the Territory.* Northern Territory Government, Darwin.

NT Government 2003c, *Issues Paper,* Seizing our economic future, Indigenous economic forum, Alice Springs 6–7 March 2003.

NT Government 2005, *Northern Territory Indigenous Economic Development Strategy,* Northern Territory Government, Darwin.

NT Government/PCC 2004, *Palmerston Partnership Agreement*, Northern Territory Government and Palmerston City Council, available http://www.dcdsca.nt.gov.au/dcdsca/intranet.nsf/pages/lgrd_rd_publications [Accessed May 2005].

NTCOSS 2004, *Creating effective pathways to employment and training for the employment disadvantaged in the Northern Territory*. Charles Darwin University Learning Research group, Northern Territory Council of Social Service, Darwin.

NTDE 1999, *Learning Lessons*—A*n independent review of Indigenous education in the Northern Territory*. Northern Territory Department of Education, Darwin.

NTDEET 2004, *Annual Report 2003-2004*, Northern Territory Department of Employment, Education and Training, Darwin.

NTPFES 2004, *Northern Territory Police Fire and Emergency Services 2004 Annual Report*, Northern Territory Police Fire and Emergency Services, Darwin. http://www.nt.gov.au/pfes/corporate/media/publications/pdf/annual/2004 ntpfesannrep.pdf [Accessed March 2005].

NTRIB 2005, *Northern Territory Research and Innovation Awards—Nominations*, Northern Territory Research and Innovation Board, Available online: http://www.research-innovation.nt.gov.au/dcm/otd/innovation/research_innovation/awards/nominations.shtml [Accessed July 2005].

NTTC 2004a, *2003/04 Tourism Statistics Key Results*, Strategic Research, Northern Territory Tourism Commission, Darwin.

NTTC 2004b, *Northern Territory Tourism Strategic Plan 2003–2007, Update January 2004*, Northern Territory Tourism Commission, Darwin.

NTU 2000, *Guidelines for completing the application form for ethical clearance*, Northern Territory University, Darwin.

OECD 1973, *The OECD list of social indicators*, OECD social indicator development programme, Organisation for Economic Cooperation and Development, Paris.

OECD 1982, *International List of Social Indicators.* Organisation for Economic Cooperation and Development, Paris.

OECD 2000, *Literacy in the information age*, Final report of the International Adult Literacy Survey, Organisation for Economic Cooperation and Development, Paris.

OECD 2001a, *Civil Society and the OECD*, Policy Brief, October 2001, Organisation for Economic Co-operation and Development, Paris.

OECD 2001b, *The Well-being of Nations—The role of human and social capital*, Organisation for Economic Cooperation and Development, Paris.

OECD 2003a, *Learners for life: Student approaches to learning, Results from PISA 2000*, Organisation for Economic Co-operation and Development, Paris.

OECD 2003b, *Society at a Glance—OECD Social Indicators 2002 edition*, Organisation for Economic Cooperation and Development, Paris.

OECD 2004, *Learning for Tomorrow's World. First results from PISA 2003*, Programme for International Student Assessment, Organisation for Economic Co-operation and Development, Paris.

OECD 2005, *Beyond Rhetoric: Adult Learning Policies and Practices Highlights*, Organisation for Economic Co-operation and Development, Paris.

OESR 2002, *The Contribution of International and Domestic Visitor Expenditure to the Queensland Regional Economies 1998–99*, Office of Economic and Statistical Research, Brisbane.

OPCET 2003, Industry Training Demand Profile, tourism and hospitality, Office of Post Compulsory Education and Training, Available online: http://www.opcet.tas.gov.au/iaa/ [Accessed February 2005].

OPCET 2004, Environmental Tourism Training and Employment Program, *Ecotrain* 54, September 2004, Office of Post Compulsory Education and Training, Hobart.

OTTE 2002, *Small and Medium Sized Business Employers Perceptions of the Value of Vocational Education and Training (VET): Hospitality, Seafood, and Community Services and Health Industry Sectors,* Office of Training and Tertiary Education, http://www.otte.vic.gov.au/publications/perceptions/report.htm [Accessed February 2005].

Patton, M Q 2002, *Qualitative research and evaluation methods,* Third edition, Sage, Thousand Oaks, CA.

Peoplearn 2005, *Indigenous Enterprise–Training Partnerships*, Available online: http://www.peoplearn.com/ [Accessed July 2005].

Pidd, K 2004, The impact of workplace support and identity on training transfer: A case study of drug and alcohol safety training in Australia, *International Journal of Training and Development* 8:4, pp. 274–288, Blackwell Publishing, Oxford.

Portes, A & Landholt, P 1996, Unsolved Mysteries: The Tocqueville Files II: The Downside of Social Capital, *The American Prospect*, Vol. 7 No. 26, May 1, 1996–June 1, 1996.

Prime Minister of Australia 2004, *Fourth Howard Ministry*, Media Release, http://www.pm.gov.au [Accessed January 2005].

Productivity Commission 2003, *Social Capital: Reviewing the concept and policy implications,* Research Paper, AusInfo, Canberra.

Productivity Commission 2004, *First Home Ownership*. Productivity Commission Inquiry Report No. 28, Melbourne.

Purdie, N Tripcony, P Boulton-Lewis, G Fanshawe, J & Gunstone, A 2000, *Positive Self-Identity for Indigenous Students and its Relationship to School Outcomes*, Department of Education Training and Youth Affairs, Canberra.

Putnam, R 1993, The Prosperous Community, The American Prospect, Vol. 4 No. 13, March 21, 1993.

Putnam, R 2004a, *Education, Diversity, Social Cohesion and "Social Capital"*, Note for discussion presented to Meeting of OECD ministers, Raising the quality of learning for all, 18–19 March 2004, Dublin.

Putnam, R 2004b, *Education and Social Cohesion*, Web cast: Forum Meeting of OECD ministers, Raising the quality of learning for all, 18–19 March 2004, Dublin, Available online: http://www.oecd.org/document/32/0,2340,en_21571361_27379727_30408224_1_1_1_1,00.html [Accessed February 2005].

Queensland Police 2004, *Annual Statistical Review 2003/04*, Queensland Police Service, Available online: http://www.police.qld.gov.au/statsnet.htm [Accessed March 2005].

Ray, J 2001, *Apprenticeship in Australia: An historical snapshot*, National Centre for Vocational Education Research, Adelaide.

Renshaw, P 2002, 'Learning and community', *Australian Education Review*, Vol. 29:2, pp. 1–14.

Rhodes, C & Scheeres, H 2003, *Changing pedagogy: Culture and identity in organisations*, OVAL Research Working Paper 03–19, The Australian Centre for Organisational, Vocational and Adult Learning, University of Technology, Sydney.

Ricardo, D 1821, *On the Principles of Political Economy and Taxation.*: John Murray, London, Available online: http://www.econlib.org/library/Ricardo/ricP1.html; [Accessed February 2005].

Ritzen, J 2000, *Social cohesion, public policy, and economic growth: Implications for OECD countries*, (OECD) Symposium. the contribution of human and social capital to sustained economic growth and well-being, Canada, Château Frontenac, Québec City, March 19–21, 2000.

Robinson, C 2001, *Australian Apprenticeships—Fact, fiction and future.* National Centre for Vocational Education Research, Leabrook, SA.

Rossing Feldman, T & Assaf, S 1999, S*ocial Capital: Conceptual Frameworks and Empirical Evidence—An Annotated Bibliography*, Social Capital Initiative Working Paper No. 5, The World Bank Social Development Department, Washington DC.

RTI 2002, *Connecting regional Australia—The report of the Regional Telecommunications Inquiry.* Commonwealth Department of Communications, Informational Technology and the Arts, Canberra.

Rudland, S Ryan, R & Faruqi, M 2004, *Communities, catchments and councils – building capacity for sustainable change,* Presented at the AWA Conference 'Education: The Key to Sustainable Water Management – Going Beyond Conservation' Rydges Lakeside, Canberra, 28–29 January, 2004.

Ryan, C 2002, *Individual returns to vocational education and training qualifications. Their implications for lifelong learning*, National Centre for Vocational Education Research, Leabrook, SA.

Ryan, R & Rudland, S, *Capacity Building—A Conceptual Overview*, Elton Consulting, Bondi Junction, Available online: http://www.elton.com.au/pdfs/Capacity.PDF [Accessed February 2005].

Sanders, W 2001, *A regional CDEP for four remote communities? Papunya, Ikuntji, Watiyawanu and Walungurru*, No. 224/2001, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.

Saunders, J Jones, M Bowman, K Loveder, P & Brooks, L 2003, *Indigenous people in vocational education and training: A statistical review of progress*, National Centre for Vocational Education Research, Adelaide.

Schofield, K & McDonald, R 2004, *Moving on… Report of the High Level Review of Training Packages*, Australian National Training Authority, Brisbane.

Schofield, K & Smale, E 2002, *Learning Communities National Project Audit Report 2002, Southern Grampians Shire, Victoria,* Australian National Training Authority, Brisbane.

Schofield, K 1999a, *Independent Investigation into the Quality of Training in Queensland's traineeship system, Vocational Education, Training & Employment Commission, Queensland,* Available online: http://www.detir.qld.gov.au/vetinfo/apptrain/taskforce/ index.html [Accessed January 2005].

Schofield, K 1999b, *Risky business: Review of the quality of Tasmania's traineeship system: Working paper 1 and working paper 2*. Available online: http://www.opcet.tas.gov.au [Accessed January 2005].

Schofield, K 2000, *Delivering Quality—Report of the Independent Review of the Quality of Training in Victoria's Apprenticeship and Traineeship System*. Department of Education, Employment and Training, Victoria.

Schuller, T 2002, *Integrating human/knowledge capital and social capital,* Knowledge management in education and learning, Oxford, March 2002, Organisation for Economic Cooperation and Development, Paris.

Schuller, T Brassett-Grundy, A Green, A Hammond, C & Preston, J 2002, *Learning, continuity and change in adult life,* Centre for Research on the Wider Benefits of Learning, London.

Schuller, T Bynner, J & Feinstein, L 2004, *Capitals and capabilities*, Centre for Research on the Wider Benefits of Learning, London.

SCRGSP 2003, *Overcoming Indigenous Disadvantage—Key indicators 2003,* Steering Committee for the Review of Government Service Provision. Productivity Commission, Australia.

Seddon, T & Billet, S 2004, *Social partnerships in vocational education Building community capacity,* National Centre for Vocational Education Research, Adelaide.

SEETRC 1997, *Beyond Cinderella: Towards a learning society*, Inquiry into the developments into Adult and Community Education since 1991, Senate Employment, Education and Training References Committee, Parliament of Australia, Canberra.

Selby Smith, C Ferrier, F Anderson, D Burke, G Hopkins, L Long, M Maglen, L Malley, J McKenzie, P & Shah, C 2001, *CEET's Stocktake: The economics of vocational education and training in Australia*, National Centre for Vocational Education Research, Leabrook, SA.

SEWRERC 2003, *Bridging the skills divide*, Senate Employment, Workplace Relations and Education References Committee, Canberra.

SEWRSEBC 2000, *Aspiring to Excellence: Report of the Inquiry into the Quality of Vocational Education and Training in Australia,* Senate Employment, Workplace Relations, Small Business and Education Committee, Parliament of Australia, Canberra.

Shaffer, C & Anundsen, K 1993, *Creating community anywhere: Finding support and connection in a fragmented world*, Putnam Publishing Group, New York.

Sheehan, N & Walker, P 2001, 'The Purga Project: Indigenous Knowledge Research', *The Australian Journal of Indigenous Education*, Vol. 29, No. 2., pp. 11–18.

Shelter NSW 2004, *Student Income Support Inquiry, submission to the Senate Employment, Workplace Relations and Education Reference Committee,* Shelter NSW, http://www.shelternsw.infoexchange.net.au [Accessed February 2005].

Shimeld, J 2001, *Community Partnerships: Building and Strengthening.* A Discussion Paper developed by the Enterprise and Career Education Foundation (ECEF).

SHRG 2003, *Consultation paper for development of the Aboriginal and Torres Strait Islander National Strategic Framework for Mental Health and Social and Emotional Well Being 2004–2009*, Social Health Reference Group, Commonwealth Department of Health and Ageing, Canberra.

Shulz, D 2001, ‘Caring for country: Aboriginal groups form to save traditional knowledge’ *Savanna Links* Issue 19 July–Sept. 2001, pp. 4–5.

Silverman, D 2000, ‘Analyzing talk and text’, chapter in *Handbook of Qualitative Analysis*, Second edition, Eds Norman Denzin and Yvonna Lincoln, Sage, Thousand Oaks, CA.

SKM 2003a, *Tourism delivers sustainable future*, Sinclair Knights Merz, http://www.skm.com.au/index.cfm?id=2089 [Accessed February 2005].

