SUPPORT DOCUMENT

NCVER

VET qualification completion rates 2021: explanatory notes

National Centre for Vocational
Education Research

Publisher's note

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Contents

Explanatory notes

Scope

1   Activity covered in this publication includes nationally recognised VET delivered by Australian registered training organisations (RTOs):

- TAFE institutes

- universities

- community education providers

- enterprise providers

- private training providers

- schools

- Australian RTOs delivering VET at overseas campuses.

2   This publication does not cover the following types of training:

- non-nationally recognised training

- credit transfer

- superseded training (reported with national outcome identifier '61 - superseded training')

- not yet started training (reported with national outcome identifier '85 – not yet started')

- any activity where revenue was earned from another RTO in terms of sub-contracting, auspicing, partnership or similar arrangements.

Data sources

3   The information contained in this publication is, unless otherwise stated, derived from the National VET Provider Collection and the National VET in Schools Collection, with duplicated activity removed. For the National VET Provider Collection, data can be reported to NCVER directly by the training providers or via state training authorities. For the National VET in Schools Collection, data are reported directly by the boards of studies and via the state training authorities to NCVER. These collections are compiled under the Australian Vocational Education and Training Management Information Statistical Standard, release 8.0. For further information on AVETMISS go to <https://www.ncver.edu.au/rto-hub/statistical-standard-software/avetmiss-vet-provider-collection-specifications-release-8.0>.

4   The National VET Provider and National VET in Schools collections collect enrolment and completion details of VET students and their qualifications. While these national databases are essentially cross-sectional by year, there is enough information to match data over a number of years for individual VET students and the qualifications they undertake. Obtaining such a longitudinal dataset allows the use of mathematical techniques that rely on conditional probabilities to then calculate projected completion rates.

Completion rates methodology

5 A VET qualification completion rate is simply defined as the proportion of VET qualifications that commenced in a given year that are eventually completed. It requires knowledge about when a student commences a qualification and, ultimately, when a student exits (such as successfully completing or discontinuing). Unfortunately, the time taken for a student to exit a VET qualification varies, in line with factors such as Australian Qualification Framework (AQF) level and mode of study. Consequently, for any given cohort of commencing students, there is a natural time lag before qualifications are completed and, consequently, a completion rate becomes 'final' (reported here as *observed actual*).

6 A further problem is that there is a delay in reporting completions, meaning that completions occurring in a given year might take a year or more to be reported. Not surprisingly, the longer we wait, the more accurate the completion rate becomes, although, as time goes by, the data become less relevant, making the information less useful for performance evaluation. While the direct approach of tracking qualifications from start to finish is adequate for tracking historic observed actual rates of completion, the need remains to derive projected completion rates for the most recent years.

7 To overcome this issue, NCVER has developed a methodology for calculating projected qualification completion rates using a longitudinal dataset in which data for an individual student are linked from commencement to completion (outlined in *The likelihood of completing a VET qualification: a model-based approach,* available at <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-likelihood-of-completing-a-vet-qualification-a-model-based-approach>). This approach uses information about qualification enrolments over a three-year window (centred on the year of interest), together with the theory of absorbing Markov chains to derive the probability that a commencing VET qualification enrolment will eventually be completed.

8 The advantage of Markov chain theory is that the probability of an entity 'transitioning' from one status to another in successive time periods is not dependent on past transitions. This means we can use knowledge of the 'status' of qualification enrolments across successive years to predict the qualification completion rate without having the full history of all qualification enrolments. Another advantage of the methodology is that it can be readily applied to subsets of the data based on student demographics or attributes of the training. However, our methodology means that projected completion rates, particularly for the latest year of activity, are likely to be overstated due to the high proportion of continuing students in the forecast calculations.

9 In the Markov chain formula, qualifications can belong to one of four states in a given year:

- commenced
- continuing, that is they commenced in the previous year and have an enrolment in the current year
- completed, that is we have a record of their completion
- discontinued, that is they had an enrolment in the previous year but in the current year have neither an enrolment nor a completion recorded.

