4 Methodology

This section reviews the methodologies used for the 1999 and 2000 research. It also outlines methodology used for analysis of data presented in the case studies.

4.1 Review of 1999 and 2000 methodology

4.1.1 1999 Methods

Any methodology which is to be suited for establishing the nature and significance of VET's contribution to regional communities cannot afford to ignore the various features, systemic and institutional, of VET. This is the reason for both a quite open-ended research question, and for the generative, information-building design for this longitudinal study.

The scoping phase of the longitudinal study sought to provide the greatest possible amount of information as possible in a wide range of areas where vocational education, training and learning occurs, across an initial seven regions. To fulfil the aim, a multi-site, multi-method research design was employed.

The interviewee selection process in those seven regions was informed by the five objectives in *A Bridge to the Future: Australia's National Strategy for Vocational Education and Training 1998-2003* produced by the Australian National Training Authority (ANTA 1998a). The objectives are: equipping Australians for the world of work; enhancing mobility in the labour market; achieving equitable outcomes in vocational education and training, increasing investment in training, and maximising the value of public vocational education and training. These objectives were used to identify specific issues and groups as foci for the different sites selected.

For example, the purposive sampling strategy deliberately sought respondents from four groups in each of the seven regions: First, there were organisations concerned with formal VET provision. Second, there were employers. Third were representatives of community organisations, and fourth were learners or community members.

The two main sources of data were interview data and questionnaire data.

For each of the four interviewee groups, questions were based around the same four interest areas. Information and perceptions were sought about:

- changes in the community and their impact on individuals and organisations;
- interactions related to vocational education and training among individuals, enterprises, VET providers, and community organisations;
- recent vocational education and training experiences focusing on their contributions to social and economic wellbeing;
- people's perceptions about future vocational education and training needs.

A total of 466 people took part in the study and were interviewed yielding a total of 395 transcripts. Questionnaires were completed by most interviewees from the seven regions. In total, 399 questionnaires were completed for scanning purposes, of which 391 were useable. Data were analysed using a combination of NUD*IST, thematic analyses and some detailed ethnomethodological analyses using a range of techniques. Standard statistical procedures were applied to the questionnaire data.

4.1.2 1999 Analysis

Following transcription of the available interviews, data coding was undertaken by seven members of the research team. All members were initially involved in coding interviews from sites where they had been directly involved in the fieldwork (with the exception of one team member). This enabled the coder to correct any transcribing errors that may have occurred. Analysis of the data included: first working inductively to draw out the perceptions of participants from the data, and then working deductively to cross-check for themes identified as important in the research questions.

Training to ensure consistency of coding occurred over three days. Following the approach of Tesch (1990) to developing a qualitative organising system for data reduction, coders were each given the same five interviews to code. Each coder looked for topics in the data and, following discussion, the codes used to describe the topics contained in the data were standardised and hierarchically ordered under subsuming categories. The same process was followed on a second training day after coders had had an opportunity to code some of their own data. Based on these discussions, a coding framework was developed. Coders then commenced applying the framework to their own data.

Two processes of cross-checking were used during this time to enhance dependability. The group met for a third day to go through examples of data from each coder and for the group to decide which code would be applied. This enabled a check of consistency of coding and allowed coders to discuss any areas of ambiguity. An electronic bulletin board was also used by the group to ask questions and to provide feedback. These processes led to the modification of six of the codes used. After the data were manually coded, the transcriptions and codes were imported into NUD*IST (Non-numeric, Unstructured, Data Information Searching and Theorising), a software program for qualitative data analysis. Once this had occurred all projects were merged into the one document and made available for analysis.

Following coding, the team then commenced analysing the data. This was undertaken by linking certain codes used within the coding framework to the relevant research questions. Research team members then worked on specific themes relevant to the research questions.

4.1.3 2000 Methods

In 1999 extensive face-to-face interviews were conducted in seven sites in all Australian States and territories except ACT: Broken Hill (NSW), Orbost (Victoria), Gayndah (Queensland), Port Augusta (South Australia), Katanning (Western Australia), Launceston (Tasmania) and Katherine (Northern Territory). Interviews were conducted with representatives of organisations (training providers, employers and other organisations in the communities, a category that included government and business and industry groups as well as community-based organisations) and community members, many of whom were participants in learning and training activities at the time of the interviews.

Sixty-two per cent of the original interviewees (289 out of 466) gave their names and contact details and permission to be contacted in 2000 for a follow-up interview.