SKM 2003b, *Palmerston Integrated Community Plan, Background Paper 2, Community Profile*. Sinclair Knight Merz, Northern Territory Government, Darwin.

Sleby Smith, C Ferrier, F Anderson, D Burke, G Hopkins, S Long, M Maglen, L Malley, J McKenzie, P & Shah, C 2001, *CEET’s stocktake: The economics of vocational education and training in Australia*, National Centre for Vocational Education Research, Leabrook, SA.

Smith, A 1904 *An Inquiry into the Nature and Causes of the Wealth of Nations*. Ed. Edwin Cannan, Methuen and Co., Ltd., London, Library of Economics and Liberty. Available online: http://www.econlib.org/library/Smith/smWN1.html [Accessed February 2005].

Smith, A 2001, ‘Return on investment in training: An introduction’, chapter in *Return on investment in training. Research readings*, Ed. A. Smith, National Centre for Vocational Education and Research, Leabrook, SA.

Smith, L 2000, *Issues affecting the quality of vocational education and training in Queensland*, Department of Employment, Training and Industrial Relations, Brisbane.

Spicer, I 1997, *Independent review of the Community Development Employment Projects (CDEP) scheme*, Aboriginal and Torres Strait Islander Commission, Canberra.

Stafford Smith, M Walker, D Marui, Y Stoeckl, N Herr, A Breem, J & Greiner, R 2003, *Options for Understanding Regional Dynamics in Northern Australia: Standalone summary Tropical Savannas CRC Regional Modelling Scoping Study*, Tropical Savannas CRC, Darwin.

Stake, R 2000, 'Case studies', chapter in *Handbook of Qualitative Research*, Second Edition, eds Norman Denzin & Yvonne Lincoln, Sage, Thousand Oaks, CA.

Stimson, R Baum, S Mullins, P & O'Connor, K 1999, *Australia's regional cities and towns: Modelling community opportunity and vulnerability*, Paper presented at Regenerating Regional Communities 1999 ANZRSAI Conference, Newcastle, 19-22 September.

Stirling, S 2003a, *Speech by Minister Stirling*, Education function—Alice Springs, http://www.edfuture.ntu.edu.au/edufuncAS.pdf [Accessed Jan 2005].

Stirling, S 2003b, *New program to provide construction training to Larrakia people*, Media Release 6 June 2003, Northern Territory government, Darwin.

Storrs, M 2003, *Caring for Country: The rapidly developing formalised structure for Aboriginal land and sea management in the Top End.* Paper presented to Seizing our economic future, Indigenous economic forum, Alice Springs 6–7 March 2003.

Storrs, M Cooke, P & Josif, P 2003, *Caring for country: The rapidly developing formalised structure for Aboriginal natural resource management in the Northern Land Council region of the Northern Territory*, Paper presented to National Land Care Conference, 2003, Darwin.

Strauss, A 1987, *Qualitative Analysis for Social Scientists*, Cambridge University Press, Cambridge.

Stryker, S 2000, 'Identity Competition: Key to Differential Social Movement Participation', Chapter in *Self, Identity and Social Movements.* Eds Sheldon Stryker, Timothy Owens, Robert White, University of Minnesota Press, Minneapolis.

Szcarkowicz, D & Guenther, J 2003, *Flexible working and family friendly arrangements*, Report prepared for the Office of the Commissioner for Public Employment, Northern Territory, Northern Territory University, Darwin.

Tashakkori, A & Teddlie, C 1998, *Mixed Methodology: Combining Qualitative and Quantitative Approaches*, Applied Social Research Methods Series Volume 46, Sage, Thousand Oaks, CA.

Tasmania Together 2004, *Tasmania Together Progress Report 2004*, A report to Tasmanian Parliament, Tasmania Together Board. http://www.tasmaniatogether.tas.gov.au [Accessed February 2005].

Taylor, J 2002, *The spatial context of Indigenous service delivery*. Technical Report Working Paper No.16, CAEPR, ANU, Canberra.

Taylor, J 2003, *Indigenous economic futures in the Northern Territory: The demographic and socioeconomic background*, No. 246/2003, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.

Taylor, S 2004, *Indigenous Knowledge Centre—The Queensland Experience*, Paper presented to ALIA 2004 Conference, Brisbane.

TDA 2001, *Skilling Australians for the future: The role of TAFE in an innovative Australia,* TAFE Directors Australia, http://www.tda.gov.au [Accessed January 2005].

TDA 2004, *Funding for TAFE, A TDA position paper,* TAFE Directors Australia, http://www.tda.gov.au [Accessed January 2005].

Teddlie, C & Tashakkori, A 2003, ‘Major issues and controversies in the use of mixed methods in the social and behavioural sciences’, chapter in *Handbook of Mixed Methods Social and Behavioral Research,* Eds Abbas Tashakkori and Charles Teddlie, Sage, Thousand Oaks, CA.

Telstra 2004, *Telstra Mobile Coverage CDMA*, State and Territory coverage maps, March 2004, Telstra Corporation.

The Prime Minister’s Community Business Partnership 2003, *Partnership between Australian Indigenous Leadership Centre and Citigroup*, http://www.partnerships.gov.au/awards/awards_2003.shtml [Accessed March 2005].

Thoits, P & Virshup, L 1997, ‘Me’s and We’s: Forms and Functions of Social Identities’, Chapter in *Self and Identity: Fundamental issues,* Rutgers series on self and social identity Volume 1, Oxford University Press, Oxford.

Topolsky, J 1997, *On Target, On Task, On Reflection: The Culture of Learning Communities*, International Community Development Society Plenary, Athens, Georgia.

Toupin, L 2001, *Social and Community Indicators for Evaluating Women’s Work in Communities*, Status of Women, Canada, Ottawa.

Training Agenda 2004, ‘The role of VET in boosting regional partnerships and opportunities’, *Training Agenda*, Vol. 12 No. Summer 2004/05 pp. 13–16.

Trudgeon, R 2000, *Why warriors lie down and die*, Aboriginal Resource and Development Services, Parap.

TSCRC 2001, *Savanna Burning, understanding and using fire in northern Australia*, Tropical Savannas Cooperative Research Centre, Darwin.

TSCRC 2005a, *Frequently asked questions*, Tropical Savannas Cooperative Research Centre, Available online: http://www.savanna.cdu.edu.au/information/faq.html [Accessed July 2005].

TSCRC 2005b, *Tropical Savannas Mapmaker*, Tropical Savannas Cooperative Research Centre, Available online: http://www.savanna.cdu.edu.au/information/savanna_mapmaker.html [Accessed January 2005].

TSCRC 2005c, *TSCRC Research Themes*, Tropical Savannas Cooperative Research Centre, Available online: http://www.savanna.cdu.edu.au/research/themes.html [Accessed September 2005].

Turk, A 2002, *A critique of government grant based approaches to addressing digital divide issues in an Australian Indigenous community*, 2002 International Conference on the Digital Divide: Technology & Politics in the Information Age, Hong Kong.

Turrell, G Oldenburg, B Harris, E Jolley, D & Kimman, M 2003, 'Socioeconomic disadvantage and use of general practitioners in rural and remote Australia', Letter to the Editor, *Medical Journal of Australia*, Vol. 179, 15 September 2003, pp. 325–326.

UN 1997, *Operational activities of the United Nations for international development cooperation: Follow-up to policy recommendations of the General Assembly, Addendum, Capacity-building, Report of the Secretary-General*, Economic and Social Council, United Nations. Geneva, 30 June–25 July 1997.

UNICEF 2005, *Child Poverty in Rich Countries 2005*. Media Release, Innocenti Report Card No. 6, United Nations Children's Fund, Florence.

Vallence, K, Falk, I & Kilpatrick, S 2001, *Assuring the Quality of Vocational Learning*. Report to the Office of Post-Compulsory Education and Training, Tasmania.

Vanstone, A 2002, *Media Release: Regional WA Benefits from Skilled Migration*, Senator Amanda Vanstone, Minister For Immigration And Multicultural And Indigenous Affairs http://www.minister.immi.gov.au/media_releases/ruddock_media02/r02069h.htm [Accessed January 2005].

WA Police 2004, *Annual report 2003*, Western Australian Police Service, Perth.

WADET 2003, *Western Australian Employment Trends and Prospects, December 2003*, Industry and Community Planning Directorate, Employment and Workforce Skills Strategies Branch, Western Australia Department of Education and Training, Perth.

WADIA 2002, *Building stronger communities—capacity-building with Indigenous communities being undertaken by WA Department of Indigenous Affairs*, Policy and Coordination Directorate, (Western Australia) Department of Indigenous Affairs, Perth.

Watson, L 2002, *Public funding for VET in Australia, 1997 to 2000*, Paper presented at the fifth Australian VET Research Association Conference, The Heath Function Centre, Caulfield Racecourse, Caulfield, Victoria. 21–22 March 2002.

Wenger, E 1999, *Communities of practice: Learning, meaning and identity*, Cambridge University Press, Cambridge.

Wenger, E McDermott, R & Snyder, W 2002, *Cultivating communities of practice: A guide to managing knowledge*, Harvard Business School Publishing, Boston MA.

Wengraf, T 2001, *Qualitative Research Interviewing: Biographic narrative and semi-structured methods*, Sage, Thousand Oaks, CA.

Western Australia Police 2004, *Annual report 2004*, Western Australian Police Service, Perth. http://www.police.wa.gov.au/AboutUs/AboutUs.asp?AnnualReport2004 [Accessed March 2005].

WFU 1999, *Work and Family State of Play 1998*, Work and Family Unit, Department of Workplace Relations and Small Business, Canberra.

Whitehead, PJ Woinarski, J Jacklyn, P Fell, D & Williams, D 2000, *Defining and measuring the health of savanna landscapes: A north Australian perspective*, Tropical Savannas CRC Discussion Paper, Tropical Savannas CRC, Darwin.

Woolcock, G Renton, D & Cavaye, J 2003, *What makes communities tick?* Local Government & Social Capital Action Research Project (LGSCARP), Local Government Association of Queensland (LGAQ) and The University of Queensland, Brisbane.

Woolcock, M 1998, ‘Social capital and economic development: Toward a theoretical synthesis and policy framework’ in *Theory and Society*. 27:151–208.

Woolcock, M 1999, *Managing risk, shocks and opportunity in developing economies: The role of social capital*, Development Research Group, The World Bank, unpublished paper.

Woolcock, N 2001, The place of social capital in understanding economic outcomes, *isuma* (*Canadian Journal of Policy Research)*, Vol. 2, 1, Spring 2001.

Wordsworth, P 2002, ‘Reducing Rates of Anaemia in Barunga Improves Academic Performance—Health & Education Joint Program’, *the chronicle*, Vol. 6/Issue 4, Nov/Dec 2002, Chronic Disease Network, Northern Territory.

Workcover Corporation 2002, *Workplace Health and Safety Handbook*, WorkCover Corporation, Adelaide.

World Bank 1998, *The Initiative on defining, monitoring and measuring social capital, Social Capital Initiative Working Paper No.1,* The World Bank Social Development Department, Washington DC.

Yin, R 2003, *Case study research: Design and methods,* Applied Social Research Methods Series, Volume 5, Sage, Thousand Oaks, CA.

Youdell, D 2003, ‘Identity traps or how black students fail: The interactions between biographical, subcultural and learner identities’, *British Journal of Sociology of Education,* Vol. 24. No. 1, pp. 1–20.

Young, M Robertson, P Sawyer, G & Guenther, J 2005, *Desert disconnections: e-learning and remote Indigenous peoples*, Australian Flexible Learning Framework and Desert Knowledge CRC, Alice Springs.

Yunupingu, G 2003, *The Importance of Economic Development*, Presentation to Indigenous Economic Forums, March 2003, Alice Springs.

Zaccaro, S Kemp, C & Bader, P 2004, ‘Leader traits and attributes’, Chapter in *The nature of leadership*, Eds John Antonakis, Anna Cianiolo & Robert Sternberg, Sage, Thousand Oaks, CA.

