



National Student Outcomes Survey 2023 – 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 2023*. The publication is available on the NCVER Portal:
<<http://www.ncver.edu.au>>.

Publisher's note

This support document was updated in December 2024 to add further information to table 4 on the derivation of the non-completer group.

The views and opinions expressed in this document are those of NCVER and do not necessarily reflect the views of the Australian Government and state and territory governments. Any errors and omissions are the responsibility of the author(s).

© Commonwealth of Australia, 2024



With the exception of cover design, artwork, photographs, all logos, and any other material where copyright is owned by a third party, all material presented in this document are provided under a Creative Commons Attribution 3.0 Australia <<http://creativecommons.org/licenses/by/3.0/au>>.

The details of the relevant licence conditions are available on the Creative Commons website (accessible using the links provided) as is the full legal code for the CC BY 3.0 AU licence <<http://creativecommons.org/licenses/by/3.0/legalcode>>.

The Creative Commons licence conditions do not apply to all logos, graphic design, artwork and photographs. Requests and enquiries concerning other reproduction and rights should be directed to the National Centre for Vocational Education Research (NCVER).

This document should be attributed as NCVER 2024, *National Student Outcomes Survey 2023 – 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>>

Follow us:



<<https://twitter.com/ncver>>



<<https://www.linkedin.com/company/ncver>>



<<https://www.facebook.com/ncver.au>>

Contents

| | |
|--|----|
| Tables and figures | 4 |
| Introduction | 5 |
| Background | 5 |
| Survey scope | 5 |
| Questionnaire design | 7 |
| Questionnaire changes in 2023 | 7 |
| Reference period | 8 |
| Survey methodology | 8 |
| Population | 8 |
| Sampling frame | 8 |
| Sampling design | 9 |
| Source of contact details | 9 |
| Fieldwork | 10 |
| Privacy | 10 |
| Survey response | 10 |
| Estimation | 11 |
| Classification of apprentices and trainees | 11 |
| Weighting | 12 |
| Reliability of estimates | 14 |

Tables and figures

Tables

| | | |
|---|---|----|
| 1 | The number of apprentices and trainees in the SOS population and sampling frame and the number of survey invitations sent to apprentices and trainees by student type at sampling, 2023 | 10 |
| 2 | Survey response summary for apprentices and trainees in the SOS by student type at sampling, 2023 | 11 |
| 3 | The number of SOS respondents by whether they received the apprentice and trainee questions, by student type at sampling, 2023 | 11 |
| 4 | The number of SOS respondents who received the apprentice and trainee questions by reporting status, 2023 | 12 |
| 5 | The number of apprentice and trainee completer and non-completer respondents by reporting group and trade status, 2023 | 12 |

Introduction

Apprentice and trainee outcomes 2023 provides a summary of the outcomes of apprentices and trainees aged 15 years and over who undertook an apprenticeship or traineeship during 2022, with the data collected in mid-2023. It includes those who completed an apprenticeship or traineeship (completers) and those who cancelled or withdrew (non-completers).

The 2021 to 2023 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 2023, 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 2023* publication and related products.

Background

In 2021 to 2023, 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 or 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.voced.edu.au/content/ngv%3A85243>.

Survey scope

This section outlines the criteria used to select in-scope individuals for the wider 2023 SOS and describes the subset of students who received the additional apprentice and trainee questions.

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)¹.

Students were considered in scope of the domestic 2023 survey if they:

- were enrolled and had some contact hours in 2022, and
- completed at least one subject during 2022, and

¹ 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>.

- were 15 years of age or older on 26 May 2023.

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 students².

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 training³).
- 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 sector³.

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 2023 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 2023* publication suite.

The 2023 SOS questionnaire collected data on apprentices’ and trainees’:

- main reason for undertaking their 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.

Information on apprentices’ and trainees’ personal characteristics and their off-the-job training was obtained from the 2022 National VET Provider and 2022 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 Collection⁴ (collection number 116, June 2023 estimates).

Questionnaire changes in 2023

There were several changes to the SOS questionnaire in 2023.

- Questions were removed on whether online learning was undertaken during the off-the-job training, whether satisfied with support from teachers/trainers during online learning and whether satisfied with the overall quality of online learning experiences.
- Questions were removed on the impact of the COVID-19 pandemic on aspects of training.
- The item of zero hours was removed for the question on hours worked per week in job at the reference date.

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

The 2023 SOS questionnaires can be viewed from the publication page at <https://www.ncver.edu.au/research-and-statistics/collections/student-outcomes/vet-student-outcomes>.

Reference period

Apprentices and trainees were asked to provide information with respect to two reference periods. The first reference date was 26 May 2023. 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.

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 undertaken, and their achievement. The information is sourced from student enrolment records that are submitted to NCVER either directly from training providers or via state training authorities (STAs) or via Boards of Studies. The survey population was extracted for the data submitted for the 2022 calendar year as at 18 April 2023. At this time, data on 2022 training activity had not been submitted to the National VET in Schools Collection by the New South Wales, Western Australian, and Australian Capital Territory Boards of Studies⁶.

