**Tertiary Education Commission**
**Te Amorangi Mātauranga Matua**

*Educational Performance Indicators:*

*Definitions and Methodology*

*For Tertiary Education Organisations who receive SAC funding*

*Version 1.2*

# Version control

| Version | Date | Change |
|---|---|---|
| 1 | December 2017 | This document is the result of merging two prior methodology documents:<br>• Educational Performance Indicators: Definitions and Methodology – Measuring Student Achievement for Tertiary Education Organisations - Student Achievement Component and Youth Guarantee funds reported through the SDR - Version 8.<br>• Cohort-based qualification completion and retention rates – methodology paper July 2016. |
| | | In merging the two methodology documents the language has been made consistent and also simplified. No business rules changes have been made to the methodology. |
| | | There are changes to the educational performance indicators being published.<br>• The student retention and EFTS weighted qualification completion rates will no longer be published.<br>• The published course completion rate will now include all relevant sources of funding - not just Student Achievement Component and Youth Guarantee. |
| | | A correction has been made to the rules of the first year retention rate. In the July 2016 document on page 17 it was noted that "We are measuring first year retention rates for qualifications at level 7 degree and above and for qualifications that are 2 EFTS or more at levels 5-7 (non-degree)." This should have read levels 47 (non-degree). |
| | | Information has been added when viewing cohort-based rates by dimensions (see Appendix 4). |
| | February 2018 | Clarification to page 20 in describing timeframes for measuring retention rates. |
| 1.1 | July 2018 | Information has been added on what qualification award category codes are included in the Level 7 degree cohort (paragraph 32). There has been no change to the methodology, this is a clarification only. |
| | | A sentence has been added regarding study of less than 12 weeks in a year being considered part-time (paragraph 42). There has been no change to the methodology, this is a clarification only. |
| | | The text and formulas have been made consistent in the section regarding non-completion progression rates (page 14). |
| | | The funding sources used when publishing progression rates (paragraph 77) have been updated.  This now includes all student achievement component funding sources for level 1 to 4 delivery.  Youth Guarantee has been removed as we are no longer producing a separate Youth Guarantee report. |
| 1.2 | March 2021 | This update is due to introduction of three qualification award category codes for micro credentials (50) and training scheme (55 and 91). Micro-credentials are effective from 2019 and training scheme is effective from 2020. |

# Acronyms

| Acronym | Term |
| --- | --- |
| ACE | Adult and Community Education |
| Cohort-based | A performance measure based on a group of students |
| DOB | Date of birth |
| EFTS | Equivalent Full-Time Student |
| EPI | Educational Performance Indicator |
| MoE | Ministry of Education |
| NSN | National Student Number |
| NZQA | New Zealand Qualifications Authority |
| NZQF | New Zealand Qualifications Framework |
| NZSCED | New Zealand Standard Classification of Education |
| OLAP | On Line Analytical Processing |
| PBRF | Performance-Based Research Fund |
| QAC code | Qualification Award Category code |
| SAC | Student Achievement Component |
| SDR | Single Data Return |
| STAR | Secondary Tertiary Alignment Resource |
| TEC | Tertiary Education Commission |
| TEI | Tertiary Education Institution |
| TEO | Tertiary Education Organisation |
| TES | Tertiary Education Strategy |
| YG | Youth Guarantee |

# Contents

# Introduction

1      This document describes the methodology for calculating educational performance indicators (EPIs) for Institutes of Technology and Polytechnics, Private Training Establishments, Universities and Wānanga.

2      It replaces the following EPI methodology documents:

   a.      Educational Performance Indicators: Definitions and Methodology – Measuring Student Achievement for Tertiary Education Organisations - Student Achievement Component and Youth Guarantee funds reported through the SDR - Version 8.

   b.      Cohort-based qualification completion and retention rates – methodology paper July 2016.

3      This methodology covers "four EPIs"

   a.      *Successful course completion rate* - the proportion of course enrolments (calculated on an EFTS delivered basis) ending in a given year that have been successfully completed.

   b.      *Student progression rate* – the proportion of students completing a qualification who then enrol, within a given time period, in a higher-level qualification. The enrolment in a higher-level qualification can be at any TEO.

   c.      *Cohort-based qualification completion* - the proportion of students in a cohort who go on to complete a qualification at the same level as the cohort.

   d.      *Cohort-based first year retention* - the proportion of students in a cohort who enrol in a qualification at the same level in the year after they enter the cohort. First year retention rates are measured for students who are enrolled in a 2 EFTS or above qualification at level 4 and above.