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Appendix 1—Savanna Statistical Local Areas (SLAs)

Table 78 Complete listing of all SLAs covered by savanna region, alphabetically sorted

ASGC 2001 code	*SLA name*	*State code*	*Statistical division name*	*ARIA value*	*ARIA**	*Population Density*
345057001	Aitkenvale	3	Northern (QLD)	3	A	1473.76
705051004	Alawa	7	Darwin	3	A	1539.21
705051008	Anula	7	Darwin	3	A	1878.60
335050150	Aramac (S)	3	Central West (QLD)	10.96	VR	0.03
350100250	Aurukun (S)	3	Far North	11.97	VR	0.14
705102802	Bakewell	7	Darwin	3.25	A	2061.54
335050400	Barcaldine (S)	3	Central West (QLD)	11	VR	0.21
710100609	Bathurst-Melville	7	Northern Territory - Bal	10.35	VR	0.30
340100600	Belyando (S)	3	Mackay	7.08	R	0.33
335050750	Blackall (S)	3	Central West (QLD)	10.97	VR	0.11
335050900	Boulia (S)	3	Central West (QLD)	9.68	VR	0.01
340100950	Bowen (S)	3	Northern (QLD)	6.22	R	0.65
705051014	Brinkin	7	Darwin	3	A	738.65
340101700	Broadsound (S)	3	Mackay	5.5	MA	0.36
545100980	Broome (S)	5	Kimberley	10.75	VR	0.33
345151900	Burdekin (S)	3	Northern (QLD)	4.66	MA	3.68
355051950	Burke (S)	3	North West	11.58	VR	0.05
355052250	Carpentaria (S)	3	North West	11.51	VR	0.07
345152300	Charters Towers (C)	3	Northern (QLD)	4.55	MA	203.22
705051018	City - Inner (Darwin)	7	Darwin	3	A	2231.27
705051138	City - Remainder (Darwin)	7	Darwin	3.09	A	135.05
345057003	City (Townsville)	3	Northern (QLD)	3	A	1082.55
355052450	Cloncurry (S)	3	North West	8.86	R	0.10
705051024	Coconut Grove	7	Darwin	3	A	1427.63
350102504	Cook (S) - Weipa only	3	Far North	12	VR	325.10
350102501	Cook (S) (excl. Weipa)	3	Far North	10.82	VR	0.07
710050700	Coomalie (CGC)	7	Northern Territory - Bal	4.96	MA	0.91
710050759	Cox-Finniss	7	Northern Territory - Bal	5.27	MA	0.17
345057007	Cranbrook	3	Northern (QLD)	3	A	1895.83
350102600	Croydon (S)	3	Far North	11.33	VR	0.01
345057012	Currajong	3	Northern (QLD)	3	A	1452.50
345152700	Dalrymple (S)	3	Northern (QLD)	6.38	R	0.06
710200809	Daly	7	Northern Territory - Bal	8.21	R	0.10
545102800	Derby-West Kimberley (S)	5	Kimberley	11.82	VR	0.09
345057014	Douglas	3	Northern (QLD)	3	A	410.78
705102804	Driver	7	Darwin	3.25	A	1407.18
330152850	Duaringa (S)	3	Fitzroy	4.44	MA	0.44
705102806	Durack	7	Darwin	3.25	A	804.00
705101169	East Arm	7	Darwin	3.33	A	10.09
710251209	East Arnhem - Bal	7	Northern Territory - Bal	11.88	VR	0.18
710301409	Elsey - Bal	7	Northern Territory - Bal	9.79	VR	0.04
330153000	Emerald (S)	3	Fitzroy	6.15	R	1.38
350103100	Etheridge (S)	3	Far North	10.29	VR	0.04
705051028	Fannie Bay	7	Darwin	3.21	A	522.56
355053200	Flinders (S)	3	North West	10.03	VR	0.05
345057015	Garbutt	3	Northern (QLD)	3.01	A	224.43
705102808	Gray	7	Darwin	3.25	A	2164.50
710251609	Groote Eylandt	7	Northern Territory - Bal	12	VR	0.91

ASGC 2001 code	***SLA name***	***State code***	***Statistical division name***	***ARIA value***	***ARIA****	***Population Density***
710301809	Gulf	7	Northern Territory - Bal	11.86	VR	0.04
345057018	Gulliver	3	Northern (QLD)	3	A	1881.49
545053920	Halls Creek (S)	5	Kimberley	12	VR	0.03
345057023	Heatley	3	Northern (QLD)	3	A	2201.41
350103700	Herberton (S)	3	Far North	5.72	MA	0.53
345057026	Hermit Park	3	Northern (QLD)	3	A	1560.66
345057027	Hyde Park/Mysterton	3	Northern (QLD)	3	A	1276.36
335053850	Ilfracombe (S)	3	Central West (QLD)	11.46	VR	0.05
710152000	Jabiru (T)	7	Northern Territory - Bal	9.06	R	135.49
330154100	Jericho (S)	3	Fitzroy	9.56	VR	0.05
705051034	Jingili	7	Darwin	3	A	1392.40
705051038	Karama	7	Darwin	3	A	2349.32
710302200	Katherine (T)	7	Northern Territory - Bal	6.89	R	19.12
345106801	Kelso	3	Northern (QLD)	3.02	A	492.07
345106804	Kirwan	3	Northern (QLD)	3.02	A	1504.00
705051044	Larrakeyah	7	Darwin	3	A	1897.23
705051048	Leanyer	7	Darwin	3	A	1918.13
705051052	Lee Point-Leanyer Swamp	7	Darwin	3.63	A	25.92
705202304	Litchfield (S) - Pt A	7	Northern Territory - Bal	3.36	A	22.23
705202308	Litchfield (S) - Pt B	7	Northern Territory - Bal	3.96	A	4.97
330154550	Livingstone (S)	3	Fitzroy	3.37	A	2.30
335054700	Longreach (S)	3	Central West (QLD)	11.73	VR	0.19
705051054	Ludmilla	7	Darwin	3	A	494.85
345057031	Magnetic Island	3	Northern (QLD)	5.44	MA	64.37
705051058	Malak	7	Darwin	3	A	1933.81
350104850	Mareeba (S)	3	Far North	7.93	R	0.34
705051064	Marrara	7	Darwin	3.09	A	460.64
355054800	McKinlay (S)	3	North West	10.28	VR	0.03
705051068	Millner	7	Darwin	3	A	1665.19
705051074	Moil	7	Darwin	3	A	1942.45
355055250	Mornington (S)	3	North West	12	VR	0.77
705102814	Moulden	7	Darwin	3.25	A	1871.97
355055300	Mount Isa (C)	3	North West	8.94	R	0.52
345057033	Mt Louisa-Mt St John-Bohle	3	Northern (QLD)	3.14	A	123.94
345057034	Mundingburra	3	Northern (QLD)	3	A	1499.98
345057038	Murray	3	Northern (QLD)	3	A	374.64
705051078	Nakara	7	Darwin	3	A	1692.25
705051084	Narrows	7	Darwin	3	A	1677.50
340105700	Nebo (S)	3	Mackay	5.51	MA	0.25
710252409	Nhulunbuy	7	Northern Territory - Bal	12	VR	555.54
705051088	Nightcliff	7	Darwin	3	A	2218.05
345057041	North Ward-Castle Hill	3	Northern (QLD)	3	A	1397.61
345057044	Oonoonba-Idalia-Cluden	3	Northern (QLD)	3	A	222.64
345057047	Pallarenda-Shelley Beach	3	Northern (QLD)	3.17	A	27.54
705102824	Palmerston (T) Bal	7	Darwin	3.3	A	53.67
705051094	Parap	7	Darwin	3	A	1733.87
330155850	Peak Downs (S)	3	Fitzroy	6.32	R	0.41
345057051	Pimlico	3	Northern (QLD)	3	A	1759.30
345057054	Railway Estate	3	Northern (QLD)	3	A	666.98
705051098	Rapid Creek	7	Darwin	3	A	1622.05
355056300	Richmond (S)	3	North West	10.88	VR	0.04
345057058	Rosslea	3	Northern (QLD)	3	A	1305.90

ASGC 2001 code	*SLA name*	*State code*	*Statistical division name*	*ARIA value*	*ARIA**	*Population Density*
345057062	Rowes Bay-Belgian	3	Northern (QLD)	3.02	A	566.46
710153309	South Alligator	7	Northern Territory - Bal	7.31	R	0.08
345057065	South Townsville	3	Northern (QLD)	3	A	673.98
705051104	Stuart Park	7	Darwin	3	A	794.89
345057068	Stuart-Roseneath	3	Northern (QLD)	3.08	A	18.36
710353409	Tableland	7	Northern Territory - Bal	11.7	VR	0.01
335056650	Tambo (S)	3	Central West (QLD)	10.48	VR	0.06
705051108	The Gardens	7	Darwin	3	A	506.25
345106807	Thuringowa (C) - Pt A Bal	3	Northern (QLD)	3.38	A	123.97
345156831	Thuringowa (C) - Pt B	3	Northern (QLD)	3.79	A	4.23
705051114	Tiwi	7	Darwin	3	A	889.43
350106950	Torres (S)	3	Far North	12	VR	5.21
345157084	Townsville (C) - Pt B	3	Northern (QLD)	3.78	A	2.27
710304409	Victoria	7	Northern Territory - Bal	11.51	VR	0.02
345057071	Vincent	3	Northern (QLD)	3	A	2027.78
705051118	Wagaman	7	Darwin	3	A	2452.24
705051124	Wanguri	7	Darwin	3	A	1786.19
710154809	West Arnhem	7	Northern Territory - Bal	10.4	VR	0.07
345057074	West End (Townsville)	3	Northern (QLD)	3	A	1264.90
705051128	Winnellie	7	Darwin	3.05	A	150.24
335057400	Winton (S)	3	Central West (QLD)	11.49	VR	0.04
705102818	Woodroffe	7	Darwin	3.25	A	2132.07
705051134	Wulagi	7	Darwin	3	A	1940.33
345057078	Wulguru	3	Northern (QLD)	3.01	A	949.71
545059520	Wyndham-East Kimberley (S)	5	Kimberley	12	VR	0.09

* A = Accessible, MA = Moderately Accessible, R = Remote, VR = Very Remote

Appendix 2—Remoteness values according to ARIA

Table 79 ARIA Values, 1999 and 2001 (Source: DHAC 1999, 2001)

ARIA classes	*ARIA+ score range in the Class (2001)*	*ARIA score range in the class (1999)*	*Per cent population 1996*	*Description*
Highly Accessible	0 to 0.19	0 to 1.84	60.70%	Geographic distance imposes minimal restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Accessible	0.2 to 2.39	1.85 to 3.51	24.60%	Geographic distance imposes some restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Moderately Accessible	2.4 to 5.94	3.52 to 5.8	11.70%	Geographic distance imposes a moderate restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Remote	5.95 to 10.49	5.8 to 9.08	2.00%	Geographic distance imposes a high restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Very Remote	10.5 to 15	9.09 to 12	1.00%	Geographic distance imposes the highest restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.

Appendix 3—Australian tropical savanna region Urban Centres and Localities

Table 80 **List of savanna urban centres and localities (Source: ABS 2003g)**

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Per cent change
Queensland Urban Centres and Localities				
300320	Alice River	1359	1161	17.1%
300400	Alligator Creek (L)	976	778	25.4%
301000	Alpha (L)	367	395	-7.1%
301400	Aramac (L)	323	342	-5.6%
301600	Arcadia Bay (L)	764	638	19.7%
302200	Aurukun (L)	999	778	28.4%
302400	Ayr	8515	8697	-2.1%
302700	Badu Island	219	n.a.	
302900	Balgal Beach (L)	641	563	13.9%
303000	Bamaga (L)	774	756	2.4%
303400	Barcaldine	1496	1592	-6.0%
305400	Blackall	1404	1432	-2.0%
306000	Blackwater	4928	5931	-16.9%
306800	Bluff (L)	317	431	-26.5%
306930	Bohle Plains	1075	987	8.9%
307600	Boulia (L)	290	243	19.3%
307800	Bowen	8550	8985	-4.8%
308200	Brandon (L)	850	883	-3.7%
309300	Burketown (L)	221	220	0.5%
309850	Bushland Beach	1664	n.a.	
311000	Camooweal (L)	243	258	-5.8%
311600	Capella (L)	760	741	2.6%
313400	Clermont	2042	2388	-14.5%
314000	Cloncurry	2748	2459	11.8%
314150	Coen (L)	308	n.a.	
314200	Collinsville	2013	2021	-0.4%
314400	Cooktown	1638	1411	16.1%
315050	Cooya Beach (L)	558	n.a.	
316100	Croydon (L)	224	223	0.4%
316340	Cungulla (L)	203	213	-4.7%
316700	Darnley Island (L)	313	n.a.	
317200	Deeragun	5631	2314	143.3%
317400	Dimbulah (L)	409	429	-4.7%
317800	Doomadgee	1119	754	48.4%
318000	Duaringa (L)	258	276	-6.5%
318400	Dysart	2463	3444	-28.5%
320200	Emu Park	2706	2788	-2.9%
322200	Georgetown (L)	318	298	6.7%
322600	Giru (L)	379	436	-13.1%
323200	Glenden (L)	977	1329	-26.5%
325300	Gununa (L)	845	n.a.	

