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RESEARCH

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# **Why measure non-completions?**

**A literature review for the Service Skills Australia project  
“Evaluation Frameworks for VET”**

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## **Preamble**

Two points need to be made at the start of this paper.

First, in the literature on student completions in the vocational education and training (VET) sector, the voice of industry stakeholders such as employers and employees is a minor one. Some views of employers and employees are quoted in the literature reviewed below, but the major voices in the literature are those of researchers and policy makers.

This literature review attempts to turn up the volume on the views of employers and employees and show that they have a wide range of views about completions and non-completions and what they would like measured and recognised.

Second, this literature review and this project deliberately put the spotlight on student non-completions, but this is not meant to oppose those who champion and promote student completions of full qualifications. Far from it: student completions of full qualifications deserve to be honoured and respected.

However, industry stakeholders have indicated to Service Skills Australia that the reasons for student non-completions deserve more attention than they have received to date. This project is designed to unpack the wide range of reasons why people do not complete a course, to ensure that these reasons are also respected.

## **1. Key findings**

The reasons for non-completion of a VET course are diverse and complex and this diversity and complexity is not being captured by the current systems of measurement. For example, a non-completion of a VET course does not necessarily mean that a student has not achieved what that individual set out to achieve from undertaking the course. Hence, a sole focus on measuring completion rates might be underestimating the impact of VET on students.

It is therefore important to research the full range of reasons for non-completion in order to identify different stakeholder perspectives, assumptions and goals. Such research and the consequent unpacking of issues could assist multiple stakeholders including policy makers, training providers and students.

Non-completion measures, as used by the VET data collection system AVETMISS, raise the following issues:

- a. Limited scope: AVETMISS does not capture all the reasons for non-completion although the Student Outcomes Survey does capture some reasons for 'module completers' not continuing training
- b. Limited inclusion: AVETMISS only captures data from government funded VET programs and fee for service programs from government funded organisations
- c. Internal limitations of the data:
  - i. Course enrolment can only be inferred from module enrolments. Not all students have the intention of completing the whole course.

- ii. No distinction is made between an application for a qualification and course completion. Students might complete a course and not apply for their qualification, or at least take their time in applying for a qualification.
- iii. The data does not capture those students who are awarded qualifications for courses other than those in which they were originally enrolled.

Clearly, it is possible to improve the measurement of non-completion in VET and governments acknowledge this fact: the Council of Australian Governments (COAG) is looking to the National VET Data Strategy to provide new output and outcome measures for VET.

Ongoing research is required. There is a small body of VET research around the reasons why people do or don't complete their training and this could be augmented by further studies. However, there are only a handful of items in the literature that directly suggest ways to improve the data collection methods in the sector. This project will generally add to the first body of work and directly add to the second.

## **2. Introduction**

This literature review is an initial product from a project commissioned by Service Skills Australia (SSA) and entitled "Evaluation Frameworks for VET". The project is being undertaken from April 2010 to March 2011 with the assistance of VET research company John Mitchell & Associates and its quantitative division JMA Analytics. More details about the project are set out in Appendix 1.

The aim of this literature review is to summarise key ideas and gaps in the literature about how completions and non-completions are measured in vocational education and training in Australia.

### **Background to the project**

The 2009 SSA Service Skills Environmental Scan identified a range of about issues about completion rates. Critically, industry overall and the service industry in particular, believe that they have been unnecessarily disadvantaged by use of completion rates as a measure of success of industry training.

In response to this finding in 2009 SSA developed an issues paper "Evaluation Frameworks for VET on completion rates – issues paper on completion rates 2009" about the need for the development of nationally consistent data collection tools that will more accurately measure and evaluate course completion and non-completion rates. This current project and literature review are consequences of that issues paper.