4      The Student Retention and EFTS-weighted Qualification Completion EPIs will no longer be published by the TEC. These two EPIs will continue to be calculated. They are described in Appendices 5 and 6.

5      Supplemental information is calculated in addition to the cohort-based qualification completion and first year retention rates. For cohort-based qualification completion this includes non-completion progression and completion at a different level from the cohort the student is enrolled in. For cohort-based first year retention this includes completion in the cohort and non-completion progression to another cohort. The methodology for calculating these rates is also included in the document.

6      While not a measure of educational output performance the methodology for calculating participation rates is also included in this document. Participation indicators measure the proportion of students from priority groups engaged in tertiary education.

# Successful course completion

## How it is measured

7    Successful course completion rate is calculated on an EFTS delivered basis and is the proportion of course enrolments ending in a given year that have been successfully completed. It is calculated using formula 1 below (where year n is the reporting year).

Formula 1:  EFTS-weighted successful course completion rate (as a percentage) for year n:

| | |
|---|---|
| *Numerator* | EFTS delivered for the total number of successfully completed course enrolments ending in year n |
| *Denominator* | EFTS delivered for the total number of course enrolments ending in year n |

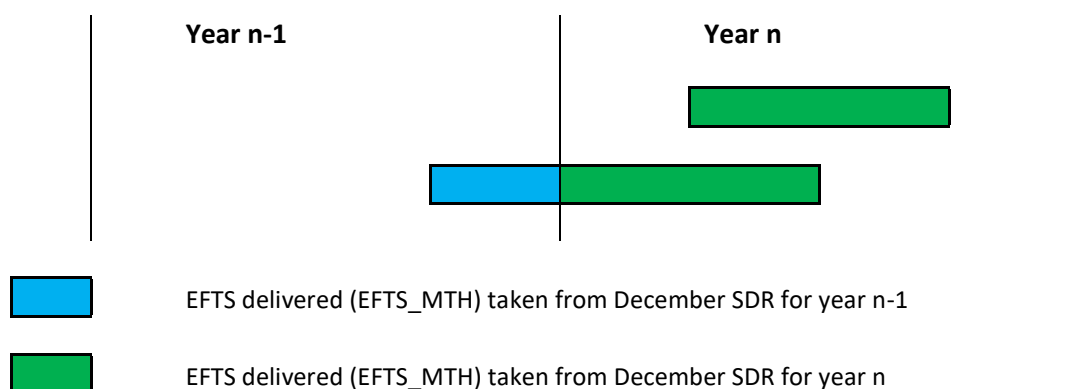## Methodology applied in calculating the successful course completion indicator

8    Include all course enrolments with a course end date in year n even if the course start date was in year n-1 or earlier. Where there are duplicate records (with an identical NSN, start date, course code, and TEO code) use the last submitted course enrolment for the student. Where a student has multiple NSNs use their master NSN.

9    Match these course enrolments to course completion records using TEO code, NSN, course code and course start date. Where there are two or more course completion records use the most recently submitted completion record for the course enrolment. If two or more course completion records are in the latest SDR, prioritise those identified as being completed successfully (where the SDR COMPLETE field value is 2).

10   Exclude course enrolments not to be included in the successful course completion rate. These are:

a.    course enrolments in year n associated with qualifications for which the TEC does not expect a course completion. These qualifications have a QAC code of:

- missing or blank
- 90: Certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: Programmes of study taught under contract
- 99: ACE programmes of study at public TEIs

b.    course enrolments eligible for PBRF funding. These are those course enrolments where the PBRF-Eligible field in the Course Register File is M, D, L, or C. They excluded as they are wholly research-based and are likely to have high numbers of still-to-complete enrolments at the time EPIs are calculated.

11   Calculate EFTS delivered value for the course enrolment by summing the EFTS_MTH (EFTS by Month) field values in the SDR course enrolment record for the entire course enrolment. This includes those:

a.    not matched to a completion record

b. successfully completed (COMPLETE value 2)

c. still to complete (COMPLETE values 0, 1, 5, 6, or 7)

d. completed unsuccessfully (COMPLETE value 3)

e. not completed (COMPLETE value 4), and

f. missing a COMPLETE record.