Inspection of the demographic characteristics of those who gave permission to be contacted suggests that this group tended to be older, less likely to be Indigenous and more likely to be an organisation representative than the 1999 sample as a whole. It was recognised that the maximum potential sample of 289 would decrease as a consequence of people changing residence and changing jobs, as well as because of missed calls and call backs. It was also anticipated that some people who had agreed to re-interview in 1999 would change their mind and decline in 2000. The third year of the longitudinal survey was to include new respondents in the sites, selected to ensure a representative sample when new and continuing respondents are considered.

Telephone interviews were selected as the data collection method. The interviews were conducted over a one month period at a time convenient to respondents. The follow up telephone interviews with respondents from the seven 1999 sites gathered data relating to changes since 1999 (to assist in answering research questions 1 to 3), data relating to configurations (to assist in answering research questions 3 to 6) and effectiveness of VET (to assist in answering research questions 6 and 7).

For courtesy and logistical reasons, the telephone call needed to be as brief as feasible, with an expected duration of 10 to 20 minutes selected. In order to use this time most efficiently, a mostly structured interview was chosen to chart changes, explore VET configurations and obtain a perception of the effectiveness of VET in the respondent's community in a standard way. Two telephone interview schedules were developed; one for members of organisations, the other for individuals. A total of 121 organisational responses and 62 individual responses were obtained.

4.1.4 Development of Year 2000 schedules

For the two follow-up schedules, some questions from 1999 were repeated (word for word in the case of Likert scale questions) in order to capture changes, or ask specifically about change. Other questions were new and designed to collect data on aspects of VET configurations in more depth than the data collected in 1999. These new questions were informed by the Year 2000 research questions and the Interim Report (CRLRA 2000b), that is the literature review and the additional analysis of the 1999 data.

Most of the questions were asked as open-ended questions, and coded by the interviewer into a list of pre-determined possible and likely. This generated quantitative data. Almost all questions had an 'other' category where the interviewer could record responses not included in the list. The interviewers made notes of any points made by the respondents that were relevant to the broad areas of change, VET configurations and effectiveness of VET. The notes and 'other' responses formed qualitative data.

The sources that informed the various groups of questions on the telephone survey instruments follow. Note that the two survey instruments incorporate longitudinal questions and semi-structured questions (with pre-determined categories for the interviewer to code responses) for ease of administration. Formulation of the pre-determined categories drew heavily on the work of the Interim Report, supplemented by trialing the survey instruments.

4.1.5 Methodology for the new sites

The three new sites of Kerang, Penrith and Cairns were selected to fill perceived gaps in the coverage of the diversity of Australia's regions by the original sites. The

Kerang site in the Murray Basin along the Victoria-New South Wales border focused on people living outside of small population centres in a rural agricultural area. The 1999 sites tended to concentrate on people living in urban centres, including small towns. The Penrith site on the outskirts of western Sydney extends into the Blue Mountains and hinterland. This site is peri-urban, and is intended to investigate VET in one of the many areas of Australia where distant suburbs of cities are meeting previously rural areas. VET for knowledge-based work was also a focus of the Penrith site. In the Cairns site, the focus is on people of a non-English speaking background (NESB), including migrants and urban Indigenous communities. These two groups were not well-represented in the 1999 sites.

The sampling, interview and survey strategy in 2000 was comparable with the 1999 strategies. Comparability was ensured in two sites (Kerang and Cairns) by having researchers involved in the 1999 interviews managed the interviews. In the case of the Penrith interviews, interviewers were briefed on site by experienced 1999 project interviewers.

The survey instruments needed to be consistent with the 1999 site instruments so that direct comparisons could be made. Only minor changes were made to 1999 instruments to clarify wording and addition of prompts for interviewers to ensure that information is collected on nature of VET configurations. For example, the Training Provider Schedule question 'What do you know about the training and education that's available in this community?' has the additional prompt 'Do any of the training providers collaborate in offering courses/programs?'

4.1.6 Analysis of telephone survey – original seven sites

The machine readable answer sheets yielded quantitative data that was analysed with the aid of SPSS software. Tables were produced for all questions according to sites. For the progress report (September 2000), questions that focussed on VET configurations (providers, groups planning and arranging training and delivery methods) and effectiveness of VET were extracted. Qualitative data from extensive notes made by the interviewers were analysed for themes in relation to the relevant questions. Findings are summarised in the September 2000 interim report.

4.1.7 Analysis of face-to-face interviews – the new sites

Interviews were transcribed and entered into a NUD*IST qualitative data analysis software project. The coding framework developed for the 1999 interviews was extended slightly to allow a more detailed examination of VET configurations, an issue that arose as a result of analysis of the 1999 data and hence was underdeveloped in the original framework (see Appendix 5 of the 1999 report, CRLRA 2000a).