10 Using our assumption that qualifications will be completed within four years, we look at qualifications' progression through these four states. At the end of four years, we assume all qualifications that were not completed were discontinued such that every qualification reaches a

"final" state (figure 3). The proportion of students who reach the "completed" state form the basis of our observed actual completion rates. For years where we do not yet have data, we predict students' transition through the different states based on calculated probabilities and use this as the basis of projected completion rates.
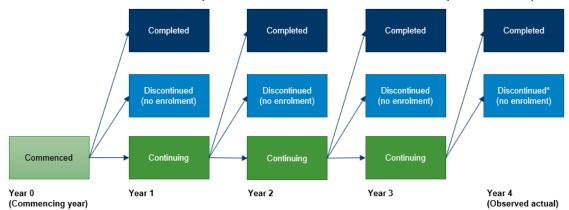
Figure 1   Definition of the states of a VET qualification in the model used to calculate VET qualification completion rates

*At the end of four years, we assume all qualifications that were not completed were discontinued, such that every qualification reaches a "final" state.

11 Projected completion rates for VET qualifications commencing in the most recent years are overstated due to the methodology used to calculated completion rates. As time passes, projections come closer to actuals as more records reach their final state of "completed" or "discontinued".

12 NCVER has suspended reporting of projected completion rates for qualifications that commenced in the most recent year, in this case 2020, due to limitations with the methodology and the reliability of resulting estimates.

13 Further explanation of qualification completion rates, including recent methodological reviews can be found in the technical paper *VET qualification completion rates: an evaluation of the current method* (available at https://www.ncver.edu.au/research-and-statistics/publications/all-publications/vet-qualification-completion-rates-an-evaluation-of-the-current-method). The methodology used is regularly reviewed and improved.

Subject load pass rates methodology

14 Subject load pass rate is the ratio of hours (or full year training equivalent — FYTE) attributed to students who gained competencies/passed assessment in an assessable module or unit of competency to all students who were assessed and either passed, failed or withdrew. The calculation is based on the annual hours (or FYTEs) for each assessable module or unit of competency and includes competencies achieved/units passed through recognition of prior learning. The subject load pass rate is calculated using the following formula based on national outcome codes:

$$\frac{(20 \text{ (Competency achieved/pass)} + 51 \text{ (Recognition of prior learning - granted))} \times 100}{\begin{array}{l}(20 \text{ (Competency achieved/pass)} + 51 \text{ (Recognition of prior learning - granted)} + \\ 30 \text{ (Competency not achieved/fail)} + 40 \text{ (Withdrawn)} + 52 \text{ (Recognition of prior learning – not} \\ \text{granted))}\end{array}}$$

15 Further explanation of subject load pass rates, including definition and methodology, can be found in the occasional paper *Lifting the lid on completion rates in the VET sector: how they are defined and derived,* available at <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/lifting-the-lid-on-completion-rates-in-the-vet-sector-how-they-are-defined-and-derived>.

Terms

Accredited qualifications refer to nationally recognised courses that lead to a qualification outcome not specified in a national training package.

Australian Qualifications Framework (AQF) is a nationally consistent framework of credentials offered in post-compulsory education and training that covers qualifications from certificate I through to a doctoral degree. For more details on the AQF, see <http://www.aqf.edu.au>.

Commonwealth and state funding is expenditure by the Commonwealth or state/territory governments for the delivery of vocational education and training.

Community education providers are not-for-profit, community-based organisations with a primary focus on adult education. Community-based adult education delivers courses relating to leisure, personal and community development, employment skills, preparation for VET and nationally recognised programs of study.

Domestic fee-for-service funding is the revenue provided by a student whose citizenship status is Australian, New Zealand or permanent resident for the purpose of undertaking education and training.

Enrolment (program/subject) is the registration of a student for the purpose of undertaking a program or subject.

Enterprise providers are registered training organisations whose primary business is not the delivery of training and development.