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. This section describes the methodology used to create the sampling frame for the SOS.

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>.

6 Waiting for the data would have resulted in not launching the survey on the scheduled date. A decision was made to proceed without these data because a large proportion of the activity is also submitted to the National VET Provider Collection and an analysis suggested the exclusion of these data would not have impacted the national estimates.

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 to reduce 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 2022 National VET Provider Collection and 2022 National VET in Schools Collection.⁷

The sampling frame was also restricted to records for which student contact details could be obtained. 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 NCVER. 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 sample was selected for an apprentice and trainee top-up⁸ 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 2023 – technical notes*, available at <<https://www.ncver.edu.au/research-and-statistics/collection/student-outcomes/vet-student-outcomes-2023>>.

After the core sample was selected, the sample for the apprentice and trainee top-up was selected from the remaining units using a census to provide required precision levels for the two STAs requiring the apprentice and trainee top-up.

Source of contact details

Students' contact details (i.e. name, address, telephone/mobile numbers and email address) for the selected sample were sourced from STAs, the Office of the Student Identifiers Registrar (OSIR) or NCVER (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 five STAs who requested NCVER provide the contact details. The OSIR and NCVER 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 121 032 apprentices and trainees (table 1).

7 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>>.

8 Two STAs funded a top-up of the sample to enabling reporting of apprentice and trainee non-completers for their state/territory.

Table 1 The number of apprentices and trainees in the SOS population and sampling frame and the number of survey invitations sent to apprentices and trainees by student type at sampling, 2023

| Student type at sampling | Population | Sampling frame ¹ | Survey invitations sent ² |
|---|----------------|-----------------------------|--------------------------------------|
| Qualification completers | 86 877 | 83 545 | 82 926 |
| Potential qualification part-completers | 115 593 | 107 745 | 38 106 |
| Total | 202 470 | 191 290 | 121 032 |

Notes: 1. The sampling frame refers to the de-duplicated records from the population available for surveying and for which contact details could be obtained.
2. For qualification completers, the number of survey invitations is lower than the number of records in the sampling frame even though all qualification completers were selected for surveying. This is a result of cleaning undertaken by the fieldwork contractor to remove records with invalid contact details.

Further information on the SOS methodology is available in *VET student outcomes 2023 – technical notes*, available at <<https://www.ncver.edu.au/research-and-statistics/collections/student-outcomes/vet-student-outcomes>>.

Fieldwork

Fieldwork commenced on 5 June 2023 and concluded on 15 August 2023. The 2023 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 2023 – technical notes*, available at <<https://www.ncver.edu.au/research-and-statistics/collections/student-outcomes/vet-student-outcomes>>.

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-2023>>.

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

30 271 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'. The response rate is defined as the total number of questionnaires completed, expressed as a percentage of the total number of in scope selections⁹. National response rates for apprentices and trainees were 22.2% for qualification completers and 31.1% for potential qualification part-completers (table 2).

⁹ Out of scope selections comprise apprentices/trainees who contacted the survey fieldwork contractor to indicate they did not undertake the training they were being surveyed about.

Table 2 Survey response summary for apprentices and trainees in the SOS by student type at sampling, 2023

| | Qualification completers | | Potential qualification part-completers ² | | Total | |
|---|--------------------------|-------------|--|-------------|---------------|-------------|
| | No. | % | No. | % | No. | % |
| Survey invitations | 82 926 | 100.0 | 38 106 | 100.0 | 121 032 | 100.0 |
| Completed | 18 421 | 22.2 | 11 850 | 31.1 | 30 271 | 25.0 |
| Sample loss/other response ¹ | 9 913 | 12.0 | 4 499 | 11.8 | 14 412 | 11.9 |
| Refused/unsubscribed | 9 088 | 11.0 | 4 806 | 12.6 | 13 894 | 11.5 |
| No response | 45 504 | 54.9 | 16 951 | 44.5 | 62 455 | 51.6 |

Notes: 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

Classification of apprentices and trainees

Of the 30 271 apprentices and trainees who responded to the SOS, 6865 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 3).

Table 3 The number of SOS respondents by whether they received the apprentice and trainee questions, by student type at sampling, 2023

| | Student type at sampling | | |
|---|--------------------------|--|---------------|
| | Qualification completer | Potential qualification part-completer | Total |
| Received the apprentice and trainee questions | 18 421 | 4 985 | 23 406 |
| Did not receive the apprentice and trainee questions (as were continuing in off-the job training) | na | 6 865 | 6 865 |
| Total | 18 421 | 11 850 | 30 271 |

The 23 406 respondents who received the apprentice and trainee questions were then matched to the National Apprentice and Trainee Collection (collection number 116, June 2023 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 2022 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 15 782 apprentice and trainee respondents being classified as a 'completer' (table 4).

