

Relationships between vocational education and training (VET) and well-being in the Palmerston/rural area

A review of statistics

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Introduction

The purpose of this paper is to discuss the relationships that exist between various demographic data and vocational education and training (VET) participation and qualification data in the Palmerston and rural areas of the Darwin Statistical Division (SD). Specifically, this paper will show how VET qualifications are distributed across the region. It will then consider a number of statistics derived from Australian Bureau of Statistics (ABS) 2001 Census data. These include: the proportions of youth in the population, attendance at TAFE, income levels, home ownership, mobility, labour force participation, unemployment, participation in various industry groups and occupational groups and lone person households. The analysis is based on Collection District (CD) Census data.

The statistics shown demonstrate the significance of VET for the region. The data form a basis for qualitative research being conducted by the author to determine *how* VET works in these communities to build capacity.

VET qualifications and participation in the regional and national context

Within the Territory, regional and national context, VET qualifications are relatively important to the Palmerston/rural area. Table 1 shows that residents of the Litchfield Shire—or Statistical Subdivision (SSD) are more than one-third more likely to have Certificate qualifications than the rest of the population living in the Northern Territory or Australia as a whole. While attendance at Technical and Further Education (TAFE) institutions appears to be lower in the region compared to other areas shown in the table, this may be explained by the absence of a recognisable TAFE brand in the Northern Territory and the resulting confusion that arises for respondents using Census forms. However, recent apprenticeship and traineeship statistics suggest that the Northern Territory does have relatively low participation rates (NCVER 2003) with 1.1% of the population ‘in-training’ at 30 June 2003, compared with 2.1% nationally.

Table 1. Certificate qualifications and attendance at TAFE, various regions, 2001 (Source data: ABS 2002)

Region	Percent of 15 year+ population with Certificate qualifications	Percent attending TAFE
National	15.8%	2.6%
Northern Territory	15.9%	1.6%
Darwin SD	17.8%	1.7%
Palmerston-East Arm SSD	19.1%	1.6%
Litchfield SSD	21.7%	1.5%

Distribution of Certificate qualifications

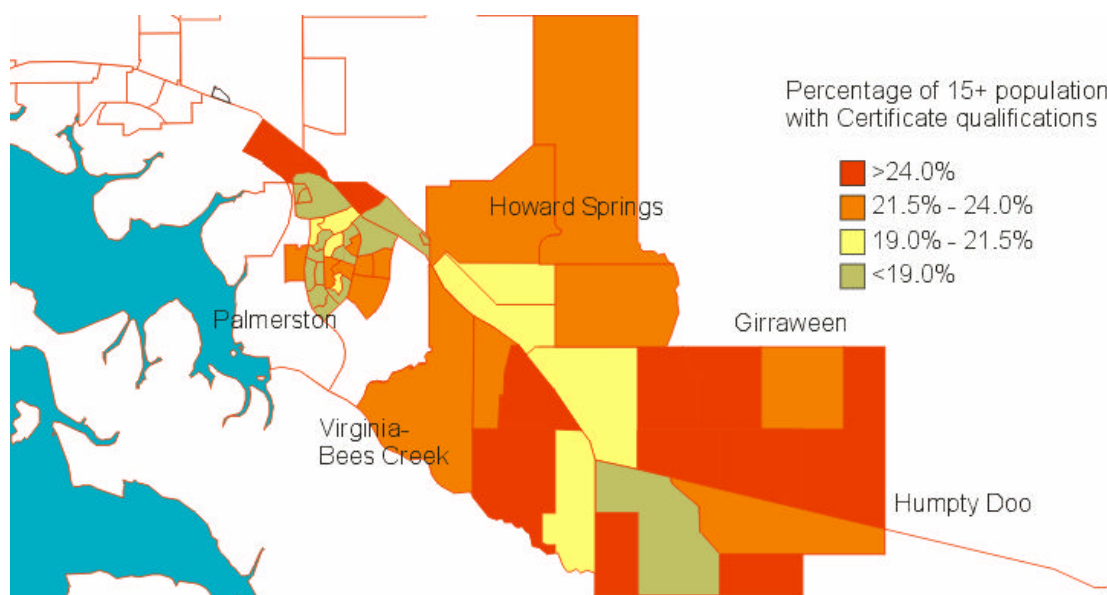
While CD boundaries do not include locality names, the centres and locations used for the analysis in this paper are described below in Table 2. ‘Urban’ here describes those mapped areas within the Palmerston City boundary. Rural is here used to describe those mapped areas within the Litchfield Shire.

Table 2. Urban centres and rural localities used for analysis

Urban centres	Rural localities
Bakewell	Bees Creek
Driver	Coolalinga
Farrar	Freds Pass
Gray	Girraween
Gunn	Herbert
Marlows Lagoon	Howard Springs
Moulden	Humpty Doo
Palmerston	McMinns Lagoon
Rosebery	Rural Litchfield
Woodroffe	Virginia
Yarrowonga	

Figure 1 shows the distribution of Certificate qualifications in the Palmerston/rural region within the Darwin Statistical Division. The map shows that rural areas generally have a higher proportion of people with VET qualifications than the urban areas of Palmerston. The figure also shows that only five of the 22 CDs in the mapped region are below the median of 21.4% while in the urban area, only eight of the 28 CDs are above the median. The difference between rural and urban areas is significant¹. Table 3 shows means and medians for rural/urban Collection Districts.