4.1.8 Additional analysis used for preparation of this report

Detailed thematic analysis of the interview transcripts was continued using the coding framework outlined previously, but with the outcomes of the present report in mind. The themes explored in detail for each site included:

- Partnerships, links and collaboration
- Programs and delivery
- Flexibility
- Change

- Needs and issues
- Outcomes and results

Quantitative data was summarised and analysed both on a site by site basis, as well as by typologies. The typological breakdown was designed to determine the influence of factors on perceptions uncovered in the surveys and to inform the analysis of the qualitative data. Typologies used were

- Rural / urban
- Growing / declining
- Remote / accessible
- Culturally diverse / monocultural

Further breakdowns of the data were carried out to determine differences in perceptions among:

- Youth / older respondents and
- Main centre / remote centre respondents

Chi squared and students' t-tests were used to determine significant differences.

4.1.9 Protocols used in the presentation of data from the transcripts

In all case studies, interview excerpts have been used to illustrate certain findings. Where parts of the transcript have been omitted for brevity, a "…" represents a break in the actual quotation. When words have been inserted into the quotation to assist with understanding, square brackets [ ] have been used. Where appropriate the question that the respondent is answering is included with the response to situate that response in the context of the interview. Interviewees are prefixed with an I:, respondents with an R:; where there is more than one respondent, these are prefixed with an R1, R2, R3 etc.

4.2 Map of instrument questions to OECD categories

This section describes how each case study arrives at the conclusions drawn in sections 3.2 and 3.3. Figure 1 outlines the process.

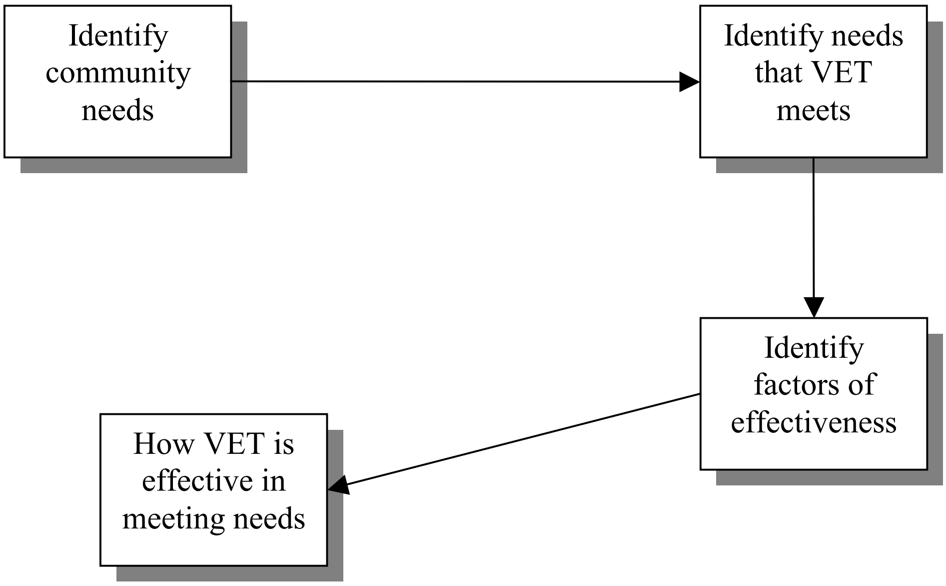
Community needs are derived from multiple sources.

These are compared with qualitatively derived data from interviews to determine which needs VET meets and ways that VET meets these needs.

Data from interviews is compared with a set of factors of effectiveness to determine strengths and weaknesses within the site.

A synthesis of 2. and 3. above yield a map of factors of effectiveness that result in community needs being met. This could be summarised as 'how VET is effective in meeting community needs'.

