



National Student Outcomes Survey 2022 (apprentice and trainee component) – technical notes

National Centre for Vocational
Education Research

This document was produced as an added resource for further information on *Apprentice and trainee outcomes 2022*. The publication is available on the NCVER Portal:
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This document should be attributed as NCVER 2023, *National Student Outcomes Survey 2022 (apprentice and trainee component) – technical notes*, NCVER, Adelaide.

This work has been produced by NCVER on behalf of the Australian Government and state and territory governments, with funding provided through the Australian Government Department of Employment and Workplace Relations.

Published by NCVER, ABN 87 007 967 311

Level 5, 60 Light Square, Adelaide, SA 5000
PO Box 8288 Station Arcade, Adelaide SA 5000, Australia

Phone +61 8 8230 8400

Email ncver@ncver.edu.au Web <<https://www.ncver.edu.au>> <<https://www.lsay.edu.au>>

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Introduction

Apprentice and trainee outcomes 2022 provides a summary of the outcomes of apprentices and trainees aged 15 years and over who completed or cancelled/withdrew from their apprenticeship or traineeship during 2021, with the data collected in mid-2022. These groups are referred to as ‘completers’ and ‘non-completers’ respectively in the publication and related products.

The 2021 and 2022 figures are derived from apprentices’ and trainees’ responses to the National Student Outcomes Survey (SOS), which is an annual survey of vocational education and training (VET) students. Data for 2019 are available in the accompanying DataBuilder product and are sourced from the 2019 Apprentice and Trainee Experience and Destinations (ATED) Survey.

In 2022, the SOS collected information on apprentices’ and trainees’ reasons for undertaking their apprenticeship or traineeship, reasons for non-completion, their employment outcomes, further study outcomes and satisfaction with the apprenticeship or traineeship.

This document describes the survey data used to derive the *Apprentice and trainee outcomes 2022* publication and related products.

Background

In 2019, NCVET conducted the ATED Survey, which was a national survey of apprentices and trainees that was integrated with the 2019 SOS. The surveys ran concurrently and key¹ SOS questions were included in the ATED questionnaire alongside other questions specific to apprentices and trainees. The scope of the 2019 ATED survey was apprentices and trainees aged 18 years and over, who undertook a contract of training with an employer and a training provider and who:

- completed all the requirements of a contract of training in 2018; or
- cancelled or withdrew from a contract of training in 2018 prior to completing all prescribed requirements of their apprenticeship or traineeship.

In 2021 and 2022, students sampled for the SOS who were flagged as undertaking their training as part of an apprenticeship or traineeship in the National VET Provider and National VET in Schools collections were asked additional questions about their apprenticeship/traineeship. These additional questions were sourced from the 2019 ATED Survey. Further information on the 2019 ATED Survey is available in the *Apprentice and trainee experience and destinations survey 2019: technical notes* at <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/apprentice-and-trainee-experience-and-destinations-2019>.

Survey scope

This section outlines the criteria used to select in-scope individuals for the wider 2022 SOS and describes the subset of students who received the additional apprentice and trainee questions.

¹ The SOS questions included in the ATED questionnaire were those of most relevance to national policy work.

The SOS is an annual survey of students who completed nationally recognised VET delivered by registered training organisations (RTOs) in Australia. The population is derived from the National VET Provider and National VET in Schools collections, which are managed in accordance with the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS).

Students were considered in scope of the domestic 2022 survey if they:

- were enrolled and had some contact hours in 2021, and
- completed at least one subject during 2021, and
- were 15 years of age or older on 27 May 2022.

Out of scope of the domestic survey were students who:

- undertook recreational, leisure or personal enrichment courses, or
- were from correctional facilities, or
- were international full-fee-paying students.²

The SOS is designed to provide information on the following student groups.

- Qualification completers: students who completed a training package qualification or an accredited qualification.
- Qualification part-completers: students who enrolled in but only completed part of a training package qualification or an accredited qualification (and are no longer undertaking that training³).
- Short course completers: students who completed a training package skill set or an accredited course.
- Short course part-completers: students who enrolled in but only completed part of a training package skill set or accredited course (and are no longer undertaking that training²).
- Subject(s) only completers: students who completed one or more subjects not delivered as part of a nationally recognised program and who are no longer undertaking training in the VET sector².

Respondents were considered in-scope for the additional apprentice and trainee questions if they were:

- qualification completers or qualification part-completers; and
- reported as apprentices and trainees in the National VET Provider or National VET in Schools collections.

