

# **Australian Statistical Resources to Inform Flexible Learning**

**Australian Flexible Learning Framework Quick Guides  
series**

Based on the knowledge generated from the Australian Flexible Learning Framework projects and selected external literature, the Quick Guides series provides an introduction to key issues related to flexible and online delivery of Vocational Education and Training (VET).

Reference as:

Backroad Connections Pty Ltd 2003, *Australian Statistical Resources to Inform Flexible Learning* (Version 1.00), Australian Flexible Learning Framework Quick Guides series, Australian National Training Authority.

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This document can be accessed at:

<http://flexiblelearning.net.au/guides/statistics.pdf>

For a list of other Quick Guides see:

<http://flexiblelearning.net.au/projects/sharingknowledge.htm#guides>

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*An initiative within the Australian Flexible Learning Framework for the National Vocational Education and Training System 2000-2004*

*Managed by the Flexible Learning Advisory Group on behalf of the Commonwealth, all States and Territories in conjunction with ANTA*

## Scope of this guide

The focus of this Quick Guide is the location of quantitative data sources that can provide statistical information about online learning and/or flexible learning within Vocational Education and Training (VET) in Australia. It discusses some of the definitional and organisation issues which make obtaining reliable national statistics on these topics difficult and reports on what statistical sources *are* available.

Areas of statistics covered are:

- The extent and patterns of online and flexible delivery in VET.
- The access available to learners to the Internet in their homes and workplaces.
- The number of resources available to support online learning.

Primarily it focuses on automated system collections but acknowledges that current state-of-play in this regard and that hybrid and manual manipulation of data is still prevalent within training organisations and state and national collections.

## Why is it important?

This guide will be of interest to researchers, teachers, administrators, management, and others wanting quantitative information or trend data about flexible teaching and learning supported by online technology. It will also be of interest to people at a policy level concerned with ability of current data systems to provide management information on these activities.

There is an argument that when technology and the use of the Internet become mainstream within all teaching there will no need to differentiate between online learning and all learning. However for the reasons outlined below we believe there are many reasons to acquire information about online activities and patterns.

Some of the reasons why access to statistical information is important are:

- Statistics on learner access to the Internet is useful for providers in understanding the potential market for online learning.
- As an input to strategic planning at state, national, and local level.
- To provide 'hard data' to complement and support qualitative findings about the extent of online and flexible learning.
- As a evaluation measure is assessing the impact of the Australian Flexible Learning Framework.

A literature review and/or environmental scan is an important first step in any project and a review of available statistician information is often part of this. It is therefore useful for those undertaking projects as part of the Australian Flexible Learning Framework to understand both what has been done to date in collecting statistics on online and flexible learning, and some of the associated methodological problems.

## Key issues

### Difficulty in defining flexible and online learning

'Flexible learning' is a philosophy and an approach rather than a specific activity. It encompasses a variety of dimensions and can include how, when and where learning takes place. Even the more specific term 'online learning' is multi-dimensional:

- online learning can take place in a classroom, a workplace, or at home
- the Internet can be used to deliver a total course, partial course, or compliment traditional forms of teaching.

There is a tension between the diversity of experiences that make up good flexible delivery practice, and the desire to quantify activities for a variety of valid purposes such as funding, accountability, and benchmarking the impact of new programs.

The diverse and multi-faceted nature of good flexible delivery practice makes it difficult to measure even though there are many valid reasons for measuring such as funding, accountability, and benchmarking the impact of new programs.

For more information on definitions see the Quick Guide on *Definition of Key Terms used in Flexible and Online Learning* (Backroad Connections 2003).

### The 'over-surveyed syndrome'

It should be noted that many training organisations are very concerned with the time taken to provide information repeatedly to external inquirers, and are starting to exhibit signs of 'over-surveyed syndrome'. For this reason, and for greater efficiency, the first port of call for information should be to turn to the reports or projects that have already surveyed institutes or systems as described in this guide.

### Knowing where to look for statistical information

It is often difficult to know whom to contact in the first instance to source information about online learning as many people have an interest in it but all from a different perspective. As online learning activity matures into mainstream adoption interest in such data is moving from a local (micro) system or learning management concern to a more encompassing (macro) regime where information about online learning is integrated with other management and decision-making systems.

### The current state of statistical collections

The national and state data systems, where lead times required for change are necessarily planned in years, are trying to cope with change and growth in an area where timeframes are measured in months.