### **Focus of literature review**

The literature review makes a start on the actions recommended in the SSA paper "Evaluation Frameworks for VET on completion rates – issues paper on completion rates 2009", including the following:

- to determine in the first instance if the current assumptions about the reasons for non-completions are correct
- to determine if the student and, where appropriate, the employer, have achieved their goals through the training that was completed, i.e. was the training valued
- to mount a case for a more consistent and accurate measurement system nationally.

In relation to challenging assumptions about non-completions, McInnis, Hartley, Polesel and Teese (2000) provide some summary comments about why assumptions need to be questioned:

There seem to be three prevailing assumptions underlying the lack of interest in this area in VET:

- Attrition is due to factors beyond the control of the institutes/ colleges and therefore cannot be influenced or addressed (Martinez 1995).
- Attrition is due to normal processes of over-enrolment, based on the expectation that large numbers will drop out early in their course (McGivney 1996).
- There is diversity in student motivations and expectations that is beyond the control of the institutions.

These assumptions are now being questioned. Accountability requirements, the need for increased efficiency in resource allocation and the diminishing pool of funds in the tertiary sector have led to increasing concern about the levels of non-completion (Kenwright 1997). As yet, however, they have not led to an increase in research in Australia into the processes associated with non-completion in the VET sector. (p.4)

In relation to whether the student and, where appropriate, the employer, have achieved their goals through the training that was completed, McInnis et al. (2000) make the point that non-completion does not mean failure:

Non-completion may signify the achievement of desired goals, either in the sense that skills have been gained, employment outcomes realised or articulation to further or higher studies successfully negotiated. (p.1)

In relation to mounting a case for a more consistent and accurate measurement system nationally, they also provide a view that remains largely unchallenged a decade later: "The current data sources on non-completion are far from adequate if they are to serve the needs of multiple stakeholders" (p.1).

The brief quotations above immediately indicate that Service Skills Australia's three concerns, as set out above and validated by further research cited below, are well founded and worthy of further investigation. Following the definitions in section three, a fuller discussion is provided in section four of why it is important to measure non-completions.

### 3. Definitions

Some brief comments on key terms used in this literature review are as follows:

- **Completion.** A number of different definitions exist for the concept of completion in VET. Grant (2003, p.17) quotes Foyster et al. (1999) who defined course completion as 'completing the number of distinct hours of study equivalent to the specified curriculum hours for a course', but Grant then points out the limitations of this definition. Grant himself then offers an alternative definition and immediately follows up with a list of limitations:

*Course completion occurs at that stage when a student completes the requirements for the award of a nationally-recognised qualification.*

It is recognised that there are many shortcomings with this definition. In practice, course completion is likely to be made more complex by factors such as:

- students being awarded an approved exit qualification prior to completing the course in which they originally enrolled
- students completing the requirements of a course as the result of an approved recognition process
- students of unknown enrolment status who may or may not be continuing in a course
- students transferring out of one course into another, or into one course from another

- policy differences and local practices in various contexts. (p.19)

- **Non-completion.** McInnis et al. (2000) note some difficulties in defining non-completion:

Analysis of non-completion in both the VET and HE sectors is confounded by problems of definition. Attrition, dropout, discontinuance, withdrawal and non-completion are often used interchangeably in the literature. (p.5)

They also identify different perspectives on and implicit definitions of non-completion:

Different perspectives on non-completion might perhaps be characterised as the institutional view and the systems view. A student who leaves an institution and goes to another institution either soon after or some time later is a non-completer from the perspective of the original institution, but not from the perspective of the system. Price, Harte and Cole (1991) in fact suggest three categories of withdrawal: systems attrition, institutional attrition, and internal attrition, the latter referring to students who transfer between courses within the same institution. They are not lost to a particular institution but they contribute to course attrition in institutional and national statistics. And, as we note throughout the review, there is the perspective of the individual. Tinto (1993) suggests that if the leaver does not define his or her behaviour as representing a form of failure, neither should the institution (p. 132). (p.6)

In brief and as further illustrated in the discussion below, the concepts of completion and non-completion are contested, problematic and unresolved. Tellingly, McInnis et al. (2000) entitle their first chapter “Problems of Definition”.