2 International onshore VET qualification completers were included as an additional component of the 2022 National Student Outcomes Survey and are reported separately in *International onshore VET qualification completer outcomes*.

3 At the time of sample selection, insufficient information is available from the collections to identify 'actual' qualification part-completers, short course part-completers and subject(s) only completers. Instead, a sample of 'potential' qualification part-completers, short course part-completers and subject(s) only completers is chosen, which includes continuing students. The final status of respondents is determined through survey responses.

Questionnaire design

The SOS questionnaire suite is designed to ensure students received only questions relevant to them. The questionnaires include:

- pulse questionnaire for continuing students (approximately 5 minutes)
- short questionnaire, referred to as the 'lite' questionnaire (5 to 10 minutes)
- full questionnaire (approximately 10 minutes).

Those apprentices and trainees who completed a certificate II or above received the full questionnaire and those who completed a certificate I received the lite questionnaire. Those initially identified as potential qualification part-completers also received the lite questionnaire unless they responded through the survey they were continuing in that training in which case they received the pulse questionnaire. Only the responses to questions in both the full and lite questionnaires are included in the *Apprentice and trainee outcomes 2022* publication suite.

The 2022 SOS questionnaire collected data on apprentices' and trainees':

- main reason for undertaking the apprenticeship or traineeship
- main reasons for not completing their apprenticeship or traineeship
- employment characteristics before and after training
- further study activity
- opinions of, and satisfaction with, the off-the-job training and the training provider
- satisfaction with the skills learnt on-the-job
- experiences and satisfaction with online learning
- impact of the COVID-19 pandemic on aspects of training.

Information on apprentices' and trainees' personal characteristics and their off-the-job training was obtained from the 2021 National VET Provider and 2021 National VET in Schools collections, from which the survey sample was selected. Information on their apprenticeship or traineeship was also obtained, post-fieldwork, from the National Apprentice and Trainee Collection, (collection number 112, June 2022 estimates).⁴

Questionnaire changes in 2022

There were several changes to the SOS questionnaire in 2022.

- New questions were added on whether online learning was undertaken during the training, whether satisfied with support from teachers/trainers during online learning, whether satisfied with the overall quality of online learning experiences and the impact of the COVID-19 pandemic on aspects of training.
- The question on job after training changed to 'Yes' and 'No' response options.

⁴ This collection holds details of each commencement, cancellation, withdrawal, completion, or expiration associated with the life of an Apprenticeship/Traineeship Training Contract. The information is sourced from contracts of training that are submitted to NCVET via state training authorities (STAs).

- There was a slight wording change to the response option on lack of work for the question on the main reason for looking for different work.
- The questions on challenges faced with online learning were asked of those who undertook some or all of their training online. In 2021, these questions were asked of those who transitioned to online learning during 2020 due to the COVID-19 pandemic. As a result of these changes, estimates on challenges faced with online learning in 2022 are not comparable with 2021.
- The question on job-related benefits combined the response options 'Got a job' and 'Got a new job/changed jobs'. These were separate categories prior to 2022.
- Questions were removed on whether training shifted to online learning during 2020 due to the COVID-19 pandemic, the support received to assist this transition and whether the COVID-19 pandemic delayed work placements and on-the-job training during 2020.
- Questions on country of birth, language other than English spoken at home, Indigenous status, disability status and prior education were removed from the longer questionnaire answered by Certificate II and above qualification completers. Demographic data were instead sourced from the national VET data collections for all students in 2022.
- The question on personal benefits was asked of all participants in 2022. In 2021, this question was only asked of Certificate II and above qualification completers.

The 2022 SOS questionnaires can be viewed from the publication page at <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/apprentice-and-trainee-outcomes-2022>.

Reference period

Apprentices and trainees were asked to provide information with respect to two reference periods. The first reference date was 27 May 2022. Apprentices and trainees were asked to supply information on labour force status and employment characteristics.

The second reference period covered the six months before starting the training. Apprentices and trainees were asked to supply information on labour force status and employment characteristics.

Survey methodology

The apprentice and trainee component of the SOS was not designed as a separate survey. For this reason, the survey methodology explained in this section is that of the overall SOS. Further details are provided in the *Estimation* section of this document regarding how the apprentice and trainee responses were weighted to represent the apprentice and trainee population.

Sampling population

The SOS population includes all students in scope of the survey and is derived from the National VET Provider and National VET in Schools collections.⁵ The collections hold details on students, the training

⁵ For more information regarding the national VET data collections, please refer to Australian vocational education and training statistics explained at <https://www.ncver.edu.au/research-and-statistics/vet-statistics-explained>.

undertaken, and their achievement. The information is sourced from student enrolment records that are submitted to NCVET either directly from training providers or via state training authorities (STAs) or Boards of Studies. The survey population was extracted for the data submitted for the 2021 calendar year as at 12 April 2022.