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Per cent change
326120	Hammond Island	204	n.a.	
326800	Herberton (L)	946	994	-4.8%
327600	Home Hill	2946	3071	-4.1%
327800	Hope Vale (L)	750	706	6.2%
327850	Horn Island (L)	583	n.a.	
327900	Horseshoe Bay (L)	590	528	11.7%
328200	Hughenden	1424	1444	-1.4%
328950	Injinoo (L)	389	337	15.4%
330200	Julia Creek (L)	525	519	1.2%
330600	Kalamia Estate (L)	363	363	0.0%
331000	Karumba	1346	1043	29.1%
331600	Keppel Sands (L)	339	318	6.6%
333200	Kowanyama (L)	891	912	-2.3%
333600	Kuranda	1456	666	118.6%
334400	Lockhart River (L)	454	504	-9.9%
334600	Longreach	3673	3766	-2.5%
335100	Mabuiag Island (L)	214	n.a.	
336800	Mareeba	6900	6874	0.4%
337300	Marpuna (L)	215	n.a.	
337600	Merinda (L)	210	270	-22.2%
337800	Middlemount	2057	2132	-3.5%
340400	Moranbah	6133	6508	-5.8%
341200	Mount Garnet (L)	417	406	2.7%
341400	Mount Isa	20525	21751	-5.6%
343100	Murray Islands (L)	426	n.a.	
343550	Nebo (L)	234	n.a.	
343600	Nelly Bay	1311	1236	6.1%
343900	New Mapoon (L)	326	276	18.1%
344600	Normanton	1447	1328	9.0%
344700	Oak Beach (L)	299	n.a.	
345000	Pallarenda (L)	882	884	-0.2%
346000	Picnic Bay (L)	577	575	0.3%
347140	Pormpuraaw (L)	649	553	17.4%
348400	Ravenshoe (L)	830	867	-4.3%
348500	Ravenswood (L)	346	n.a.	
348800	Richmond (L)	641	733	-12.6%
350100	Saibai Island (L)	319	n.a.	
350850	Saunders Beach (L)	485	n.a.	
350050	St Pauls (L)	200	283	-29.3%
352205	Talbot Island (L)	270	n.a.	
352600	Tambo (L)	359	378	-5.0%
355200	Thursday Island	2693	2483	8.5%
356450	Toolakea	205	n.a.	
355400	Tieri	1637	1591	2.9%
358100	Umagico (L)	253	231	9.5%
359300	Warraber Island (L)	216	n.a.	
360400	Winton	1321	1142	15.7%

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Per cent change
361800	Woorabinda (L)	961	1119	-14.1%
362150	Yam Island (L)	340	n.a.	
363000	Yeppoon	10778	8810	22.3%
363100	Yorke Island (L)	292	n.a.	
Western Australia Urban Centres and Localities				
500920	Bardi (One Arm Point) (L)	310	312	-0.6%
500930	Bayulu (L)	245	n.a.	
500950	Beagle Bay (L)	300	285	5.3%
502400	Broome	15906	11368	39.9%
507000	Derby	3688	3236	14.0%
509200	Fitzroy Crossing	1507	1147	31.4%
511000	Halls Creek	1289	1263	2.1%
512440	Kalumburu (L)	339	368	-7.9%
514200	Kununurra	5485	4884	12.3%
514600	La Grange (L)	511	557	-8.3%
516400	Looma (L)	287	359	-20.1%
527900	Warmun	319	n.a.	
530700	Yungngora (L)	256	n.a.	
Northern Territory Urban Centres and Localities				
700100	Adelaide River (L)	228	279	-18.3%
700400	Alyangula (L)	972	1231	-21.0%
700600	Angurugu (L)	758	717	5.7%
700800	Bamyili (Barunga) (L)	346	249	39.0%
701000	Batchelor (L)	727	645	12.7%
701160	Belyuen (L)	214	234	-8.5%
701400	Borroloola (L)	769	551	39.6%
701450	Cooinda	441	n.a.	
701800	Daly River (L)	621	349	77.9%
702000	Darwin	71347	70251	1.6%
702400	Elliott (L)	419	432	-3.0%
702600	Galiwinku	1463	1286	13.8%
702640	Gapuwiyak (L)	668	447	49.4%
702690	Gulin Gulin-Weemol (L)	245	n.a.	
702700	Gunyangara (L)	260	368	-29.3%
702870	Howard Springs	3440	3207	7.3%
702920	Humpty Doo-McMinns Lagoon	5245	4798	9.3%
703200	Jabiru	1775	1696	4.7%
703600	Katherine	6719	7979	-15.8%
703900	Lajamanu (L)	705	591	19.3%
703980	Mandorah (L)	250	n.a.	
704000	Maningrida	1645	1328	23.9%
704070	Mataranka (L)	499	667	-25.2%
704200	Milikapiti (L)	450	456	-1.3%
704400	Milingimbi (L)	992	941	5.4%
704450	Minjilang (L)	204	207	-1.4%
704600	Nguiu	1310	1194	9.7%
704800	Ngukurr (L)	933	904	3.2%

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Per cent change
705000	Nhulunbuy	3804	3695	2.9%
705200	Numbulwar (L)	717	619	15.8%
705400	Oenpelli (L)	858	741	15.8%
705500	Palmerston	20570	12233	68.2%
705650	Peppimenarti (L)	210	n.a.	
705800	Pine Creek (L)	472	521	-9.4%
705870	Pirlangimpi (L)	369	285	29.5%
706000	Port Keats	1048	1290	-18.8%
706400	Ramingining (L)	613	473	29.6%
706860	Timber Creek (L)	300	566	-47.0%
706950	Umbakumba (L)	372	391	-4.9%
707020	Virginia-Bees Creek	2573	2173	18.4%
707600	Warruwi (L)	331	294	12.6%
707800	Yirrkala (L)	648	521	24.4%

Appendix 4—Sustainability indicators

Table 81 Environment Australia (2002b) Sustainability indicators

Values	Indicator
1. Living standards and economic well-being	1. Real Gross National Income (GNI) (1998-99 prices) per capita in 1999-2000
	2. Real Gross per capita disposable income at June 2000 (1998-99 prices)
2: Education and skills	3. Percentage of people aged 25-64 who have attained upper secondary and/or higher level of qualifications at 2000
3: Healthy living	4. Disability adjusted years life expectancy (DALE) at 1996
4: Air quality	5. Number of occasions where concentrations of pollutants exceeded NEPM standards for ambient air quality in major urban areas in 1999- 2000
	6. Total SOx, NOx and particulate emissions in 1999-2000
5: Economic capacity	7. Growth in Multi-factor Productivity (Gross product per combined unit of labour and capital) for latest year (1999-2000)
6: Industry performance	8. Real GDP per capita in 1999-2000 (chain volume measures, 1998-99 prices)
7: Economic security	9.(i) National Net Worth as at 30th June 2000
	9.(ii) National Net Worth per capita at 30th June 2000
8: Management of natural resources: water	10.(i)Proportion of surface water management areas with diversions within 70% of sustainable yield at 2000
	10.(ii)Proportion of ground water management units with abstractions within 70% of sustainable yield at 2000
9: Management of natural resources: forests	11. Total area of all forest type at 1998
10: Management of natural resources: fish	12. Percentage of major Commonwealth managed harvested wild fish species classified as fully or under-fished at 1999
11: Management of natural resources: energy	13. (i) Renewable energy use as a proportion of total in 1998-99
	13. (ii) Total renewable and non-renewable energy use (includes conversion losses) in 1998-99
12: Management of natural resources: agriculture	14. Net value of rural land (Interim indicator - Agreed indicator: 'net value of agricultural land use' not yet available) at June 2000
13: Gender and economic equity	15. Adult female full-time (ordinary time) average weekly earnings as a proportion of adult male full-time (ordinary time) average weekly earnings at February 2001 (seasonally adjusted)
14: Educational and economic equity	16. Percentage difference in the year 12 completion rate between bottom and top socio-economic decile in 1999
15: Health and socio-economic equity	17. (i) Percentage difference in burden of life years lost due to disability between bottom and top socio-economic quintile in 1996
	17. (ii) Percentage difference in burden of life years lost due to mortality between bottom and top socio-economic quintile in 1996
16: Locational equity	18. Percentage difference in the year 12 completion rate between urban and remote locations in 1999
17: Biodiversity and ecological integrity	19. (i) Proportion of bio-geographic sub-regions with greater than 30 per cent of original vegetative cover (as a percentage of 354 sub regions) at 2000
	19. (ii). Proportion of (354) bio-geographical sub-regions with greater than 10% of the sub-region's area in protected areas at 2000
	20. (i) Number of extinct, endangered and vulnerable species at 2000
	20. (ii) Number of endangered ecological communities at 2000

18: Climate change	21. Total net greenhouse gas emissions at 1999
19: Coastal and marine health	22. Estuarine condition index: Proportion of estuaries in near pristine or slightly modified condition at 2001
20: Freshwater health	23. Proportion of assessed sites which are with high in-stream biodiversity, based on macro-invertebrate community structure assessed using AusRivAs (as at April 2001)
21: Land health	24. Catchment condition Index - proportion of assessed catchments that are in moderate or good condition in 2001.

Appendix 5—Site descriptions

The following pages provide brief descriptions for each of the four case study sites. Each description includes: a map showing localities and general geography of the site (note that scales differ for each map); a short introduction; a description of the location including proximity to notable features/major centres; brief field observations, including nature of industry at the site, and notes on the social environment; and a short summary of the interaction of education and learning with the communities of the site.

The sites are described as Howard Springs (page 431), Palmerston (page 433), Bowen Basin (page 435) and West Arnhem (page 437). The purpose of these site descriptions is simply to place the case studies in their social and geographic context and to provide the reader with some background information.

Site 1: Peri-urban lifestyle community, 'Howard Springs'

Introduction

The Howard Springs site is described as a peri-urban lifestyle community because it sits just outside the main urban centres of Darwin and Palmerston, and while it has a growing population, it is essentially a commuter zone for the main centres. People choose to live in the area and work elsewhere. They do so in part because of the semi-rural lifestyle—the area is divided into a 'five acre blocks'. Its 'characteristic rural lifestyle [is] recognised as an affordable alternative to urban living' (DIPE 2002:A1).. Interspersed among these five acre blocks are a number of horticultural enterprises.

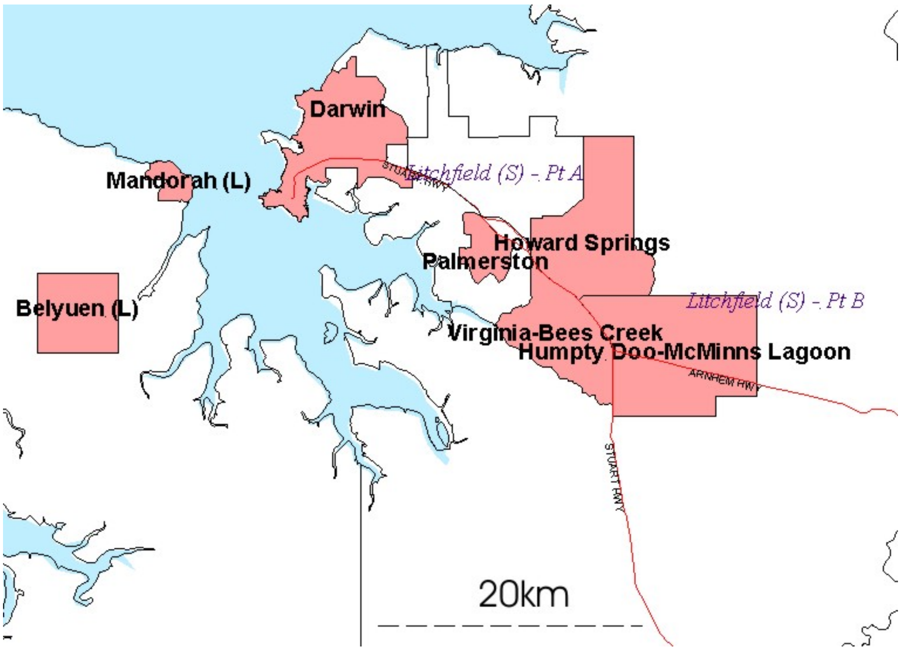
Darwin
Mandorah (L)
STUART HWY
Litchfield (S) - Pt A
Howard Springs
Palmerston
Belyuen (L)
Litchfield (S) - Pt B
Virginia-Bees Creek
Humpty Doo-McMinns Lagoon
ARNHEM HWY
STUART HWY
20km

Figure 47 Location map for the Howard Springs site

Location

The Howard Springs site encompasses a number of small rural communities just to the south-east of Palmerston, including Howard Springs, Virginia, Bees Creek, Humpty Doo, McMinns Lagoon, Berry Springs and Girraween. The map in Figure 47 shows the main locality boundaries defined by the Australian Bureau of Statistics.

General observations

The site's main industry base is horticulture. Apart from rural residences on five acre blocks, the region is dotted with mango farms and other horticultural enterprises that include cut flowers, rambutans, bananas and citrus fruits.

Education and training

The site is characterised by a high proportion of vocational skills, with around 22 per cent of the 15+ population holding a vocational qualification. However there are few places in the site where formal training takes place. A notable exception is the area's high school, which has a strong VET in Schools program.