#### **4. Why is it important to research the reasons for non-completions?**

There are compelling reasons why non-completions deserve further investigation. The first reason is the national political goal, following on from the Bradley Review, of increasing the number of people completing full qualifications in VET. Skills Australia (2010, p.5) recently argued that Australia needs to expand tertiary enrolments so that 62% of employees hold Certificate III or above qualifications by 2015, rising to 70% by 2025. This Australian aspiration is not unique in the global economy: many other areas in the world such as Europe have a similar aspiration (Shreeve 2009; CEDEFOP 2009).

The second good reason to examine non-completions is the issue of equity. Much of the literature on non-completion is about equity groups and a concern that people with the least power are at risk by not completing their study programs. For example, Robinson and Bamblett (1998, in Dumbrell 2000, p.19) note that VET module outcomes for indigenous people still fall below the non-indigenous population, with lower pass rates and higher withdrawal rates.

To balance the national push for more people to acquire full qualifications, McInnis et al. (2000) caution against a negative view of those who don't complete programs: “non-completion is not necessarily negative” (p.8).

In the VET sector, non-completion of modules does not necessarily signify a negative outcome, any more than non-completion of a course does for a student whose goal is a marketable skill rather than a qualification:

...completion is an institutional artefact...To the student who seeks a job in the field, completing the programme becomes irrelevant as soon as a job is available. The categories ‘graduate’ and ‘dropout’ lose much of their force when viewed in this light (Cohen and Brawer 1996). (p.9)

They reiterate that non-completion in both the VET and HE student experience “does not always equate with failure” (p.1).

Non-completion may signify the achievement of desired goals, either in the sense that skills have been gained, employment outcomes realised or articulation to further or higher studies successfully negotiated. Given that many students return to study fairly soon after withdrawing from a course, and a substantial number return at some time later, the notion of non-completion from a lifelong learning perspective is less meaningful than it once was. However, for the most part, non-completion remains a serious problem, especially for students from disadvantaged circumstances and in particular fields of study and disciplines. (p.1)

Dumbrell (2000) adds that the VET system is liable to underestimate its impact if it takes too narrow a focus on course completion:

... the VET system is probably considerably underestimating the dimension of its outputs (and hence the overall impact of its outcomes) because it has a significant emphasis on course completion. Because many students do not seek to complete courses, but simply aim to gain skills associated with individual modules, the system is distinct from other areas of education and probably requires an expansion of its outcome measures. (p.32)

Dumbrell adds that “partial completers” are both common and an important outcome for VET providers. “Partial completers” as those students “who, before leaving the course, successfully completed at their first attempt, the modules they enrolled in, and the sum of the hours for these modules was less than the hours specified for the course” (p.16).

A large number of VET clients undertake selected modules rather than whole courses. In 1997 over 46 per cent of clients undertook one or two modules in the year (NCVER 1998b). As Foyster, Fai and Shah (2000) show in their study, the number of TAFE students partially completing a course also represents an important output from the TAFE system and a largely unrecognised outcome. They found that almost twice as many TAFE students would be ‘partial completers’ of courses as would complete a course. They found that completion was much more likely for shorter courses; that is, of one year or less, rather than for longer courses. (p.16)

McInnis et al. (2000) add that the significance of completion, then, depends on the views of the stakeholders:

For an employer, acquired skills may be more important than an assessed qualification, but a funding body that depends on module completion rates to assess programme efficacy and efficiency will nevertheless view non-assessment as non-completion and consequently as a system failure (Cleary and Nicholls 1998). (p.9)

They note that in both HE and VET, a student may view a job placement as a successful outcome “regardless of whether or not the module or course has been completed” (p.9).