A de-duplication process was applied to the population to identify and remove duplicate training activity reported for the same training provider in the same year via different data submitters. Where a student undertook more than one program or subject at an RTO, a further de-duplication process was applied to the population selection to ensure one record for each student was selected at each RTO.

Sampling frame

The sampling frame refers to the de-duplicated records from the population available for surveying and for which contact details could be obtained in order to send survey invitations. This section describes the methodology used to create the sampling frame for the SOS.

Some students completed training across multiple RTOs. In such cases, a hierarchy was applied to retain only one record for surveying in the sampling frame in order of reducing respondent burden. The sampling frame was then restricted to those students who were not deceased, and who were available for surveying as reported in the 'survey contact status' field in the 2021 National VET Provider Collection and 2021 National VET in Schools Collection.⁶

The sampling frame was also restricted to records for which student contact details could be obtained in order of sending survey invitations. This includes students with a unique student identifier (USI) or whose contact details could be sourced from STAs or from the contact details reported to NCVET. The sample was drawn after these exclusions were made to the frame.

Sampling design

The SOS sample was selected in five parts, with independent samples drawn for each student group.

All records in the sampling frame were selected for the sample for qualification completers, short course completers and potential short course part-completers. For potential qualification part-completers and potential subject(s) only completers, a random sample was selected for the core survey, and then a further random sample was selected for an apprentice and trainee top-up⁷ from those not sampled in the core potential qualification part-completers sample. For information on the sampling design of the core survey, refer to *VET student outcomes 2022 – technical notes*, available at <https://www.ncver.edu.au/research-and-statistics/collection/student-outcomes/vet-student-outcomes-2022>.

After the core sample was selected, the sample for the apprentice and trainee top-up was selected from the remaining units using a stratified systematic sample to provide required precision levels for the three states/territories requiring the apprentice and trainee top-up. The strata were defined by state of residence, and within strata the units were sorted in the same way as for the core sample.

6 For further information on the 'survey contact status field', refer to <<https://www.ncver.edu.au/rto-hub/statistical-standard-software/avetmiss-data-element-definitions-edition-2.3>>.

7 Three State Training Authorities funded a top-up of the sample to enabling reporting of apprentice and trainee non-completers for their state/territory.

Source of contact details

Students' contact details (i.e. name, address, telephone/mobile numbers and email address) for the selected sample were sourced from State Training Authorities (STAs), the Office of the Student Identifiers Registrar (OSIR) or NCVET (from the *Client Postal Details* file submitted to the National VET data collections).

STAs provided the contact details for the students whose information in the National VET data collections originated from STAs, with the exception of four STAs who requested NCVET provide the contact details. The OSIR and NCVET provided the contact details for all remaining students, with the OSIR only able to provide the contact details for students that had a USI.

Following the provision and cleaning of contact details, survey invitations were sent to 907 198 students, of which 94 460 were apprentices and trainees (table 1).

Table 1 The number of apprentices and trainees in the survey population and the sampling frame and the number of survey invitations sent to apprentices and trainees by student type at sampling, 2022 SOS

Student type at sampling	Population	Sampling frame ¹	Survey invitations sent
Qualification completers	73 367	69 369	68 510
Potential qualification part-completers	90 678	82 685	25 950
Total	164 045	152 054	94 460

Note: 1. The sampling frame refers to the de-duplicated records from the population available for surveying and for which contact details could be obtained in order to send survey invitations.

Further information on the SOS methodology is available in *VET student outcomes 2022 – technical notes*, available at <<https://www.ncver.edu.au/research-and-statistics/collection/student-outcomes/vet-student-outcomes-2022>>.

Fieldwork

Fieldwork commenced on 6 June 2022 and concluded on 16 August 2022. The 2022 survey data were collected by way of a self-enumeration online questionnaire or telephone interview. For further information on the fieldwork methodology, refer to *VET student outcomes 2022 – technical notes*, available at <https://www.ncver.edu.au/research-and-statistics/collection/student-outcomes/vet-student-outcomes-2022>.

Privacy

All students were sent a link to the privacy collection notice. The privacy notice complied with the Australian Privacy Principles and provided further information on how personal information would be managed and protected. The privacy collection notice can be viewed from <<https://www.ncver.edu.au/research-and-statistics/publications/all-publications/vet-student-outcomes-2022>>.