Site 2: Urban growth community, ‘Palmerston’

Introduction

Palmerston is a small and rapidly growing city on the fringes of Darwin. Many people live in the city and work in Darwin.

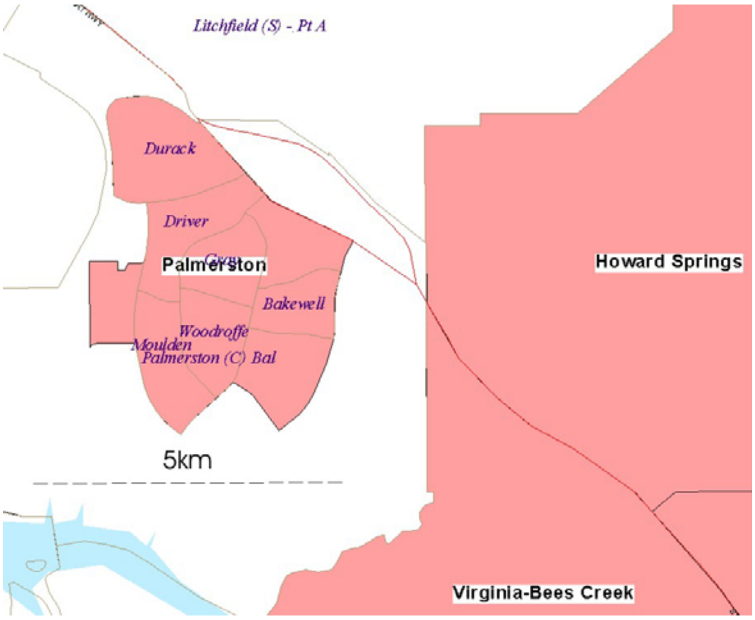
Litchfield (S) - Pt A
Durack
Driver
Palmerston
Gray
Bakewell
Woodroffe
Moulden
Palmerston (C) Bal
Howard Springs
5km
Virginia-Bees Creek

Figure 48 Location map of the Palmerston site

Location

The Palmerston site includes the region in and around Palmerston city shown on the map above. The city sits on the fringes of Darwin and in some ways is considered to be a part of Darwin.

General observations

Palmerston is a small but rapidly growing city (around 25,000 people) just out of the Darwin city boundary. Between 1996 and 2001 it recorded the fastest growth of any urban area in the Northern Territory (DIPE 2003) It lacks the infrastructure that could be expected from a more established city of that size. This can at least be partly attributed to the high growth rate in the period 1996-2001 which ‘stretched the capacity of existing services and facilities’ (SKM 2003). Because of its proximity to Darwin, the immediate need for infrastructure including hospitals, government services etc.) are not apparent. Parts of Palmerston could be described as socio-economically disadvantaged (especially Moulden and Gray) with high proportions of single parents. By contrast, Marlow Lagoon, is characterised with high incomes and high labour force participation among mothers (ABS 2003p). Approximately 11 per cent of the population are Indigenous.

Education and training

The Palmerston City Council and the Northern Territory Government entered into a collaborative *Partnership Agreement* (NT Government/PCC 2003) in 2003 aimed at 'promoting sustainable social, cultural, environmental and economic development that will benefit the Palmerston community and the wider region'. An important component of the Agreement is about improving social and economic outcomes for youth, reflected in strategies developed by a school to work working group.

Site 3: Mining communities, 'Bowen Basin'

Introduction

The Bowen Basin is a large area of central Queensland characterised primarily by a large number of small coal mining communities.

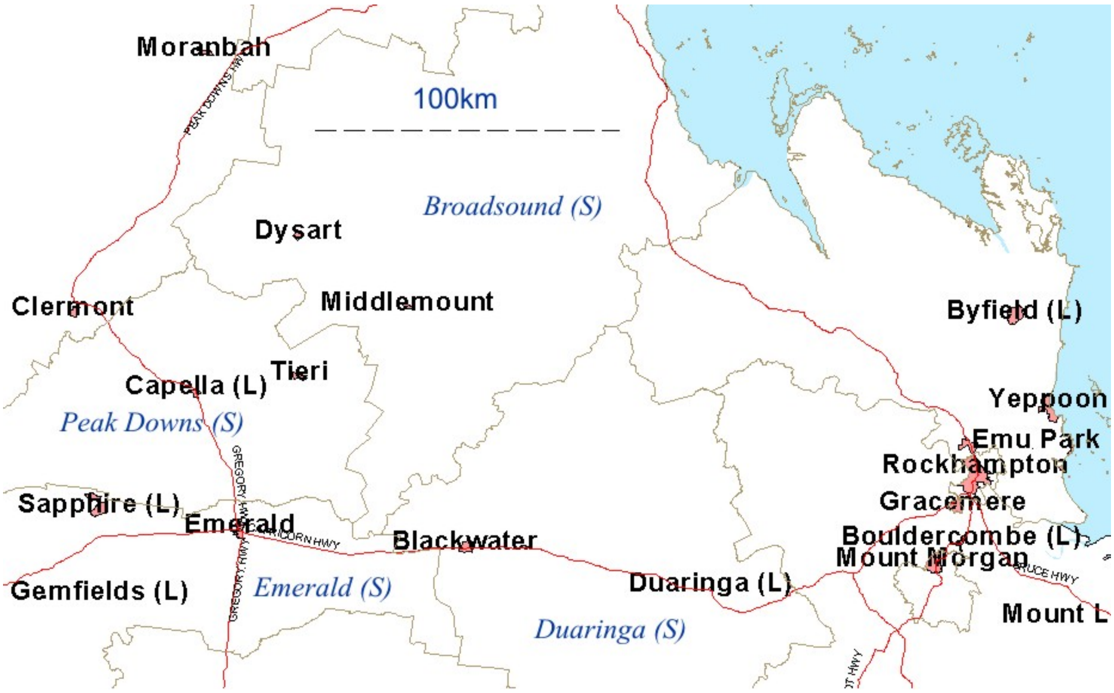
Moranbah
100km
Broadsound (S)
Dysart
Clermont
Middlemount
Byfield (L)
Tieri
Capella (L)
Peak Downs (S)
Yeppoon
Emu Park
Rockhampton
Gracemere
Sapphire (L)
Emerald
Blackwater
Bouldercombe (L)
Mount Morgan
Gemfields (L)
Emerald (S)
Duaringa (L)
Mount L
Duaringa (S)
PEAK DOWNS HWY
GREGORY HWY
CAPRICORN HWY
BRUCE HWY

Figure 49 Location map of the Bowen Basin site

Location

The Bowen Basin is located in a region to the west of Rockhampton and Mackay. The coal mining region extends several hundred kilometres from south of Emerald to north of Moronbah.

General observations

While the coal mining communities of the Bowen Basin are relatively small and isolated they tend to be well equipped in terms of infrastructure. Each community has a range of sporting, shopping, leisure and education facilities. Most of the communities exist for no other purpose than mining. In recent years the populations of many communities has declined due to changes in working arrangements that encourage fly-in fly-out work.

Education and training

A range of education and training opportunities exist for communities in the Bowen Basin. TAFE and Central Queensland University campuses exist in Rockhampton, Emerald and Mackay. Most of the small communities have well-equipped public schools.

Site 4: Indigenous interface communities, ‘West Arnhem’

Introduction

The West Arnhem site includes diverse interests associated with tourism, Kakadu National Park, the ERA Ranger uranium mine and Indigenous traditional owners.

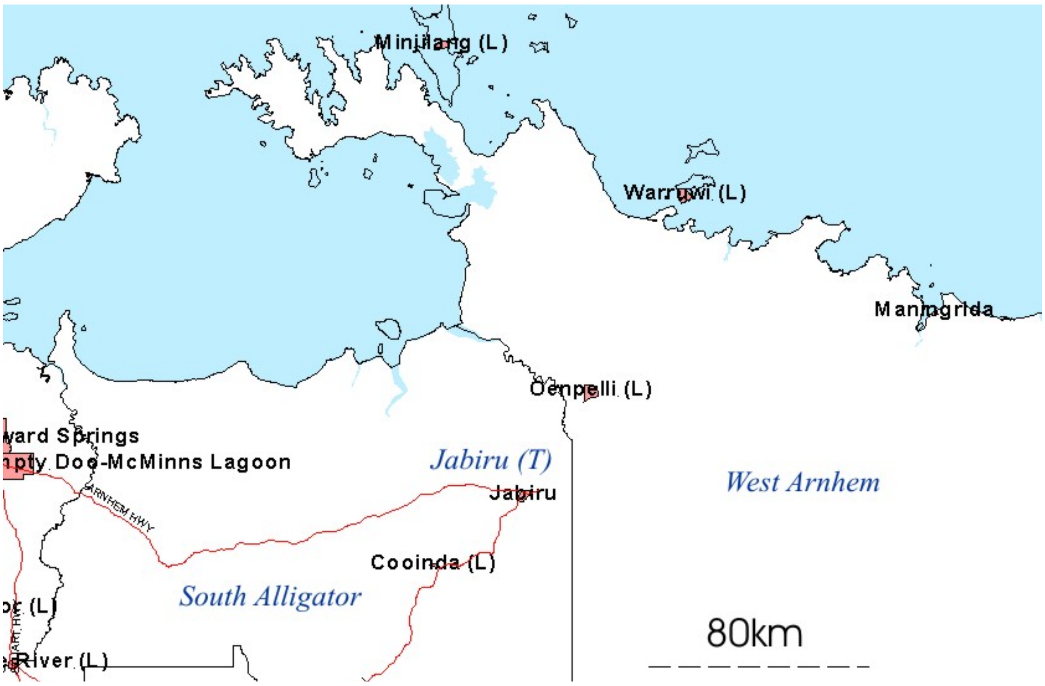
Minjilang (L)
Warruwi (L)
Maningrida
Oenpelli (L)
ward Springs
pty Doo-McMinns Lagoon
Jabiru (T)
Jabiru
West Arnhem
ARNHEM HWY
Cooinda (L)
South Alligator
c (L)
STUART HWY
River (L)
80km

Figure 50 Location map for the West Arnhem site

Location

The West Arnhem site is loosely based around a region near Jabiru and Oenpelli but includes activities that occur throughout a wider region. Jabiru is located about 250km east of Darwin and is accessible year round. Beyond Jabiru access is restricted to four wheel drive vehicles and is limited in the wet season due to flooding of the East Alligator River, a few kilometres west of Oenpelli. Examples in the case are drawn from providers and participants in Maningrida, Croker Island and Goulbourn Island.

General observations

The region has a diverse industry and community base. Tourism figures prominently as an industry. Kakadu National Park is in the heart of the region. The population of the region swells in the dry season because of the popularity of the Park. Uranium mining at Jabiru also provides economic stimulus for the region. It does however create a point of tension with the interest of the National Park. A number of Indigenous communities are scattered through the region, the largest being Oenpelli, with a population of about 1000.

Education and training

Schools at Jabiru and Oenpelli provide basic the education requirements for children in the area. DEET and CDU operate regional centres at Jabiru, which cater for the diverse interests of the wider region. Several vocational education and training opportunities exist throughout the site because of the strength of tourism and mining.