(Stewart-Rattray 2001, p. 3)

- There is no central automated statistical collection mechanism (either nationally or state-based) specifically about online learning numbers or specific trend data about online learning activity.
- AVETMISS data can provide aggregated general information about student participation within VET within Australia and by each state and organisation, but not specifically about online learning or flexible delivery. Although it contains a field on 'Delivery type' the coding regime is fraught with difficulties and differences in interpretation (see below for further details).
- The Student Outcome Survey collects limited information about mode of delivery and suffers similar methodology and consistency problems (see below for further details).
- Most states and territories only collect flexible delivery data to the AVETMIS Standard for national reporting. Only South Australia and Western Australia collect more detailed information on delivery type through their state systems and even here there are definition and consistency of interpretation problems (Stewart-Rattray 2001, pp. 25-27).

- Online learning systems currently in place either within Institutions (eg OTEN, CIT Online in Canberra), or hosted on state managed sites (eg TAFE Virtual Campus in Victoria, or TAFE NSW Online) have Management Information Systems (MIS) which can provide statistics, but of varying depth and detail (see Framework Evaluation project section).
- Institutions rely on multiple systems and data collection regimes to provide the information they require. Online learning systems are not yet necessarily integrated with other learning management or student management systems, nor connected to other information or management decisions systems, but there is increasing pressure for this to happen. Integrated systems are just starting to emerge.
- Much of the data currently available requires manual manipulation to extract specific information about the degree of or detail about online learning or flexible learning activity.

## AVETMISS

National Australian VET statistics are based on the AVETMIS Standard (NCVER 2002a), a data framework providing consistency of collections across training organisations. The standard applies to all VET delivery by TAFE and other government providers, registered community providers, some VET delivered in schools, and publicly funded delivery by private providers. This currently has a single field for delivery type but this has several problems:

- It combines in a single value, location (eg 'campus based') and delivery mode.
- It has a single value for 'On-line and remote-access (including correspondence)' so these cannot be distinguished.
- It allows only a single value to be entered so combined modes cannot be recorded except as 'Other'.

As a result, "the aggregated data currently collected is of little value for research or planning" (Stewart-Ratray 2001, p. 7).

## The Student Outcomes Survey

The Student Outcomes Survey managed by NCVER surveys both TAFE graduates and TAFE module completers (those who attended and/or completed a TAFE course but were not graduates) annually.

According to Stewart-Ratray (2001, p. 24) "Statistical information for flexible delivery and online learning available from the latest Student Outcome Survey is considered to be vague at best due to the nature of the questions asked by the survey questionnaire." Three questions are asked related to mode of delivery; by what modes the course was delivered (multiple answers permitted), how the *majority* of the course was delivered, and which delivery mode was most satisfying.

Hill (in press) attempts some analysis by delivery mode based on graduates from the 1999 Student Outcomes Survey. However only 138 out of 63,198 responses gave the mode as online (as opposed to face-to-face or correspondence).

The Summary of the 2002 Student Outcomes Survey (NCVER 2002b) does not provide any analysis of Outcomes against study mode (eg classroom versus online and correspondence).

## Resources from Framework projects

### Performance Information Framework project

This project examined issues and made recommendations on ways of improving the data collection framework to provide for the development of robust performance information to support continuous improvement in the management of flexible learning. In particular it addressed what data sources were available to support the six measures of success in the Australian Flexible Learning Framework (ANTA 2001).

The final report of this project *Scope of Flexible Learning and Implications for Improved Data Collecting and Reporting Systems* (Stewart-Rattray 2001) is the best source for understanding the difficulties surrounding the collection of data on the scope of flexible delivery and online learning in Australia.

This report:

- Explores the reasons why the existing data collection systems provide very little useful information on online and flexible delivery.
- Points out that “there is a lack of understanding of what information is required to manage and measure the success of flexible learning. That is, managers do not know what they do not know about flexible learning and its outcomes.”
- Suggests that additional consultation is needed in the VET sector to define the nature and use of the desirable benchmarks for flexible learning.
- Makes recommendations on both immediate and medium term changes which should be made to AVETMISS to improve information collection on online and flexible delivery.

### ‘Researching on-line usage in the VET sector’ project

Robyn Hill and colleagues (Hill et al. in press) investigated the size and the scope of online delivery. This study focused on both what the spectrum that is online delivery involves, and to what extent it was occurring. The study used a mixture of quantitative and qualitative approaches, including a literature review, surveys of VET public and private providers, interviews with practitioners (147 respondents) and four case studies.

The report comments on authoritative and useful data sources (or rather the lack of) and issues of collection, as well as findings. **This report is likely to be the most comprehensive single data holding about the status of online learning activity in VET currently.** The final report is due to be published by NCVET shortly.

Acknowledging the limitations of the methodology and collection regimes, the study was unable to quantify the total extent of online learning within VET, but identified some 68 providers, and over 700 modules involving online delivery. The number of students was estimated to be relatively small, but to be at least 24,000.