Lewis (2008) reports on a high-level VET seminar at which the view was put that low completion rates are not always a sign of failure:

A number of participants remarked upon the low completion rates for VET courses — in some areas less than 20 per cent. However, it was pointed out that many people take only the number of modules sufficient to upgrade their skills — which allows them to get a better job, promotion or a higher salary — and then purposefully abandon the course. This strategy could be regarded as optimising behaviour as far as both the student and the training sector are concerned. (p.10)

However, at the same seminar, others expressed dissatisfaction with this view:

This explanation, however, did not carry weight with others who insisted that completion rates of 20 per cent are unacceptable, particularly for entry level training. In fact, one participant presented figures that show how markedly apprenticeship completions differ across the states: there is a 20 percentage-point difference between the highest and lowest states. This suggests that some states are more successful at delivering programs that apprentices want to complete. (p.10)

McInnis et al. (2000) also warn about the danger of being too positive about non-completion:

There is, however, considerable danger in being overly positive about non-completion. Grubb (1995) maintains that low completion rates remain a concern, 'especially because they are particularly low for minority students' (1995, p.28) and he argues that we should still be concerned about non-completion because the economic benefits of community colleges are much higher for students who *do* complete their programmes. (p.9)

A number of VET reports specifically examine the reasons why students may not complete VET programs or acquire qualifications. For example:

- Karmel and Virk (2006), Snell and Hart (2008) and Karmel and Mlotkowsk (2010) examine reasons for the non-completion of apprenticeships and traineeships.
- Balatti, Gargano, Goldman, Wood and Woodlock (2004) identify intra-institutional factors that affect Indigenous students learning experiences and their completion rates in VET.
- Polesel, Davies and Teese (2004) consider the factors that influenced VET students to continue or discontinue their studies.
- Callan (2005) looks more broadly across the sector at why students leave VET with no recorded achievement.
- Misko and Priest (2009) analyse VET students' suggestions for improving their vocational education and training experience.

The breadth of these studies suggests that the reasons for non-completion are multiple and varied, with much to be gained from researchers continuing to examine reasons in relation to different cohorts of students and possibly other factors such as program, location and duration (e.g. Karmel & Mlotkowski 2010 examine duration).

While some reasons for non-completion may be unique to a cohort, other reasons are cited frequently in the literature, such as a lack of information about a program before students enrol. McInnis et al. (2000) summarise some common reasons for non-completion and suggest some practical interventions:

Factors such as wrong choice of course or subject, poor preparation and lack of readiness and commitment, figure prominently in the reasons for non-completion. These suggest the need for a closer examination of the information, recruitment and selection processes. A substantial number of students are not at all well-informed about the nature and demands of the courses for which they apply. The mismatch between student expectations and reality is a primary cause of confusion and uncertainty. (p.1)

Employers, not just training providers, can assist with completion rates. Mitchell, Dobbs and Ward (2008; 2009) examine employers' attitudes to the attraction and retention of apprentices and identify a range of reasons why apprentices become disengaged and/or leave. They provide a raft of suggested strategies employers can use to ensure apprentices are retained and complete their programs. Their studies underline that the reasons for non-completion and the types of possible interventions are many and varied.

In summary, it is important to research the reasons for non-completion to identify different perspectives, assumptions and goals. Such research and the consequent unpacking of issues could

assist multiple stakeholders including policy makers, training providers and large numbers of students.

## 5. What don't we know about non-completions?

The above discussion shows that the reasons why students don't complete a program of study or acquire a full qualification is difficult to answer and may differ from one person or group to the next. In an extensive literature review based on overseas studies, McInnis et al. (2000) find that there may be multiple reasons for non-completion:

... it is clear that student withdrawal is complex and often very individualised process involving the interplay of institutional, social and personal factors. Identifying single factors influencing withdrawal is risky since the research consistently demonstrates that it is rarely the case that any one factor is the cause for a given student deciding to leave. (p.1)

They also caution that students who withdraw and students who persist "are not necessarily distinct groups", making it difficult to predict who will withdraw.