Appendix 6—Organisations represented

Table 82 Organisations (sorted alphabetically) represented in interview sample

Organisation name	Interviews by type of organisation Community	Government	Industry	Provider	Trainee	Grand Total
Advanced Training International				1		1
AIM Bible College-NT				1		1
Anglicare	1					1
Anglo-Coal Australia			1			1
Arnhem Land Progress Association				1		1
Assessing and Training Centre				1		1
Australasian Safety Training				1		1
Australian Army Cadet Training				1		1
Australian Army: Regional Training Centre			1			1
Batchelor Institute				2		2
BHP Billiton			1			1
BHP Mitsubishi Alliance	1		1			2
Centacare	1					1
Central Highlands Development Corporation	1					1
Central Highlands Safety Services				1		1
Central Highlands TAFE				1		1
Central Queensland TAFE				2		2
Centrelink		1				1
Charles Darwin University				6	1	7
CHARTTES			1			1
Citrus/mango/rambutan grower			1			1
Community Development Officer	1					1
Corporate Response Pty Ltd				1		1
Correctional Services		1				1
DEMED/CDEP				1		1
Department of Environment and Heritage		2				2
Queensland Department of State Development		1				1
Don Dale Centre		2				2
Dovaston Training				1		1
Dysart Training Centre				1		1
Energy Resources Australia			1			1
Entity1				1		1
FarmBis		1				1
Gagadju Holiday Inn			1			1
Group Training Northern Territory				1		1
Indigenous Education Division		1				1
Institute of Sustainable Regional Development		1				1
Jabiru Sustainability Working Group	1					1
Jobfind	1					1
Jabiru Orchards			1			1

Organisation name	Interviews by type of organisation					
	Community	Government	Industry	Provider	Trainee	Grand Total
Kunbarllanjnja Community Government Council		1				1
Landcare		1				1
Learning Network Queensland				1		1
Lennon Training				1		1
McMinns Lagoon Association	1					1
Member of Parliament		4				4
Middlemount School				1		1
Mission Australia	1					1
Norforce				1	2	3
Northern Land Council	1					1
Northern Territory Chamber of Commerce and Industry			1			1
Northern Territory Christian School Association				1		1
Northern Territory Fire and Emergency Service				2		2
Northern Territory Training Institute Pty Ltd				1		1
NT Department of Business Industry and Resource Development		1				1
NT Department of Education, Employment and Training		4				4
NT Department of Health and Community Services		2				2
NT Horticultural Association			2			2
NT Tourism Commission		1		1		2
Odyssey Tourism and Safaris			1			1
Palmerston City Council		2		1		3
Queensland Department of Communities		1				1
Queensland Department of Education and Training		1				1
SIL Darwin Incorporated				1		1
Skinnyfish Music			1			1
St John Ambulance				1		1
Super Cheap			1			1
Taminmin High School				1		1
Territory Construction Association			2			2
Tourism Council			1			1
Darwin TRAC				1		1
Traditional Credit Union			1			1
Training Solutions				1		1
UBQ				1		1
Women in Primary Industry			1			1
Woolworths (Leanyer)			1			1

	Interviews by type of organisation					
Organisation name	Community	Government	Industry	Provider	Trainee	Grand Total
Grand Total	10	28	21	40	3	102

Appendix 7—Information sheet, consent form and interview schedule

The following pages include the following documents used in combinations for interview/respondent purposes:

Participation information (page 443);

Statement of informed consent (page 445); and

Interview schedule (page 446)

Slight variations in formatting have been made to enable the documents to fit within the layout of the whole document.

Vocational Education and Training (VET) as a tool for regional planning and management in savanna communities.

Participant information

Chief investigator

John Guenther (PhD Candidate—Faculty of Education, Health and Science, Charles Darwin University)

Aims of the research

VET is most often thought about as a way of getting or building skills needed for a job. There are however all sorts of reasons why people participate in VET programs—not just for employment. This project aims to discover how VET (and education and learning more generally) contributes to the broader needs of communities of the tropical savanna region of northern Australia. You have been asked to participate because of your involvement as one who either has an interest in education and learning within this community/region, or in some way supports/provides training and education.

Benefits

Given that VET is not just about job skills, this research will provide valuable insight into ways that education and learning contributes to the life of a community. It will give those communities involved in the project a chance to provide models that could be applied in other regional areas of Australia. More specifically, the research will be of benefit to VET planners, who will be better able to make decisions about the use of VET to meet the diverse needs of the savanna region.

How and why you can help

If you choose to participate in this project you would be expected to join in either a focus group discussion, an interview and/or a short questionnaire. Discussions and interviews may be audio-taped for future reference. This will take place at a mutually convenient time. Your contribution forms part of a case study, which is particularly focussed on hearing stories about education and learning in your community.

Confidentiality

Your participation will be confidential. Survey forms, audio-tapes and other documents will not be named. While comments may be used these will be name and place de-identified. Every reasonable effort will be made to ensure that documents relating to your participation will be secure.

Discomforts and risks

The interview or survey will not be asking you any personal questions. Transcripts of audio-tapes (where used) will be available for review if requested to ensure that you are satisfied with your contribution.

Voluntary participation

Your participation is entirely voluntary. You may also choose to withdraw from the project at any time after commencing. In the event of withdrawal, any data collected from you would be disregarded and destroyed. Before commencing you are asked to sign a statement of informed consent.

Results

On completion, you will be sent a summary paper detailing the findings of the research.

Contact persons

If you have any questions about the project you can contact the researcher at any time:
John Guenther,
Phone: 0412 125661
Email: john@catcom.com.au

Other questions relating to Charles Darwin University or concerns about this process can be directed to:
Executive Officer,
Charles Darwin University
Human Research Ethics Committee
Phone: 08 8946 7064

VET as a tool for regional planning and management in savanna communities.

Chief investigator: John Guenther (PhD candidate, Charles Darwin University)

Statement of informed consent

This form must be signed and given to the Chief Investigator before your responses can be recorded. This can be done at the time of interview or sent back together with survey forms.

I, ... of ....

hereby consent to participate in the project described above by John Guenther, a student of Charles Darwin University. I understand that the purpose of the research is to discover how VET contributes to the broader needs of communities of the tropical savanna region of northern Australia.

I acknowledge that:

1. the aims, methods and expected benefits as well as the possible risks of the study, have been explained to me by the Chief Investigator;
2. my participation is entirely voluntary;
3. I can choose to withdraw from the study at any time—the results of any data collected up to the time of withdrawal will be destroyed and disregarded;
4. the aggregated results of the study may be reported in journals or at conferences;
5. my personal details will remain confidential.

Signed: .... Date: ....

Witness:... Date:..

Post back to:
John Guenther
PO Box 469, Ulverstone, TAS. 7315

Or Fax back to
John Guenther
c/- Tropical Savannas CRC, Charles Darwin University, Darwin
Fax no: **08 8946 7101**

Or scan and email back to:
john@catcom.com.au

VET as a tool for regional planning and management in savanna communities

Interview schedule

Information and consent

Refer to information sheet supplied prior to this interview. Consent form must be signed and completed before responses can be accepted. Questions can be answered either by writing in the spaces, providing verbal answers in a face to face interview, by telephone or as part of a focus group.

Instructions

Record your answer in the space provided. Brief notes are sufficient. Place a tick in the box where it is appropriate. If you need to write more than the space provides, write on the back of the page with a note showing the question number/section you are referring to.

Section 1: You and your community

1. Please describe your involvement in this community?

This question explores your involvement in this community in terms of your job, your organisational involvement, your involvement in VET and your involvement in networks generally. Community throughout this interview means the place/area/locality where you live.

a. The place you live in: .... *[name of town/locality].*

b. What are the organisations you are involved with*?(list the names of all organisations you belong to as a member/participant/worker—voluntary or otherwise)* ....
....
....
....

c. What is your main paid job?
[your occupation] ....
[industry you are involved in] ....

If you don't have a paid job, tick the box then go to (e) .... ☐

d. Where is your main paid job?

in this community? .... ☐

in a different place? .... ☐

e. What connection do you have with vocational education and training (VET)?

You are/have been a training provider *[name of provider?]:* .... ☐

You are/have been a training participant *[who with?]*....................................... ☐

You help/have helped coordinate training *[who for?]* .... ☐

You use trainees *[from where?]* .... ☐
You are involved in VET in some other way *[please describe]* ....

.... ☐

You really don't have any involvement in VET .... ☐

f. What kind of networks and partnerships are you involved in?
Describe or name the partnership/network arrangement you are involved with

....

....

g. The partners/stakeholders/organisations involved include

Businesses/enterprises.. ☐

Government bodies *[what kind/level?]* .... ☐

Industry bodies *[which ones?]*... ☐

Education and training bodies *[what kind/level?]*.. ☐

Volunteer/community organisations .... ☐

Others? *[what kind]*... ☐

None at all .... ☐

Section 2: Education and learning in your community

2. Describe how education and learning benefits the following…

You may like to think of this in terms of health, education, work, social, safety, environment, leisure, economic benefits etc. 'Education and learning' refers to both informal and formal learning outside of the typical primary or secondary education stream but does include VET in Schools.

a. Individuals/participants/trainees

....

....

....

b. Businesses/industry groups/enterprises

....

....

....

c. The community as a whole

....

....

....

d. Minority groups *[such as?]*...

....

....

....

e. Indigenous groups
....
....
....

f. Voluntary groups/community organisations/not for profit groups
....
....
....

3. Who are the ‘drivers’ of education and learning in the community?

These are individuals or groups that promote the cause of learning and education in the community. Education and learning can include formal or informal training within or outside the VET system. Names you mention will not be used but if you prefer you may wish to say what kind of person or what kind of group you are referring to.

a. Who are the individuals? *[for example they might be community leaders in a particular area]* ....
....
....

b. What partnerships/networks promote education and learning? *[groups that come together with representation from several community/industry/education/government bodies]*...........
....
....

c. What are the businesses/employers/industry groups? *[individual employers, chambers of commerce, industry associations]* ....
....

d. Education and training providers? *[schools, universities, private VET providers, public VET providers]* ....

e. Government organisations? *[local/community councils/members of parliament/government departments, funding bodies]*...
....

4. Can you give an example of a learning program/course that you have observed or been involved with in this community that has been effective?

This may have been something you have experienced first hand or something you have heard about, read about or seen the results of. Leave options blank if you aren’t sure of the specific details. The program can be formal or informal and does not have to be a typical VET program.

a. What kind of program was it?

.... Part-time ☐ or full-time ☐

What was the course called or what was it about?..
....

Who was the provider/trainer/teacher ....

....

What level was the course? ......Basic ☐ or intermediate ☐ or advanced ☐

b. Who were the participants? *[what kind of people?]*...
....

c. Who benefited most from the program? *[what kind of people?]*.......................................
....

d. What about the program/course made it effective*? [for example was it the level of trust, the resource sharing that went on, the networks/social connections that were formed, the level of cooperation present, the content of the course, meeting needs of individuals?]*..............
....
....

e. Would you describe it as a 'quality' program? Yes ☐, No ☐ or Unsure ☐

If 'Yes', what about it made it that way? *[was it the providers, delivery method, funding, educational value, outcomes, meeting needs]*..
....
....

5. **What would make education and learning programs in this community more effective?**

Think about this in terms of outcomes for the community as a whole.

a. Are there things relating to providers that would help?...
....
....

b. Are there things relating to funding that would help?..
....
....

c. Would better strategic planning or matching programs to needs help?.......................
....
....

d. Are there facilities or infrastructure needs?...
....
....

e. Are there other things that would make a difference? ....
....
....

Please return to:

John Guenther

Email: john@catcom.com.au

Post: PO Box 469, Ulverstone, TAS. 7315

Fax: 08 8946 7107

Appendix 8—Coding framework

This appendix details the coding framework that emerged for each node and child along with definitions (in italics).

(1) Beneficiaries

Who benefits from education and learning

- (1 1)Individuals

  Trainees and participants

  - (1 1 1)Technical

    provides technical skills for individuals to be able to do their job better

  - (1 1 2)Employment

    Provides a pathway to employment

    - (1 1 2 1)Prerequisite

      Skills are required before commencement

    - (1 1 2 2)Requisite

      Skills are required for the job by the employer

    - (1 1 2 3)Quality

      Improves the quality of work done

  - (1 1 3)Confidence

    training builds personal confidence

  - (1 1 4)Esteem

    training builds self-esteem

  - (1 1 5)Social

    Training is a catalyst for social interaction or improved/better behaviour

  - (1 1 6)Career

    Training provides a career pathway

    - (1 1 6 1)Employment pathways

      its about job choice, being able to take advantage of employment options

    - (1 1 6 2)Education pathways

      Pathways to further education and training

  - (1 1 7)Income

    Training is a way of increasing earning capacity

  - (1 1 8)Leadership

    Training provides leadership skills

  - (1 1 9)Problem solving

Enhances individuals' problem solving skills

(1 1 10)Qualification

Individuals gain a qualification, accreditation, ability to use skills in a variety of vocaitonal contexts

(1 1 11)Empowerment

Training empowers individuals, helps achieving goals, sense of achievement

(1 1 12)Learning skills

Developing skills for lifelong learning

(1 1 13)Decision making

Helps validate choices

(1 1 14)Safety

Health and well-being

(1 2)Industry

Employers

(1 2 1)Skills

Skill requirements are met

(1 2 1 1)Accredited

(1 2 1 2)Transferable

(1 2 1 3)Shortages

Demand for skills which are in short supply drives provision

(1 2 2)Competitiveness

Training improves competitive edge

(1 2 3)Risk

Training reduces risk, used as a risk management tool

(1 2 4)Productivity

Efficiency, return on investment, production issues

(1 2 5)Strategic direction

Industry benefits in terms of the strategic benefit for the future

(1 2 6)Customer service

(1 3)Community

The whole community

(1 3 1)Health

Health and safety issues

(1 3 2)Social Capital

Training builds trust, enhances networks, aids cohesion etc

(1 3 2 1)Trust

(1 3 2 2)Bonds

Internal networks

(1 3 2 3)Bridges

Connections between groups in the community

(1 3 2 4)Links

Links outside the community

(1 3 2 5)Norms

Establishes/reinforces the norms of a community

(1 3 2 6)Collaboration

catalyst for collaboration and cooperation

(1 3 2 7)Cohesion

Aids community cohesion

(1 3 3)Civic

Training adds to civic participation

(1 3 4)Skill transfer

Skills and knowledge are passed on to others in the community

(1 3 5)Empowerment

Training empowers whole communities

(1 3 6)Environment

Environmental benefits from training

(1 3 7)Safety

Safety in terms of fire, policing, security

(1 3 8)Youth retention

Retention of young people in the community and in school

(1 3 9)Wealth

(1 4)Indigenous

Benefits for Indigenous people

(1 4 1)Employment

Enhances employment prospects

(1 4 2)Governance

Enhances community governance

(1 4 3)Health

Improves physical and mental health and well-being

(1 4 4)Reconciliation

Improves relationships with non-Indigenous people

(1 4 5)Personal development

Skills and knowledge for personal development

(1 4 6)Self-discipline

Self discipline associated with participating in a regular activity

(1 4 7)Skill transfer

Skills are passed on from individuals to benefit others in the community

(1 4 8)Social

Social benefits that arise from training in Indigenous communities

(1 6)Volunteer groups

Community volunteer groups

(1 6 1)Resources

Trainees provide human resources to volunteer groups

(1 6 2)Sharing

Sharing information and ideas

(1 7)Providers

(1 8)Government

(2) Drivers

Who are the drivers of education and learning

(2 1) Providers

Schools, training providers

(2 1 1) Supply

Training is provided on the basis of availability of people and resources and programs