Figure 1. Distribution of Certificate qualifications by Collection District, 2001 (Source data:ABS 2002)



¹ χ^2 test, $p < .05$ comparing Certificate qualifications in rural and urban areas

Table 3. Distribution of Certificate qualifications by urban/rural collection districts (Source data: ABS 2002)

Urban/rural CDs	Count of CDs	Count of Certificates	Population over 15 years	Mean ² Certificates	Median Certificates
Urban	28	2810	14393	19.5%	18.5%
Rural	22	1964	8750	22.4%	23.1%
Total	50	4774	23143	20.3%	21.4%

Relationships between Certificate qualifications and socio-economic variables

Table 4 shows a selection of variables with associated correlations³. A correlation coefficient above 0.5 in this set of data generally also indicates a significant difference between above-average levels of one variable and above or below-average measures of another. The relationships can be summarised as follows:

- Certificate qualifications are associated negatively with low incomes;
- Certificate qualifications are associated positively with home ownership⁴;
- Certificate qualifications are associated positively with participation in the labour force and negatively with unemployment. Similar relationships exists between high incomes and labour force status;
- Certificate qualifications are associated positively with employment in the transport and storage industry and employment as tradespersons;
- Higher income levels are associated positively with employment in government administration and defence industries;
- Higher income levels are associated positively with employment as professionals and associate professionals, but they are associated negatively with labourers;
- Higher income levels are associated positively with use of the Internet; and
- Attendance at TAFE does not correlate strongly with any of the selected variables.

Relationships between VET qualifications and other demographic variables such as the proportion of youth in the population, mobility and household size were not established using correlation analysis.

² The mean is the average value of the proportion with Certificate qualifications across CDs.

³ Only those variables that had co-efficients above 0.5 are shown in the table.

⁴ Including homes which are being purchased

Table 4. Correlation between selected Census variables (co-efficients above 0.5 or below -0.5 are shown in bold)

Correlation ⁵ between... and...	Percent with Certificate qualifications	Percent attending TAFE	Percent with income above \$1000 per week
Percent of 15+ aged population with weekly income less than \$200	-0.720	-0.372	-0.457
Percent of total population using Internet	0.499	0.402	0.838
Percent owning or purchasing a dwelling	0.751	0.342	0.406
Percent in the labour force	0.773	0.430	0.602
Percent unemployed	-0.689	-0.267	-0.671
Percent employed in transport and storage industries	0.650	0.307	-0.066
Percent employed in Government administration and defence	-0.229	0.033	0.552
Percent employed as tradespersons	0.700	0.150	0.080
Percent employed as professionals	0.147	0.320	0.516
Percent employed as associate professionals	0.360	0.272	0.640
Percent employed as labourers	0.071	-0.209	-0.590

Several inferences can be drawn from these data as they apply to the mapped area of Figure 1:

- VET qualifications⁶ rather than attendance is the significant factor in the relationship with selected socio-economic variables;
- VET qualifications may act to prevent poverty, rather than generate high incomes for individuals;
- VET qualifications are clearly associated with employment; and more specifically in the transport and storage industries and in trades occupations.
- VET qualifications are strongly associated with home ownership; more so than high incomes.

It can similarly be deduced using alternative statistical tests that populations in this region that have higher proportions of people with VET qualifications are more likely to be employed⁷, more likely to own or be buying a home⁸; less likely to be

⁵ Correlation coefficient: a negative number indicates an inverse relationship such that an increase in one variable is associated with a decrease in a second variable.

⁶ VET qualifications are effectively equivalent to Certificate qualifications.

⁷ χ^2 test, $p < .05$ —populations with above average levels of Certificate qualifications are more likely to have above average proportions of the population in the labour force.

⁸ χ^2 test, $p < .05$ —populations with above average levels of Certificate qualifications are more likely to have above average proportions of home ownership (including homes being purchased)

unemployed⁹, less likely to be on low incomes¹⁰; and more likely to be employed in specific industries and occupations¹¹.

Conclusions

The data shown in this paper show clearly the relative significance of VET qualifications for residents of the Palmerston/rural area. Residents in these communities are more likely to have Certificate qualifications than those in the wider region and nationally. Certificate qualifications in this area are linked to income, employment, home ownership, tradespersons occupations and employment in transport/storage industries. The statistics examined suggest that qualifications are more significant for these areas than participation, which based on available data, is relatively low. Based on these findings, there are clear positive social and economic implications for these communities.

References

ABS 2002, *Census of Population and Housing: Basic Community Profile*, Cat. 2001.0, Australian Bureau of Statistics, Canberra.

NCVER 2003, *Apprentice and trainee activity June Quarter 2003*, NCVER, Adelaide.

⁹ χ^2 test, $p < .05$ —populations with below average levels of Certificate qualifications are more likely to have above average unemployment.

¹⁰ χ^2 test, $p < .05$ —populations with below average levels of Certificate qualifications are more likely to have above average low income populations.

¹¹ χ^2 tests, $p < .05$ —populations with above average levels of Certificate qualifications are more likely to have above average levels of tradespersons. Populations with proportions of Certificate levels above the median are more likely to have the highest levels of people (>6.4% of the 15+ population) employed in transport and storage industries.