Concerns and attitudes that lead to withdrawal for some students are shared by others who persist. This makes prediction of possible withdrawal very difficult and suggests that broad institutional strategies, as well as strategies directed at particularly vulnerable groups of students, are likely to be most effective. (p.20)

Lewis (2008) acknowledges the commonly expressed view that VET students don't complete a program because they have achieved all they want from it:

The reasons for non-completion are many. For instance, it could be that students can't cope, or that when they start studying they find the modules are not a worthwhile investment in terms of getting a better job. Some students also achieve the skills they require before they complete their course, and so it makes sense to leave the VET system. (p.10)

McInnis et al. (2000) challenge this "conventional wisdom" that "dropouts" leave because they have achieved their goals:

Grubb questions what he describes as having developed into a 'conventional wisdom'—the belief that dropouts leave because they have attained what they set out to achieve on enrolment. This, he argues, assumes sophistication among students that we cannot take for granted. Not all dropouts enrol knowing exactly what benefits they can expect to get from their course and exactly when to maximise these benefits by a strategic withdrawal. (p.10)

Lewis (2008) identifies two different camps around the issue of non-completion – those who see it as not necessarily student failure and those who are concerned about national inefficiency. But the two camps seem to agree that more research is needed about non-completion:

He (Tom Karmel) also emphasised that it is important not to confuse non-completion with failure, since many of the students picked up useful skills which could earn them better money or better jobs. Others however still regard non-completions as a waste of public money. Given the diversity of the VET population, clearly there are groups for whom the sector has been highly successful, and others for whom the rates of non-completion are sufficiently concerning as to suggest the need for more research. (Lewis 2008, p.10)

Dumbrell (2000) focuses on non-completion among equity groups and warns about the assumption that all equity groups are liable to have low completion rates:

There are significant differences among target groups when module load pass/completion rates are examined. Nationally, female students achieve slightly better pass and completion rates than males. Those in rural and remote regions also appear to record pass and completion rates at least the equal of those in urban areas. On the other hand, indigenous students, those from a non-English-speaking background and those with a disability generally record pass and completion rates 5–10 percentage points or more below persons not in those categories. (pp.18-19)

Finally, at the 2008 VET seminar of leading VET policy makers and researchers, the question was left on the table at the conclusion of the event as to whether non-completion is a significant issue or not:

Is non-completion an issue (bearing in mind that 88 per cent of students in VET study part-time and many people go to VET to gain skills, not necessarily qualifications), and, if it is, who are the individuals who do not complete, why do they not complete, who is accountable and what do people who don't complete go on to do? (Lewis 2008, p.18)

In brief, there is still more to be discovered and debated about the topic of non-completions in VET.

## **6. How does VET currently measure completions and non-completions?**

To provide a framework for the collection of statistical data on VET, AVETMISS was established. This is a nationally agreed set of rules that facilitates the collection of consistent and accurate information on the VET sector. It is managed and supported by NCVER, with the state and territory training authorities providing information to training providers on jurisdictional data collection requirements.

At present, the AVETMISS data collection is only required for government funded training programs, but this may change. NCVER has been charged with the responsibility to improve the coverage of the national VET Provider Collection by extending its coverage to include private fee-for-service activity. This is an acknowledgement by governments of a data gap (correspondence to SSA from C. Fowler, 2009).

In practice the reasons for non-completions are often not recorded for many government funded programs, nor are they captured for non-government funded non-completions, and in most cases the completion rates of partial qualifications, such as statements of completion, are not recorded (SSA 2009, p.5). McInnis et al. (2000) note that the data sources on non-completion in both VET and higher education are far from adequate:

Local variations in the compilation and interpretation of data at the institutional level make trend and comparative analysis of non-completion difficult. System and institutional level understandings of non-completion require different approaches to monitoring patterns of student departure and, in many cases, re-enrolment. (p.1)

Further discussion on the VET data collection system is provided in Appendix 2. While that discussion acknowledges the attributes and limitations of the VET data collection, it emphasises that AVETMISS files are not easily navigated or understood. In short, they are not user friendly.