Students' names, addresses, telephone numbers and email addresses were used by the fieldwork contractor during the fieldwork stage. The fieldwork contractor worked with external service providers for printing and collation services and email distribution services. The fieldwork contractor provided the students' contact details to the external providers for the purposes of administering the survey. Contact

details of students held by the fieldwork contractor or the external providers for the purpose of this survey are destroyed upon conclusion of the project.

Survey response

22 007 apprentices and trainees responded to the survey, including those who were later identified as not meeting the definition of an apprentice and trainee ‘completer’ or ‘non-completer’. National response rates for apprentices and trainees were 22.3% for qualification completers and 25.9% for potential qualification part-completers (table 3).

Table 3 Survey response summary for apprentices and trainees by student type at sampling, 2022 SOS

	Qualification completers		Potential qualification part-completers ²		Total	
	No.	%	No.	%	No.	%
Survey invitations	68 510	100.0	25 950	100.0	94 460	100.0
Completed	15 298	22.3	6 709	25.9	22 007	23.3
Sample loss/other response ¹	8 764	12.8	3 369	13.0	12 133	12.8
Refused/unsubscribed	7 192	10.5	2 641	10.2	9 833	10.4
No response	37 256	54.4	13 231	51.0	50 487	53.4

Note 1. Sample loss and other responses includes students whose hardcopy mail was returned to sender and/or whose electronic communication bounced; those who contacted the survey contractor’s helpdesk with a query after the survey had closed and students who contacted the survey contractor’s helpdesk to indicate they were of ill health and could not complete the survey.
 2. At the time of sample selection, insufficient information is available from the collections to identify ‘actual’ qualification part-completers. Instead, a sample of ‘potential’ qualification part-completers is chosen, which includes continuing students.

Estimation

In 2022, the methodology for classifying apprentices and trainees for reporting was improved to better reflect the survey methodology adopted since 2021 of using the SOS to gather information from apprentices and trainees. The change was applied to the 2021 apprentice and trainee component of the National Student Outcomes Survey. The change in classification methodology was not applied to the 2019 Apprentice and Trainee Experience and Destinations Survey due to the different methodology used in 2019.

Classification of apprentices and trainees

Of the 22 007 apprentices and trainees who responded to the SOS, 3 897 reported in the survey that they were still continuing in their off-the-job training. These apprentices and trainees did not receive the additional apprentice and trainee questions and were considered out of scope of reporting. All others were asked the apprentice and trainee questions (table 4).

Table 4 Number of respondents by whether they received the apprentice and trainee questions, by student type at sampling, 2022 SOS

	Student type at sampling		Total
	Qualification completer	Potential qualification part-completer	
Received the apprentice and trainee questions	15 298	2 812	18 110
Did not receive the apprentice and trainee questions (as were continuing in off-the job training)	na	3 897	3 897
Total	15 298	6 709	22 007

The 18 110 respondents who received the apprentice and trainee questions were then matched to the National Apprentice and Trainee Collection (collection number 112, June 2022 estimates), to obtain additional information on their contract status and year of transaction to enable classification of the apprentice and trainee reporting groups of ‘completer’ and ‘non-completer’.

The apprentices and trainees meeting the ‘completer’ definition were those whose records were:

- matched to the National Apprentice and Trainee Collection and who were reported as completing their apprenticeship or traineeship during the 2021 calendar year via this collection; or
- not matched to the National Apprentice and Trainee Collection but stated they had completed all the requirements of their apprenticeship or traineeship in the survey.

This methodology resulted in 12 749 apprentice and trainee respondents being classified as a ‘completer’ (table 5).

The apprentices and trainees meeting the ‘non-completer’ definition were those whose records were:

- matched to the National Apprentice and Trainee Collection and were reported as a cancellation or withdrawal during the 2021 calendar year via this collection; or
- matched to the National Apprentice and Trainee Collection and were reported with a contract status other than a completion, cancellation or withdrawal but who stated they cancelled or withdrew in the survey⁸; or
- unable to be matched to the National Apprentice and Trainee Collection, but they stated they cancelled or withdrew from their apprenticeship or traineeship in the survey.

This methodology resulted in 1 966 apprentice and trainee respondents being classified as a ‘non-completer’.

The remaining 3 395 apprentices and trainees were classified as not meeting the reporting scope for reasons such as being reported in the National Apprentice and Trainee Collection as completing, cancelling or withdrawing in 2022.

⁸ This rule was adopted due to the reporting lags in the National Apprentice and Trainee Collection.