Field of education describes the broad area of study related to a qualification or subject in which a student is enrolled.

Full-time students are students whose program of study constitutes at least 75% of the normal full-time study load. The former Department of Education, Employment and Workplace Relations (DEEWR) regarded a full-time study load as 720 contact hours in a year. Therefore, any student undertaking 540 hours or more is regarded as a full-time student.

Full-year training equivalent (FYTE) measures the training activity undertaken by a student on a full-time basis for one year.

Funding source refers to the predominant source of the funding for a subject enrolment. For students with subject enrolments in more than one funding category, a major funding source is assigned in hierarchical order (Commonwealth and state funding, Domestic full-fee paying and International full-fee paying).

Government funding relates to Commonwealth and state/territory funded activity delivered by registered training providers (RTOs).

International fee-for-service funding is revenue provided by a client who holds a student visa or a temporary residency permit or who resides in an overseas country for the purpose of undertaking education and training.

Level of education identifies the level of a program in which a student is enrolled. It identifies the degree of complexity of the program of study.

Nationally recognised programs include training package qualifications, accredited qualifications, training package skill sets and accredited courses that are listed on the National Training Register (training.gov.au).

Nationally recognised training (NRT) is training that leads to vocational qualifications and credentials that are recognised across Australia, that are delivered by registered training organisations (RTOs). Nationally recognised training is listed on the National Training Register (training.gov.au).

Observed actual qualification completion rate are based on the proportion of the commencing cohort completing, calculated after enough time has passed for all students who were going to complete their qualification to have done so.

Private training providers refers to privately-owned and operated training providers that are registered by the Australian Skills Quality Authority, or a state/territory accrediting body.

Projected qualification completion rate refers to the percentage of enrolments that are estimated to be completed, according to statistical modelling developed by NCVER.

Provider type refers to the type of institution or organisation providing the training.

Qualifications in the VET sector refers to the Australian Qualifications Framework (AQF) levels of education from certificate I through to graduate diploma.

Qualification enrolment is the registration of a student at a registered training organisation for the purpose of undertaking a unit of competency or an accredited unit, which leads to or is part of a nationally recognised qualification.

Registered training organisations (RTOs) are training providers registered by the Australian Skills Quality Authority (ASQA) or, in some cases, a state or territory registering and accrediting body, to deliver training and/or conduct assessment and issue nationally recognised qualifications in accordance with the Australian Quality Training Framework or the VET Quality Framework.

Schools are established or recognised under an Act of parliament for the purpose of providing courses of instruction in preschool, primary or secondary education.

State/territory of delivery location is the state or territory relating to the specific training location where the activity was delivered. For online delivery it must be the location from which the training delivery is coordinated.

Students refers to individuals who were enrolled in a stand-alone subject and/or program during the reporting period.

Subject load pass rate is the ratio of hours (or FYTEs) attributed to students who gained competencies or passed assessment in an assessable subject, to all students who were assessed and either passed, failed, or withdraw.

Subject result is the result that is recorded against a student's subject enrolment for that reporting period.

Total VET activity (TVA) refers to all nationally recognised training (incorporating both government-funded and fee-for-service activity) delivered by registered training providers.

Training packages are developed by Service Skills Organisations (formerly by Industry Skills Councils) to meet the training needs of an industry, or a group of industries. Each training package is made up of three components: units of competency, qualifications framework levels of education and assessment guidelines. For further information refer to <http://www.training.gov.au>.

Training package qualifications are nationally endorsed qualifications specified in a national training package.

Unique student identifier (USI) uniquely identifies an individual who accesses vocational education and training over his or her lifetime.

Universities include Australia's universities, which have been established or recognised under state or territory legislation, except the Australian National University, which is constituted under an Act of the federal parliament. Data reported for universities are for graduates who completed VET qualifications.

Vocational education and training (VET) refers to post-compulsory education and training that provides people with occupational or work-related knowledge and skills. VET also includes programs which provide the basis for subsequent vocational programs.