## **7. Could non-completions be measured in a more consistent and accurate way, nationally?**

Based on the literature, the short answer to this question is yes, and there is acknowledgement at government level that overall VET data collection could be improved. As part of the reform program of the Council of Australian Governments (COAG), the National Senior Officials Committee (NSOC), the administrative arm of the Ministerial Council for Vocational and Technical Education (MCVTE), has carriage of the National VET Data Strategy, which is to develop output and outcome measures for VET. Currently the National VET Data Strategy Action Group is developing an implementation plan for NSOC that encompasses the initiatives in the Allen Consulting Group Report on the National VET data strategy (January 2009). The COAG reform agenda “will place increasing reliance on measuring and reporting outcomes as distinct from focusing on the resources used (that is, inputs)” (Karmel 2009, p.3).

As part of this coordinated national approach, the National Training Statistics Committee is developing a student intentions survey to better understand student intentions at the time of enrolment and in particular whether they intend to complete a full qualification or specific competencies (correspondence to SSA from C. Fowler, 2009). These government initiatives are timely, as there would only seem to be benefits from an improved data collection approach nationally.

The Australian Higher Education sector has had since a government announcement in 2003 a web-based information system called the Higher Education Information Management System (HEIMS) that provides a point of comparison and inspiration for the VET sector. HEIMS effectively enables the collection of a range of data on course completion and non-completion rates. Input, output and outcome data is collected and analysed to give a reasonably comprehensive data set for evaluating the performance of the higher education provider sector (SSA 2009, p.7).

Currently, VET non-completions are measured in a haphazard and incomplete manner, so a more consistent, accurate and structured approach, such as that modeled by HEIMS, is desirable. However, the issues involved are difficult ones: the head of NCVER Karmel (2009) places the measurement of outcomes in the category of “Avoiding the hard issues” and notes that “Completion rates would appear to be important and these have proved difficult to calculate” (p.11).

Karmel (2009) also challenges the value of solely counting the number of people with qualifications:

If we think of VET as adding to human capital, then we would want to know the rate at which Australia’s human capital is increasing. Indicators about the proportion of people with qualifications are an obvious measure. However, such a measure is very partial. In particular, qualifications are of no use if they do not attract a return. So I would be looking for evidence that vocational qualifications are valued in the workforce. The measures of this are employment rates and wage rates. With some trouble these can be combined into a measure of workforce quality (akin to the Australian Bureau of Statistics [ABS] measures of factor productivity). (p.12)

Karmel also observes that completion rates are more relevant to some groups than others:

For example, we know that outcomes are generally better for people who are upgrading their qualifications, but not necessarily for those who are broadening their skills. Thus completion rates of new entrants to the labour market are most likely to be of more importance than completion rates of older people, who may or may not be upgrading qualifications. (p.13)

Karmel’s comments are a caution against using too glibly or simply any single measure such as the completion rate. His comments reinforce a key theme in this paper, that considerable care is needed in both measuring and interpreting completion and non-completion rates.

## Acronyms

Some commonly used acronyms in this paper are:

- AQTF: Australian Qualifications Training Framework
- AVETMISS: the Australian Vocational Education and Training Management Information Statistical Standard. It is a nationally agreed set of rules that facilitates the collection of consistent and accurate information on the VET sector
- COAG: Council of Australian Governments
- HE: higher education
- NCVET: National Centre for Vocational Education Research
- VET: vocational education and training.

## **Appendix 1: Overview of the research project**

### **Project title**

Evaluation Frameworks for VET

### **Project focus**

The focus of this project is the collection of accurate and meaningful data pertaining to student non-completion of courses, and in particular:

- What non-completion data is currently being collected in VET?
- What non-completion data that is not being collected, but should be collected?
- What is the preferred structure, frequency and collection methodology for data on non-completion rates?