Table 5 Reporting status for respondents who received the apprentice and trainee questions, 2022 SOS

Reporting status	No.
Completers	12 749
Defined as a 'completion' in the collection ¹	12 109
Not defined as a 'completion' in the collection ¹ but self-reported as a completer in the survey	640
Non-completers	1 966
Defined as a 'cancellation' or 'withdrawal' in the collection ¹	1 755
Not matched to the collection or not defined as a 'cancellation' or 'withdrawal' in the collection ¹ but self-reported as a 'cancellation' or 'withdrawal' in the survey	211
Other apprentices and trainees not meeting the reporting scope	3 395
Total	18 110

Note: 1. The 'collection' refers to the National Apprentice and Trainee Collection (collection number 112, June 2022 estimates).

Weighting

The sample of respondents may not accurately represent the population of apprentices and trainees due to known sources of bias such as unequal probability of selection, as well as other sources of bias such as non-response. The weighting procedure attempts to minimise bias so that the weighted sample represents the population and can be used to produce accurate estimates.

Using the SOS to gather information from apprentices and trainees means that the survey responses exclude apprentices and trainees who did not undertake off-the-job training in 2021. To reduce this bias, the apprentice and trainee respondents in the SOS were weighted to population benchmarks of completions and cancellations and withdrawals in the 2021 calendar year in the National Apprentice and Trainee Collection (collection number 112, June 2022 estimates).

The weighting procedure consisted of three main steps, as outlined.

- 1 A base weight was calculated for each sampled unit as the inverse of the probability that unit was selected in the sample.
- 2 In the second step, the weights were adjusted for non-response. Variables chosen for adjustment were those that were important predictors of non-response and key reporting variables for SOS, including:
 - provider type (4 categories: TAFE, university, community education provider and private training provider)
 - state/territory of residence (8 categories: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory and the Australian Capital Territory)
 - Gender (3 categories: male, female, other or not stated)
 - Age group (4 ranges: 15 to 24 years, 25 to 34 years, 35 to 49 years and 50 years and over).
- 3 The responses were then further adjusted to represent the population of apprentices and trainees and to ensure weighted marginal distributions matched the apprentice and trainee's population marginal distributions as provided in the National Apprentice and Trainee Collection. While the survey was undertaken as a sample of apprentices and trainees who undertook off-the-job training in 2021, responses have been weighted to population benchmarks of apprentices and trainees who left their training between January and December 2021, the target population for the apprentice and trainee survey component.

There are lags in reporting contract information to the National Apprentice and Trainee Collection. Therefore, numbers for the same period (in this case January to December 2021) change between collection quarters. The sample was drawn from the 2021 National VET Provider Collection and 2021 National VET in Schools Collection and population counts weighted back to this same time period in the National Apprentice and Trainee Collection (collection number 112, June 2022 estimates).

Variables chosen for raking the weights at this stage were:

- Contract (2 categories: completion, cancellation/withdrawal)
- Trade status (2 categories: trade and non-trade)
- State/territory of residence (8 categories: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory and the Australian Capital Territory)
- Employer size (9 categories: 1-4, 5-9, 10-19, 20-49, 50-99, 100-199, 200-499, 500-999, >=1000)
- Gender (3 categories: male, female, other or not stated)
- Age group (4 ranges: 15 to 24 years, 25 to 34 years, 35 to 49 years and 50 years and over)
- Indigenous status (2 categories: Indigenous, non-Indigenous).

4 Large weights were trimmed to reduce variance.

Reliability of estimates

Two types of error are possible in an estimate based on a survey: sampling error and non-sampling error. *Non-sampling error* may occur for reasons such as non-response bias, incorrect responses, interviewer errors, attrition and processing errors. *Sampling error* occurs because estimates are calculated from a random sample of the population. The estimates may differ from the true population value (that is, the value if the whole population had been sampled and responded to the survey) as well from estimates that would be produced if a different sample had by chance been selected.

By convention, a 95% confidence level is used to judge the amount of sampling error in an estimate. The confidence interval for an estimate is calculated using the formula:

$$\text{estimate} \pm 1.96 \times \text{SE}$$

where SE is the standard error of the estimate returned by SAS software (the standard error is an estimate of how much variation there is expected to be in a published estimate from one sample to another, based on the randomness of sample selection), taking into account the sampling design and population size. The chance that a 95% confidence interval contains the true population value is 19 in 20.

The half-width of the confidence interval, $1.96 \times \text{SE}$, is often referred to as the *margin of error*. The margins of error reported by NCVET are calculated using a finite population correction to adjust the variance of estimates to better reflect the survey population.