(2 1 2) Financial gain

Training is provided according to profitability/funding available

(2 1 3) Brand name

Knowledge of a brand/provider drives training, reputation

(2 1 4) Promotion

Demand is generated through promotion

(2 1 5) Strategy

Marketing strategy

(2 1 6) Proximity

Provider drives training because of their proximity to clients

(2 2) Government

Government departments

(2 2 1) Funding

Government funding drives direction of training

(2 2 2) Policy

Government policy drives training direction

(2 2 3) VET bureaucracy

Government, ITABS, ANTA etc as a whole

(2 2 4) Legislation

Training is driven by need to comply with legislation

(2 2 5) Need

Government need training services

(2 2 6) Strategic direction

Strategic direction

(2 3) Communities

local communities

(2 3 1) Needs

Driver is community need

(2 3 2) Benefit

Communities perceive value or benefit from the training

(2 3 3) Key people

Leaders, coordinators drive programs

(2 3 4) Culture

Kinship systems, community structure, family relationships

(2 3 5) Relationships

The nature and development of relationships makes a difference

(2 4) Individuals

Demand for training comes from those who want the courses

(2 4 1) Needs

Driver is individual need

(2 4 2) Motivation

Motivated individuals drive training

(2 4 3) Reward

Individuals are motivated because of the perceived reward they get from training

(2 4 4) Risk

Reduces risks associated with job, OHS, helps manage the risk

(2 4 5) Advocates

Individuals who advocate training

(2 4 6) Learning environment

Learning environment is a motivator for participation

(2 5) Industry

Demand for training comes from industry and individual enterprises

(2 5 1) Skills

Skills needs drive demand

(2 5 2) Market

Market driven, needs of the labour market determine training provision

(2 5 3) Training packages

Training packages generate demand

(2 5 4) Benefit

Industry perceives a benefit, value for the training, increased productivity

(2 5 5) Needs

Industry recognises needs it has in terms of systems, management--- not just skills

(2 5 6) Risk management

OHS, minimising risk, product safety, food hygiene etc

(2 6) Partnerships

Demand for training is pushed along by partnerships

(2 7) Group training

(2 8) Schools

(2 8 1) Community link

School acts as a link between volunteer groups and community learning

(2 8 2) Councils

School councils

(2 8 3) Principals

School principals are drivers

(2 8 4) Key people

Other key people/individuals in the school/s

(3) Effective programs

(3 1) Outcomes

Effective program outcomes

(3 1 1) Employment

(3 1 2) Job ready

Includes a ranger of employability or soft skills including respect, being able to take directions, work ethic. Other job ready skills such as OHS

(3 1 3) Career choice

- (3 1 4) Self confidence
- (3 1 5) Personal development

  Maturity etc

  - (3 1 5 1) Communication

    Program develops communication skills

  - (3 1 5 2) Opportunity

    Taking opportunities, making the most of opportunities

  - (3 1 5 3) Responsibility

    Sense of personal responsibility for own actions

  - (3 1 5 4) Reward

    Reward for effort of training, eg income, recognition

- (3 1 6) Extension

  Outcomes extend beyond the individuals to the community

- (3 1 7) Professional development

  Training enhances an individual's ability to perform tasks

- (3 1 8) Lifelong learning

  Training leads to more learning and training

- (3 1 9) Application

  Skills learned are applied by the learner, used in the context of the workplace/organisation, necessary for successful business operation

- (3 1 10) Industry development

  Outcome is enterprise or industry development

- (3 1 11) Social development

  Training leads to group or social outcomes

- (3 1 12) Retention

  Student retention rate improves. Also feeds into staff retention in employment

- (3 1 13) Life skills

  Programs teach life skills

- (3 1 14) Team skills

  Being able to work alongside others, being part of a team

- (3 1 15) Accreditation

  Recognition, transferable skills, qualifications

- (3 1 16) Enterprise

  Enterprise development

(3 2) Quality

What defines quality

- (3 2 1) Access and equity
- (3 2 2) Job ready
- (3 2 3) Meeting individual needs
- (3 2 4) Relevance
  - *to the work or community environment, need to know what is being learnt*
- (3 2 5) Provider
  - *Provider contributes to quality*
- (3 2 6) On the job
  - *On the job components*
- (3 2 7) Content
  - *Content is designed to meet trainee needs*
- (3 2 8) Context
  - *Awareness of culture and context, issues that might impact on participation such as timing, delivery method*
- (3 2 9) Demand driven
  - *Quality is determined by the demand of the individual/organisation*
- (3 2 10) Resources
  - *Learner resources, handouts are useful and quality*
- (3 2 11) Assessment
  - *Good assessment processes make for quality training*
- (3 2 12) Delivery
  - *Delivery method*

(3 3) Beneficiaries

Who are the beneficiaries fo effective programs

- (3 3 1) Community
  - *Community benefits from training*
- (3 3 2) Clients
  - *Clients and customer needs are taken into account along with those of the trainees. Clients are motivated to attend because their needs are taken i*

(3 4) Characteristics

Features of the program that made it effective

- (3 4 1) Related to work
  - *Training is related to work being done*
- (3 4 2) Support
  - *Supports individuals*
- (3 4 3) Fit

Fit of the individual to the job/task and the training. Fit for purpose

(3 4 4) Structure

Appropriate structures

(3 4 5) Design

Programs designed and delivered to meet individual, organisation and client need

(3 4 6) Flexibility

The program is flexible and adaptable

(3 4 7) Engagement

Engages trainees, programs are interactive

(3 4 8) Enjoyment

Courses are enjoyable, people want to come back for more

(3 4 9) Innovation

Innovative program design, fosters innovative thinking

(3 4 10) Modelling

Program acts as a model for the community, family. People look up to the participants

(3 5) Process

(3 5 1) Relationships

Effectiveness is dependent on building relationships with trainees and communities, building mutual understanding

(3 5 2) Mentoring

(3 5 3) Empowerment

Training is empowering

(3 5 4) Needs analysis

Organisations engage in training needs analysis

(3 5 5) Collaboration

Collaboration between training stakeholders: providers, trainers, trainees, clients, industry, communities

(3 5 6) Evaluation

Programs are evaluated for effectiveness

(3 5 7) Coordination

Program coordination

(3 5 8) Planning

A part of the process is strategic planning for the organisation/community/industry

(3 5 9) Recognition

Celebration, recognition of the value of the program, recognition of success and achievement

(3 6) Foundations

(3 6 1) Self Motivation

Self motivation of the individual enhances effectiveness

(3 6 2) Structures

Structures that facilitate learning including support networks among providers, fair and equitable

(3 6 3) Flexibility

Organisational flexibility

(3 6 4) Provider support

Support for trainers and providers underpins effectiveness

(3 6 5) Compulsory education

(3 6 6) Literacy and numeracy

(3 6 7) Leadership

Direction, initiation from an individual or group

(3 6 8) Ownership

Communities, individuals own the process, program, training, outcomes

(3 6 9) Funding

Adequate funding, appropriate funding models

(3 6 10) Networks

Provider has networks and facilitates linkages with/for others through these networks

(3 6 11) Employer support

Commitment of employer/enterprise

(3 6 12) Family and community support

Family and community support of participants

(3 6 13) Partnerships

Partnerships between providers, community, employers, industry, government etc

(3 6 14) Trust

Trust needs to be built up or trust is foundational to effectiveness

(4) Barriers

What are the things that inhibit VET's effectiveness

(4 1) Funding

Lack of financial resources is a barrier

- (4 1 1) Inadequate

  Insufficient funding to meet demand

- (4 1 2) Models

  Funding models misdirect funding

- (4 1 3) Cost

  Cost of courses is too high

(4 2)Providers

Provider issues are barriers eg not talking to industry about needs. Insufficient providers

(4 3)Planning

Strategic planning is a barrier

(4 4)Infrastructure

Problems with or lack of infrastructure is a barrier

(4 5)Remoteness

Remoteness and isolation is a barrier, including feeling isolated

(4 6)Competition

(4 7)Support

Insufficient or inadequate support for trainees

(4 8)Industry

If management/industry don't support training then it will stop

(4 9)Resources

- (4 9 1)Human

  Lack of human resources

- (4 9 2)Physical

  Lack of physical resources

- (4 9 3)Inappropriate use

  Resources are used inappropriately

(4 10)Structure

Organisational structures that inhibit training development OR inadequate structures to promote training needs

(4 11)Duplication

Doubling up on services and resources

(4 12)Innovation

Innovative ways. strategies need to be thought of to overcome barriers

(4 13)Individuals

Individuals who don't want to participate for whatever reason, possibly low wages, indifference OR who aren't able to participate because they are un

(4 13 1)Incentive

Insufficient incentive, wages etc

(4 13 2) Unemployable

Aren't job ready, don't have the right prerequisites

(4 14) Community

Perceptions of communities themselves act as barriers, expectations of family members, wanting a financial benefit from the trainees. Cultural bar

(4 15) Bureaucracy

Red tape, insurance, strings attached, bureaucratic structures, policies that disempower communities

(4 16) Access

Limited access to training

(4 17) Worth

The value of the qualification, training is perceived to be limited

(4 18) Timing

Time or timing of training

(4 19) Women

Training excludes women

(4 20) Socioeconomic

Social, family and cultural background

(4 21) Policy

Government policies, historical approaches to Indigenous governance

(4 22) Employment opportunity

Lack of employment opportunity, no connection between training and employment

(4 23) Language

English as a second, third language. Language communication barriers

(4 24)Substance abuse

Alcohol, petrol sniffing, other substance abuse

(5) Data

(5 1) Interviewee

(5 1 1) Provider

(5 1 1 1) School

(5 1 1 2) Group Training

(5 1 1 3) CDU

      - (5 1 1 4) Private
      - (5 1 1 5) Government
        - *Government department that provides training*
      - (5 1 1 6) Community
        - *Voluntary or community groups that provide training*
    - (5 1 2) Government
      - (5 1 2 1) Political
        - *Members of Parliament*
      - (5 1 2 2) Funding
        - *Department that funds training*
      - (5 1 2 3) Coordinator
        - *Government Department that coordinates training*
    - (5 1 3) Participant
      - (5 1 3 1) Formal
        - *Involved in a formal training course*
      - (5 1 3 2) Informal
        - *Involved in an informal training course*
    - (5 1 4) Employer
      - (5 1 4 1) Trainees
        - *Uses or has used trainees*
      - (5 1 4 2) No trainees
        - *Does not/has not used trainees*
    - (5 1 5) Partnership
      - (5 1 5 1) Government
        - *Partners include government agencies*
      - (5 1 5 2) Industry
        - *Partner includes an industry body*
      - (5 1 5 3) Provider
        - *Partners include providers*
      - (5 1 5 4) Community
        - *Partners include community groups*
      - (5 1 5 5) Enterprise
        - *Partners include enterprises or businesses*
      - (5 1 5 6) Research
        - *Research partner*
    - (5 1 6) Industry

(5 1 7) Service

Service provider such as employment agency, support agency

(5 2) Site

Defines the primary site(s)