The initial investigation in this project will move along the following path:

1. Determination of data requirements
  - a. What do SSA stakeholders want from completion rate data?
  - b. This will require interviews with a number of SSA stakeholders and affiliated organisations, as well as interviews with people who are currently working with non-completion data
2. Determination of the extent to which current non-completion data meets SSA's requirements or preferences
3. Recommendation for new draft non-completion data standards that meet the requirements of SSA.

Once draft standards emerge from this literature review and industry consultations (stage 1), these standards will be tested with three registered training organisations in the second half of 2010 (stage 2). Then results from these field tests will be analysed and a report prepared (stage 3).

### **Project stages**

#### **Stage 1, April-June 2010. Initial qualitative investigation to determine:**

- a. user needs from non-completion data
- b. issues with current non-completion data
- c. issues emerging from a review of AVETMISS data collection approach
- d. progress report on Stage 1

#### **Stage 2, July-December 2010. Trial evaluation of changes to AVETMISS data collection approach:**

- e. The RTOs used for this collection will be selected and briefed.
- f. trial to run for six months within the RTOs, normally July-Dec 2010, with a progress report and analysis compiled part way through that six-month period

**Stage 3, January-March 2011. Data analysis report and debrief:**

- g. final report and recommendations

**Contact**

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## Appendix 2: Brief discussion of the VET data collection system

The following brief discussion acknowledges the attributes and limitations of the VET data collection system, but ultimately suggests that AVETMISS files are not user friendly.

To open the discussion, Grant (2003) points out the limitations of AVETMISS in measuring course completion:

At the national level, the closest measure of course completion at the whole course level is the 'qualification completed' file which is recorded in the national VET information system, AVETMISS11.

*This file contains a record for each acknowledgement by the training organisation that a client has completed the requirements for a qualification, either during the collection period or in a year prior to the collection period (where that qualification has not previously been reported), regardless of whether or not the client has physically received the acknowledgement . . . The reported entitlement to a qualification must relate to a client's course of enrolment or an approved exit qualification, or result from an approved recognition process. (NAT00130, S2–12)*

This measure provides a means of determining the total numbers of qualifications completed each year in Australia, figures which are published each year by NCVET.

These figures by themselves provide no basis for estimating 'completion rates'. It is only when compared with course enrolment figures that we can start to get a picture of the rate at which students enrolling in courses are completing them. (p.18)

The AVETMISS data collection is a large relational database containing data pertaining to registered training organisations, courses, modules/units of competency and clients' demographic and prior education background as well as enrolment and qualification completion details associated with VET delivery throughout Australia. Both government funded and fee-for-service VET activity from government funded organisations are reported in the data. It is optional as to whether or not non-VET courses are reported.

NCVER's publication "AVETMISS VET Provider Collection Specifications. Release 6" is the authoritative national reference for VET providers. Another description of the AVETMISS data can be found in Department of Innovation, Industry and Regional Development (2009) and Department of Educational Science and Training (2006).

As a relational database, the AVETMISS data contains ten data files, each of which contains its own specific data elements. The following table lists the file name, the AVETMISS file number and a brief description of the data elements contained within each file.

**Table 1. AVETMISS: file name, the AVETMISS file number, and a brief description of elements**

File Name	File Number	Description of elements
Training Organisation	NAT00010	One record
Training Organisation Delivery Location	NAT00020	One record for each location where the RTO conducts the training
Course	NAT00030	One record for each course that the RTO has conducted during the submission year

Module/Unit of Competency	NAT00060	One record for each module or unit of competency that the RTO has conducted in the submission year
Client	NAT00080	One record for each student enrolled by the RTO during the submission year
Client Postal Details	NAT00085	One record for each student whose record appears in the Client file (NAT00080)
Client Disability	NAT00090	One record for each disability claimed by a student
Client Prior Educational Achievement	NAT00100	One record for each prior educational achievement declared by a student enrolled by the training organisation
Enrolment	NAT00120	One record for each separate module or unit of competency enrolment by a student
Qualification Completed	NAT00130	One record for each entitlement to a qualification by a student enrolled by the training organisation

The above table was drawn from Department of Innovation, Industry and Regional Development 2009 'Victorian VET Student Statistical Collection Guidelines', issued June 2009, Version 1.1. pp. 11-12.