This difficulty in measurement is exemplified by comparing findings by Cashion and Palmieri (2002) which suggests that, in Victoria alone, 79 providers were offering 1200 modules to at least 15,400 learners.

### Framework Evaluation project

The evaluation of the Australian Flexible Learning Framework project (KPMG 2002) made recommendations on possible changes to both the AVETMISS data collection and the Student Outcomes Survey to improve data collection on flexible delivery.

Given the lead time in implementing changes, it recommended changes which could be included in AVETMISS to cover reporting of training activity which takes place in 2004. It recommends that statistics record separately the delivery location (classroom, workplace, remote) and the delivery mode (face-to-face, print based, web-based, broadcast etc.).

The evaluation project also undertook a review of major state and provider-level online learning hubs and networks to see what automated collections systems are currently in place that can provide statistical information about flexible learning uptake within VET. This project mapped 16 systems and presented this information in a tabulated format identifying current MIS measurement capability against data each source might provide (KPMG 2002, p. 104). The report concluded that it was “not currently possible to quantify through the online networks the degree to which people use online learning (i.e. study fully online, partially, infrequently), and it is doubtful it will ever be feasible to do so robustly” (p. 117) but that “[t]he real potential for capturing performance data from online networks exists at the institutional level where they could provide a rich mine of information and trend data on aspects of take-up, use and outcomes of e-learning” (p. 120).

Over the five year period of the Framework 2000-2004, up to \$80m will be invested by the Commonwealth and the States and Territories through ANTA. In addition, there is considerable investment of time and the intellectual and creative resources of many participants in individual programs and projects sponsored through the Framework.

A three-phase evaluation strategy has been established to measure the impact of this initiative throughout the 5 year period. The first major evaluation report, delivered on 30 June 2002, established the evaluation architecture and provided a formative and summative evaluation of the Framework 2000-2001.

<http://flexiblelearning.net.au/aboutus/evaluation2001.pdf>

The second evaluation report published in June 2004, incorporates previous outcomes and provides an evaluation of the uptake of flexible learning in VET since 1999 and the impact of the Framework 2002-2003. This evaluation provides a the case for a future commitment for national flexible learning post 2004.

<http://flexiblelearning.net.au/aboutus/resources/evaluationreportfinal0604.pdf>

The third and final evaluation report is to be delivered by 30 March 2005. This report will incorporate previous evaluation outcomes and evaluate the Framework's impact in 2004.

## **Access to Flexible Learning Resources project Final Report**

This Strategy 2000 project investigated access to flexible learning resources within the Australian Vocational Education and Training (VET) system.

Section 6.5 of the final report (Backroad Connections 2000) attempted to estimate the extent of resources available within VET to support online and flexible delivery. It reported that “The existing pool of materials developed specifically for online delivery is quite small, although growing rapidly.” It provides estimates of the number of resources under various category headings. In listing available resources it stated that “there was no reason for this project to distinguish between general learning resources and those specific to flexible or online delivery”. Combining entries from 12 national databases and discounting for duplication and overlap, the report suggested there were in excess of 18,000 teaching and learning resources developed specifically for the Australian VET sector.

## Access and Equity project

The 2000 project sought to profile isolated learners in metropolitan areas based on analysis of AVETMISS data.

The 2001 project undertook a preliminary scan of VET activity with a specific focus of seeing whether it was currently possible to identify online learning participation trends by gender and geographic location. A finding of this report was the real difficulty getting specific information about women's participation in online learning and even more difficulty segmenting it by region.

Access and Equity project research reports can be accessed at:

<http://flexiblelearning.net.au/projects/accessandequityonline.htm>

### Other Resources

Other useful sources of statistical information include:

- **Flexible Learning 'State of Play' Survey:** This September 2001 survey (TAFE frontiers 2001) based on 235 (mainly Victorian) respondents provides a snapshot of the current status of Flexible Learning in VET. It identifies key issues, opinions, practices and needs from a cross-section of teachers, managers, developers and support staff in VET.
- **International comparisons on use of information and communications technology:** The National Office of the Information Economy *Current State of Play* report (NOIE 2002) provides statistical data ranking Australia and 13 other developed countries on 23 criteria related to access, use and affordability of phones, PCs and internet access and services. Includes an overall ranking in which Australia is third behind the USA and Sweden.
- **Business use of information technology:** The ABS Year Book Australia provides a summary of business use of computers, Internet access and whether the business has a website, analysed by business size and industry sector.  
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/28BC6E291F658B59CA256CAE0016342E>
- **Household use of information technology:** This ABS data series presents a detailed profile of the use of computers and the Internet by Australian adults.  
start at <http://www.abs.gov.au/> and search for "8146.0" or "Household Use of Information Technology".

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