(5 2 1) Rural

Rural site: from Howard Springs down to Berry Springs

(5 2 2) Palmerston

Palmerston and suburbs

(5 2 3) West Arnhem

Includes issues related to Indigenous VET more generally

(5 2 4) Bowen Basin

Coal mining site, central Queensland

(6)Identity

About who I am and how I fit in with the community

(6 1) Personal identity

Personal identity

(6 2) Social relationships

(6 3) Personal capacity

Individual's capacity to act

(6 4) Social capacity

Community/family capacity to act

(6 5) Awareness

Awareness of others

Appendix 9—Effective programs identified

Table 83 List of effective programs identified by respondents during interviews

Name of program identified	Site where program was identified	Number of times program was identified
Administration training	Howard Springs	1
Adrail Indigenous training program	West Arnhem	2
Adult literacy program (Dysart)	Bowen Basin	1
Adult literacy program for Indigenous people	West Arnhem	1
Anungu tours (Uluru)	West Arnhem	1
Apprenticeship program	Palmerston	1
Army Cadet Program	Palmerston	1
Army training	Palmerston	3
Arnhem Land Progress Association	West Arnhem	2
Australian Vocational Traineeship Scheme	Bowen Basin	1
Automotive Skills Taminmin	Howard Springs	2
Basic Computer Skills (ACE)	Palmerston	1
Building Rural Leaders	Bowen Basin	1
Business Record Keeping	Howard Springs	1
Caring for country programs	West Arnhem	1
Carpentry Cert II (Oenpelli)	West Arnhem	1
CDEP (Demed)	West Arnhem	1
Central Highlands Employment Initiative Foundation	Bowen Basin	1
Central Queensland Training & Employment Strategy	Bowen Basin	1
Cert I Information Technology Tiwi Islands	West Arnhem	1
Cert II Automotive (Port Keats)	West Arnhem	1
Cert II Business Taminmin	Howard Springs	1
Cert IV coal mining operations	Bowen Basin	1
Certificate III personal development courses	Palmerston	1
Certificate in horsemandship (Longreach)	Bowen Basin	1
Certificate in Introductory Vocational Education	Palmerston	1
Certificate in Translating	West Arnhem	1
Chainsaw operations	West Arnhem	1
Chem Cert	Howard Springs	4
Citrus industry development plan	Howard Springs	1
Clermont hospitality VET in Schools	Bowen Basin	1
Coal handling plant training for staff (Callide)	Bowen Basin	1
Community leadership training (Batchelor)	West Arnhem	1
Community Music Program Croker/Goulbourn Island	West Arnhem	1
Confined space entry training	West Arnhem	1
Core of life	Palmerston	1
Correctional Centre training	Palmerston	1
Cultural awareness program	West Arnhem	1
Disability training program (Emerald)	Bowen Basin	1
Dreamtime Cultural Centre (Rockhampton)	Bowen Basin	1
Drug education Taminmin	Palmerston	1
Engineering skills Taminmin	Howard Springs	1
Financial management training (Titjikala)	West Arnhem	1

Name of program identified	Site where program was identified	Number of times program was identified
Fire and rescue training	Howard Springs	1
Folk art workshop	Bowen Basin	1
Food preparation courses	West Arnhem	1
Food Safety Program (Coles)	Palmerston	1
Foundations for leadership (BMA)	Bowen Basin	1
Freshcare	Howard Springs	2
Gagadju Hospitality Certificate	West Arnhem	3
Gagadju Hospitality Certificate	Palmerston	1
Generic coal mining inductions	Bowen Basin	1
Graduate/mine management intensive	Bowen Basin	1
Green Corps	Howard Springs	3
Ground maintenance program	West Arnhem	1
Guluyambi cruises	West Arnhem	1
Hazard abatement program	Howard Springs	1
Horticultural women in leadership	Howard Springs	1
Indigenous cadetship program	West Arnhem	1
Inductions (Coles)	Palmerston	1
IT skills Taminmin	Howard Springs	1
Jabiru CDEP	West Arnhem	2
Job Placement and Employment Program	Palmerston	2
Kakadu Youth Employment Scheme	West Arnhem	1
Kalano Community Services	Howard Springs	1
Kalano Community Services	West Arnhem	1
Language night classes	Palmerston	1
Laynhapuy homelands	Howard Springs	1
Leadership training for Aboriginal church leaders	Howard Springs	1
LEAP Labour Market Program	West Arnhem	1
Learning Lessons Implementation	West Arnhem	1
Leeuwin Tall Ship Program	Palmerston	1
Local government training Tiwi Islands	West Arnhem	1
Maningrida Women's Centre	West Arnhem	2
Manual Arts Milingimbi	West Arnhem	1
McArthur River Mines	Howard Springs	1
McDonalds Management Development Program	Palmerston	1
Mt Isa trades reskilling	Bowen Basin	1
Mt Isa VET in Schools	Bowen Basin	1
Music program Tiwi Islands	West Arnhem	1
Nabarlek	West Arnhem	2
New Apprenticeship Access Program	Palmerston	1
New Managers Program	Palmerston	1
Norforce signalman’s course	Palmerston	1
Norforce soldier training	West Arnhem	3
Pazminco Indigenous program (Mt Isa)	Bowen Basin	1
Planning your career (LNQ Dysart)	Bowen Basin	2
Prevocational automotive Course	West Arnhem	1
Prevocational hospitality course (CDU)	Palmerston	1
Prevocational trades training	Bowen Basin	1

Name of program identified	Site where program was identified	Number of times program was identified
Prevocational trades training CDU	Howard Springs	1
Public Service Training Package (Queensland)	Bowen Basin	1
Quality Assurance Training	Howard Springs	1
Ranger training program	West Arnhem	1
Road Maintenance Program	West Arnhem	1
Rural Skills Course Taminmin	Howard Springs	2
Savanna guides	West Arnhem	1
School based fire education program	Howard Springs	1
School-based traineeships (Middlemount)	Bowen Basin	2
Shellie Morris Music	Palmerston	1
STEP and Indigenous Employment Policy	Palmerston	1
Stepping stones land management	West Arnhem	2
Structured Training Employment Project	Palmerston	1
Tiwi Islands Football Training	West Arnhem	1
Tour guide training (Kakadu)	West Arnhem	1
TRAC work placement training	Palmerston	1
Traditional Credit Union	Howard Springs	1
Traditional Credit Union	West Arnhem	3
University of the Third Age	Palmerston	1
Upskilling the highlands (CDHC)	Bowen Basin	2
VET in Schools hospitality	Palmerston	1
Vocational Studies Program	Palmerston	1
Woolaning Homeland Christian College	West Arnhem	1
Woolworths Certificate Programs	Palmerston	2
Work for the dole	Bowen Basin	1
Work for the dole	Palmerston	1
Youth Training Centre (Dysart)	Bowen Basin	1

Acronyms and abbreviations

<	Less than
>	Greater then
=	Equals
ABS	Australian Bureau of Statistics
ACCI	Australian Chamber of Commerce and Industry
AECC	Australian Electronic Commerce Centre
ACE	Adult and Community Education
ACT	Australian Capital Territory
AEU	Australian Education Union
AFFA	(Department of) Agriculture, Fisheries and Forestry—Australia
AFLF	Australian Flexible Learning Framework
AILC	Australian Indigenous Leadership Centre
ALGA	Australian Local Government Association
AIHW	Australian Institute of Health and Welfare
ALNARC	Adult Literacy and Numeracy Australian Research Consortium
ANTA	Australian National Training Authority
ANU	Australian National University
ANZRSAI	Australia and New Zealand Regional Science Association International
ANZTSR	Australian and New Zealand Third Sector Research
AQF	Australian Qualification Framework
AQTF	Australian Quality Training Framework
ARF	Australian Recognition Framework
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographic Classification

ATSIC	Aboriginal and Torres Strait Islander Commission
AUST	Australia
AVETMISS	Australian Vocational Education and Training Management Information Statistical Standard
AVETRA	Australian Vocational Education and Training Research Association
BCA	Business Council of Australia
BCP	Basic Community Profile
BHC	Banscott Health Consulting
BRS	Bureau of Rural Sciences
BTRE	Bureau of Transport and Regional Economics
Cat.	Catalogue number
CAEPR	Centre for Aboriginal Economic Policy Research
CAUTHE	Council for Australian University Tourism and Hospitality Education
CD	Collection District
Cert.	Certificate
CDEP	Community Development and Employment Projects
CDMA	Code Division Multiple Access
CDU	Charles Darwin University
CGC	Commonwealth Grants Commission
CHINS	Community Housing and Infrastructure Needs Survey
CQRPAC	Central Queensland Regional Planning Advisory Committee
CRC	Cooperative Research Centre
CRISP	Community Regional Industry Skills Program
CRLRA	Centre for Research and Learning in Regional Australia
CSV	Comma Separated Variable
CURF	Confidentialised Unit Record File

DBIRD	Department of Business, Industry and Resource Development
DCITA	(Commonwealth) Department of Communications, Information Technology and the Arts
DCDSCA	(Northern Territory) Department of Community Development, Sport and Cultural Affairs
DEET	(Northern Territory) Department of Employment Education and Training
DEH	(Commonwealth) Department of Environment and Heritage
DEST	Department of Employment Science and Training
DET	Department of Employment and Training
DEWR	Department of Employment and Workplace Relations
DHAC	Department of Health and Aged Care
DHHS	(Tasmanian) Department of Housing and Human Services
DIMIA	(Commonwealth) Department of Immigration and Multicultural and Indigenous Affairs
DITR	(Commonwealth) Department of Industry, Tourism and Resources
DK-CRC	Desert Knowledge Cooperative Research Centre
DoE	Department of Education
DoT	Department of Training
DPIF	(Queensland) Department of Primary Industries and Fisheries
EA	Environment Australia
ERA	Energy Resources of Australia
ERIN	Environment Resource Information Network
ESD	Ecologically Sustainable Development
FaCS	(Commonwealth) Department of Family and Community Services
FLAG	Flexible Learning Advisory Group
GDP	Gross Domestic Product

GNP	Gross National Product
GSAF	Griffith Service Access Frame
GSP	Gross State Product
GSP	Graphical Statistical Platform (used in relation to IRDB)
HBIS	Higher Bandwidth Incentive Scheme
HREOC	Human Rights and Equal Opportunity Commission
HRSCET	House of Representatives Steering Committee on Employment and Training
HRSCATSIA	House of Representatives Steering Committee on Aboriginal and Torres Strait Islander Affairs
IBIS	Indigenous Business and Industry Services
ICT	Information and Communication Technology
IEP	Indigenous Enterprise Partnership
IHO	Indigenous Housing Organisation
IPP	Indigenous Profile
IRDB	Integrated Regional Database
IMR	Infant Mortality Rate
ITAB	Industry Training Advisory Board
ITAC	Industry Training Advisory Committee
Kbps	kilobits per second.
Km	Kilometre
KPMs	Key Performance Measures
L	Locality
LGAQ	Local Government Association of Queensland
LNG	Liquefied Natural Gas
MCATSIA	Ministerial Council for Aboriginal and Torres Strait Islander Affairs

MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
MOU	Memorandum of Understanding
MS	Microsoft
NAILSMA	North Australian Indigenous Land and Sea Management Alliance
NBEET	National Board of Employment Education and Training
NSESD	National Strategy for Ecologically Sustainable Development
NCVER	National Centre for Vocational Education Research
NEIR	National Economic Institute for Research
NLC	Northern Land Council
NOHSC	National Occupational Health and Safety Commission
NRE	(Victorian Department of) Natural Resources and Environment
NSESD	National Strategy for Ecologically Sustainable Development
NSW	New South Wales
NT	Northern Territory
NTCOSS	Northern Territory Council for Social Service
NTDE	Northern Territory Department of Education
NTIS	National Training Information Service
NTPFES	Northern Territory Police, Fire and Emergency Services
NTTC	Northern Territory Tourist Commission
NTU	Northern Territory University
OECD	Organisation for Economic Cooperation and Development
OHS	Occupational Health and Safety
OTTE	(Victorian) Office of Training and Tertiary Education
p	Probability
PISA	Programme for International Student Assessment

Psns	Persons
QLD	Queensland
r	Regression coefficient
RDI	River Disturbance Index
RQ	Research Question
RRMA	Rural, Remote and Metropolitan Areas
RSMS	Regional Sponsored Migration Scheme
RTI	Regional Telecommunications Inquiry
SA	South Australia
SAL	Survey of Aspects of Literacy
SCRGSP	Steering Committee for the Review of Government Service Provision
SD	Statistical Division
SEETRC	Senate Employment, Education and Training References Committee
SEGRA	Sustainable Economic Growth for Regional Australia
SEIFA	Socio-Economic Index For Areas
SEWRERC	Senate Employment, Workplace Relations and Education References Committee
SEWRSEBC	Senate Employment, Workplace Relations, Small Business and Education Committee
SLA	Statistical Local Area
SSD	Statistical Subdivision
TAFE	Technical and Further Education
TAS	Tasmania
TDA	TAFE Directors Australia
TSCRC	Tropical Savannas Cooperative Research Centre
UC/L	Urban Centre/Locality

UN	United Nations
UNICEF	United Nations Children’s Fund
USA	United States of America
VIC	Victoria
VET	Vocational Education and Training
Vol.	Volume
WA	Western Australia
WADET	Western Australia Department of Education and Training
WADIA	Western Australia Department of Indigenous Affairs
WFU	Work and Family Unit
XCP	Expanded Community