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 2022 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 survey¹⁰; 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 3311 apprentice and trainee respondents being classified as a ‘non-completer’.

The remaining 4313 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 2023.

Table 4 The number of SOS respondents who received the apprentice and trainee questions by reporting status, 2023

| Reporting status | Number |
|--|---------------|
| Completers | 15 782 |
| Defined as a ‘completion’ in the collection ¹ | 14 839 |
| Not defined as a ‘completion’ in the collection ¹ but self-reported as a completer in the survey | 943 |
| Non-completers | 3 311 |
| Defined as a ‘cancellation’ or ‘withdrawal’ in the collection ¹ | 2 932 |
| Not defined as a ‘cancellation’ or ‘withdrawal’ in the collection ¹ but self-reported as a ‘cancellation’ or ‘withdrawal’ in the survey | 220 |
| Not matched to the collection ¹ but self-reported as a ‘cancellation’ or ‘withdrawal’ in the survey | 159 |
| Other apprentices and trainees not meeting the reporting scope | 4 313 |
| Total | 23 406 |

Notes: 1. The ‘collection’ refers to the National Apprentice and Trainee Collection (collection number 116, June 2023 estimates).

In the *Apprentice and trainee outcomes 2023* publication, apprentice and trainee completers and non-completers are disaggregated by whether their apprenticeship or traineeship is in a trade or non-trade occupation, as per table 5.

Table 5 The number of apprentice and trainee completer and non-completer respondents by reporting group and trade status, 2023

| Reporting group | Trade ¹ | Non-trade ¹ | Trade status not known | Total |
|-----------------|--------------------|------------------------|------------------------|--------|
| Completers | 5 443 | 10 322 | 17 | 15 782 |
| Non-completers | 1 538 | 1 769 | 4 | 3 311 |
| Total | 6 981 | 12 091 | 21 | 19 093 |

Notes: 1. ‘Trade’ is classified as all occupations listed under the Australian and New Zealand Standard Classification of Occupations (ANZSCO) major group ‘3-Technicians and trades workers’ and ‘Non-trade’ is classified as all other major occupations groups 1-2 and 4-8 (ANZSCO, 2021 version).

¹⁰ This rule was adopted due to the known reporting lags in the National Apprentice and Trainee Collection.

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 2022. 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 2022 calendar year in the National Apprentice and Trainee Collection (collection number 116, June 2023 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 (five categories: schools, TAFE institutes, universities, community education providers and private training providers)
 - state/territory of residence (eight categories: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory and the Australian Capital Territory)
 - funding source (two categories: government-funded and fee-for-service)
 - gender (three categories: male, female and other/unknown)
 - age group (five ranges: 15 to 19 years, 20 to 24 years, 25 to 34 years, 35 to 49 years and 50 years and over).
 - Indigenous status (two categories: Indigenous and non-Indigenous)
 - language spoken at home (two categories: English and non-English)
 - country of birth (four categories: Australia, other English-speaking countries, other countries and not stated)
 - highest level of education (nine categories: Bachelor's degree or higher, Advanced diploma or associate degree, Diploma, Certificate IV, Certificate III, Certificate II, Certificate I, Year 12 and below and other/none/unknown)
 - qualification level (four categories: Certificate I/II, Certificate III/IV, Diploma or higher and other)
 - remoteness (four categories: major cities, inner/outer regional, remote/very remote and unknown)
 - Socio-Economic Indexes for Areas (SEIFA) (six categories: extreme disadvantage, high disadvantage, average disadvantage, slight disadvantage, low disadvantage and unknown).
- 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 2022, responses have been weighted to population benchmarks of apprentices and trainees who left their training between January and December 2022, the target population for the apprentice and trainee survey component.

There are known lags in reporting contract information to the National Apprentice and Trainee Collection. Therefore, numbers for the same period (in this case January to December 2022) change between collection quarters. The sample was drawn from the 2022 National VET Provider Collection and 2022 National VET in Schools Collection and population counts weighted back to this same time period in the National Apprentice and Trainee Collection (collection number 116, June 2023 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: non-sampling error and sampling error. *Non-sampling error* may occur for reasons such as non-response bias, incorrect responses, interviewer errors, attrition and processing errors. Non-response bias occurs when the characteristics of those not responding to the survey differ to the those responding to the survey in relation to the variables or items of interest. Non-response can affect the reliability of results and can introduce bias.

Sampling error occurs because estimates are calculated from a sample of the population, rather than the entire 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, $1.96 \times SE$, is often referred to as the *margin of error*. The margins of error reported by NCVER are calculated using a finite population correction to adjust the variance of estimates to better reflect the survey population. The margin of error allows data users to view the amount of certainty (or error) in a reported measure sourced from information provided by a sample rather than a population.

For further information refer to the Fact sheet: interpreting survey results, available from the publication page on NCVER's website at: <<https://www.ncver.edu.au/research-and-statistics/collections/student-outcomes/apprentice-and-trainee-outcomes>>.