Any investigation into the ability of AVETMISS data to provide adequate information about completion rates would primarily focus upon two files, NAT00120 (enrolment) and NAT00130 (qualifications), and the relational properties between these two files.

Grant (2002) notes that the closest measure of course completion at the whole-course level is the Qualification Completed file (NAT00130).

This measure provides a means of determining the total number of qualifications completed each year in Australia. (p.18)

However, as Grant observes, qualification completion data is no basis for estimating completion rates.

It is only when compared with course enrolment figures that we can start to get a picture of the rate at which students enrolling in courses are completing them. (p.18)

This enrolment information is contained in the Information file (NAT00120).

Grant (2003 p.19) further argues that it is not possible to directly compare results derived from both NAT00130 and NAT000120 for the following two reasons:

- Tabulated data for both enrolments (derived from NAT000120) and qualifications (NAT000130) cannot be directly compared because the two tables do not represent the same cohorts of students. That is, if tables were produced for the year 2007, one cannot simply subtract qualifications from enrolments to estimate course completion. The primary reason for this is that many of the qualifications awarded will be to students who enrolled in courses earlier than 2007. Similarly, not all those enrolled in 2007 will complete their course in 2007, and will instead appear as having met the requirements for a qualification in subsequent years.
- Enrolment data in NAT000120 contains information about non-AQTF accredited subjects.

However, Grant's arguments can be challenged in two ways. First, Grant formulates these hypotheses on the basis of two tables – one drawn from the AVETMISS Enrolment file (NAT000120), and the other drawn from the Qualifications file (NAT000130). While it is correct to argue that completion rates cannot be inferred from a comparison of these tables, it is incorrect to assume that completion rates cannot be determined from these two files. As AVETMISS data is put together in a

relational database, a quantitative analyst is able to link enrolment data from AVETMISS with qualifications data from AVETMISS. Both the AVETMISS Enrolment file (NAT000120) and the Qualifications file (NAT000130) have in common a “unique client (student) identifier”. This common key allows the interrogation of the data in such a way that an analyst with adequate skills is able to determine overall completion rates for a given period of time.

Second, while the Enrolment file (NAT000120) contains information about non AQTF accredited subjects, the relational properties of the AVETMISS data allows the analyst to separate AQTF accredited subjects from non-AQTF accredited subjects. All subjects entered into the AVETMISS database are distinguished by a “qualification/course recognition identifier”, informing the analyst about whether or not a subject is nationally accredited under the AQTF. This feature of the AVETMISS data allows a competent analyst to analyse completion rates of just those courses accredited under the AQTF.

It is noteworthy that advanced analytical and data skills are needed to undertake these two tasks with the VET data and also to challenge Grant.

On the other hand, Grant (2003 p. 19) puts forward the following arguments which are well made:

- VET course enrolments are only inferred from module enrolments. That is, not all students have the intention of completing the whole course.
- In most States, students need to apply for a qualification once having completed a course. As a result, many students might have completed a course, but not applied for a qualification. Therefore, NAT0013 (qualifications file) might under-represent the number of students who actually complete the requirements.
- Students may be awarded qualifications for courses other than those in which they were originally enrolled. In many cases, they might leave prematurely, happily settling for a lower qualification.

These latter arguments by Grant correctly draw attention to some problems with the VET data collection. The discussion above also suggests that the AVETMISS files are not easily understood or navigated.

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