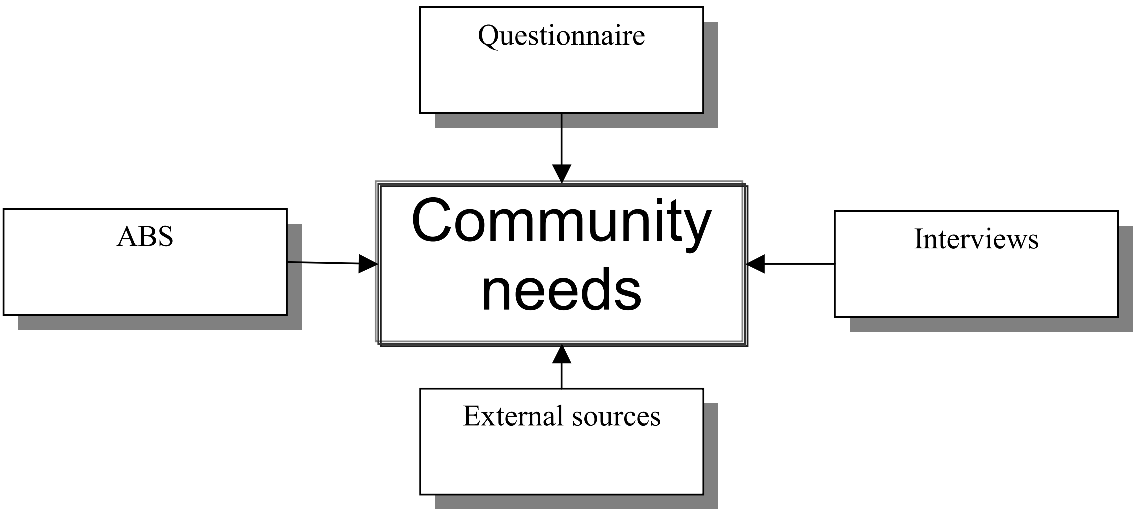
Figure 1 – Process used to arrive at conclusions of each case study



4.2.1 Identification of community needs

While questionnaire instruments were used as a means of quantifying perceptions of the degree of community needs, there was a wider range of sources used to verify the presence of needs. These sources included interviews (face to face and telephone), ABS data and other external sources such as regional development reports, TAFE reports, state and federal government hearings or other relevant information given at a regional level.

Figure 2 – Identification of community needs



4.2.2 Survey questions relevant to community needs

The questions shown in Table 1 were used to provide an initial ranking of needs. While it is acknowledged that these questions do not encompass the full range of possibilities presented by the OECD social indicators, their use, when supported by other sources provides compelling evidence for the presence of issues in communities.

Relative community need for the OECD category was determined by totalling the level of disagreement for each question (except Question 31, which was framed to show need on the basis of agreement). The resulting measure, expressed as a percentage is an indication *within* the site of perceptions of priority for that particular community. The percentages cannot therefore be used to compare the relative weight of needs across sites.

Table 1- Survey questions used to assess community needs

No.	Question	Community need
1	I feel safe both in my home and on the street	Personal safety
2	People here look after their environment	Physical environment (ecology)
6	People in this community can get work if they want to	Employment and quality of working life
8	I think people in this community are accepted regardless of race, age, religion or gender	Social environment
10	In this community there's plenty to get involved in for people my age	Time and leisure
21	Vocational education and training services are adequate in this area	Education and learning
31	The cost of living is high where I live	Command over goods and services
32	Government services are adequate in this area	Physical environment (access)
33	Health services are adequate in this area	Health

4.2.3 Interpreting the table of community needs

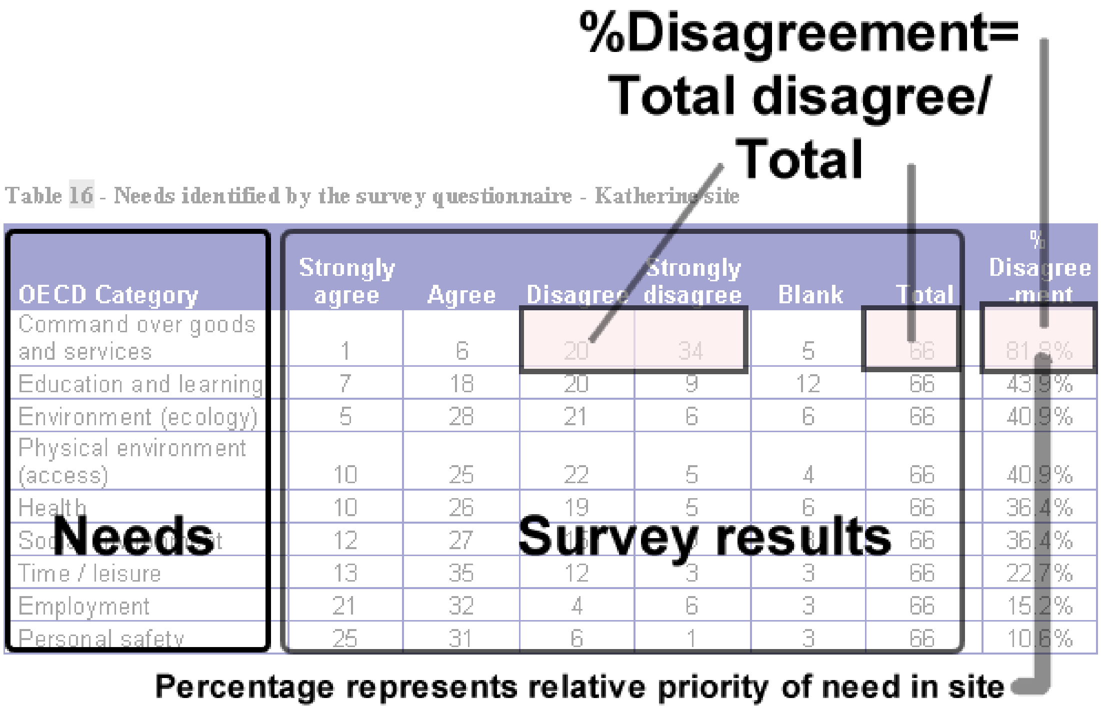
A feature of each case study is a presentation of community needs on the basis of the questionnaire results for the site. The results of this table are then used as a *starting point* for discussions about community needs at the site. The features of the table are shown in Figure 3. The needs shown in the left column correspond to the questions shown in Table 1. The survey results are shown in the central section of the table. The 'total' column shows the total responses for that site. Results for the question about command over goods and services are inverted so that results are consistent with the other questions (high levels of disagreement shown in this table are consistent with perceptions of high cost of living, hence greater need). Therefore the level of disagreement shown in the right hand column indicates the *relative priority* given to each of the needs listed in the left hand column within the site. A low percentage rating does not suggest that the needs do not exist. Rather, it suggests that the need is not perceived to be as pressing or urgent as higher rated needs.

Section 2.3.2 of each case study shows data from other sources that either support or add to the list of needs. A number of interview questions draw out responses about community needs. These include:

- What's it like living here now compared with say five years ago? (all schedules)
- What do you think is the most important issue facing regional Australia and its needs for learning and training in the next three years (Provider, employer, community member schedules)
- What issues does your organisation face in the foreseeable future? (organisation schedule)
- What sort of changes are likely in this area in the near future? (all schedules)

Identification of needs from interview data is however drawn from the whole interview for each respondent.

Figure 3 - Interpretation of community needs analysis



OECD Category	Strongly agree	Agree	Disagree	Strongly disagree	Blank	Total	% Disagree -ment
Command over goods and services	1	6	20	34	5	66	81.8%
Education and learning	7	18	20	9	12	66	43.9%
Environment (ecology)	5	28	21	6	6	66	40.9%
Physical environment (access)	10	25	22	5	4	66	40.9%
Health	10	26	19	5	6	66	36.4%
So[illegible]t	12	27	[illegible]	[illegible]	[illegible]	66	36.4%
Time / leisure	13	35	12	3	3	66	22.7%
Employment	21	32	4	6	3	66	15.2%
Personal safety	25	31	6	1	3	66	10.6%

4.2.4 Ways that VET meets needs

Section 2.4 of each case study details ways that VET meets community needs. The discussion is based on interview data responses. The discussion is not confined to ways that VET meets needs identified in section 2.3. For example, health might not have been identified as a priority, but interviews may suggest that VET meets this community need.

4.2.5 Factors of effective VET

Section 3.1 of each case study discusses how the configuration contributes to effectiveness against the set of headings derived from the February 2001 report. Where appropriate, references are made to external document sources that support the discussion.

4.2.6 Interpreting the map of factors and needs

A map of factors contributing to the effectiveness of VET at a site is given at the end of each case study. This is designed to show where factors of positive influence identified through the interviews, intersect with and thereby help meet community needs.

Figure 4 explains the key components of the map. The list of factors is divided into two groups: those that provide a mainly positive influence and those with mixed or negative influence. The groupings correspond to assessments made for each of the factors in section 3.1 of each case study.

The list of community needs is the same as shown in the table of community needs. Shading in the grid indicates that a factor contributes to the effectiveness of VET in meeting a community need. Where a factor is deemed to have mixed or negative influence, there will be no shading under these headings. Similarly where a community need is not met (according to the analysis of Section 2.4 in the case study), there will be no shading on that row. The shading is divided into solid shading and part shading. Solid shading indicates broad influence of the factor in meeting the need indicated. For example, a configuration may demonstrate collaborative relationships and partnerships through a number of networks that contribute to employment needs, across the whole site. Part shading indicates a narrow influence of the factor in meeting a community need. For example there may be one or two examples of effective planning and funding that contribute to meeting education needs in one community of the site, without any negative examples at other communities.

Figure 4 – Understanding the map of factors and community needs