12 Where the course end date is in year n but the enrolment started in year n-1 or earlier, all EFTS_MTH values are summed from each December SDR that the enrolment is included in. Figure 1 shows how the SDR is used to sum the EFTS delivered for a year n course record.

Figure 1: Data used when counting EFTS delivered



EFTS delivered (EFTS_MTH) taken from December SDR for year n-1

EFTS delivered (EFTS_MTH) taken from December SDR for year n

13 Calculate the EFTS delivered for the total number of successfully completed course enrolments ending in year n by summing the EFTS delivered value for those courses where the SDR COMPLETE field value is 2.

14 When calculating course completion rates for a particular source (or sources) of funding only include course enrolments with that source (or sources) of funding.

## Example

15 A worked example calculating the EFTS-weighted successful course completion rate.

Table 1: Example – EFTS-weighted successful course completion rate

| Course | Denominator EFTS by month for enrolments | Numerator EFTS by month for successful course completions | Numerator/Denominator EFTS-weighted successful course completion rate |
|---|---|---|---|
| COURSE1 | 5.601 | 4.233 | |
| COURSE2 | 17.566 | 12.658 | |
| COURSE3 | 56.010 | 32.984 | |
| COURSE4 | 8.000 | 7.000 | |
| **Total for TEO** | **87.177** | **56.875** | **65.2%** |

# Progression

## How it is measured

16     The progression rate is the proportion of students who complete a qualification at one TEO and within 12 months of completion enrol in higher level qualification at the same or a different TEO within New Zealand. It is calculated using Formula 2 below (where year n is the reporting year).

17     The published progression indicator shows the proportion of students enrolling in a higher level qualification after completing a NZQF level 1 to 4 qualification.

Formula 2:  Completion progression rate (as a percentage):

| Numerator | Number of students enrolled at a higher qualification level within 12 months following the qualification completion |
|---|---|
| Denominator | Number of students completing a qualification at each level in year n-1 |

## Methodology applied in calculating the progression rate

18     Identify all qualification completions that occurred in year n-1. Where duplicate qualification completion records exist (identical NSN, qualification code and TEO code), select only the latest submitted record. Where a student has multiple NSNs use their master NSN.

19     Exclude qualification completions not to be included in the calculation of the progression rate. These are qualification completions:

a.     where the TEC does not expect a completion, these have a QAC code value of:

- missing or blank
- 25: certificate of proficiency (student enrolled in course that can be credited to a degree)
- 37: certificate of proficiency (student enrolled in course that can be credited to a diploma)
- 50: Micro Credentials
- 55: Training Scheme
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: programmes of study taught under contract
- 98: programmes of study made of selected unit standards, and
- 99: ACE programmes of study at TEIs.

b.     that cannot be matched to a course enrolment (using TEO, NSN and Qualification Code)

c.     where the course end date of the last course enrolment associated with the qualification is in a year later than the year requirements met of the completion (it is assumed the student is still studying and has not completed their qualification).

20    A student is counted as enrolling in a higher level qualification if they enrol in a course in any fund reported through the SDR where:

a.    the qualification associated with the course enrolment is at a higher NZQF level than the completed qualification

b.    the course start date is in the period from 6 months before to 12 months after the latest course end date associated with the completed qualification

c.    the course start date is after the earliest course start date associated with the completed qualification

d.    the latest course end date is after the latest course end date associated with the completed qualification

e.    is in a course that the TEC expects course completions. Exclude courses where the associated qualification has a QAC code value of:

- missing or blank
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: Programmes of study taught under contract, and
- 99: ACE programmes of study at public tertiary education institutions.

21    The calculation uses only one enrolment and only one qualification completion per student per qualification level. The selection priority is:

a.    progression to a course enrolment in the selected fund(s)

b.    progression to a course enrolment in another fund

c.    progression to the qualification with the highest EFTS value

d.    progression to the qualification that starts first (using course start date)

e.    the completed qualification with the highest EFTS value

f.    the completed qualification that finishes first (using course end date).

22    A student will be counted more than once if they complete or re-enrol in more than one qualification at different levels.

23    In reporting progression by source of funding the completed qualification must have at least one course enrolment in the selected source(s) of funding.

## Example

24    If a student has more than one qualification completion at the same qualification level, TEO number and completion year combination (and has subsequent enrolments) then only one qualification completion is selected for the denominator (see Figure 2).

Figure 2:  Example – student has more than one qualification completion at the same qualification level
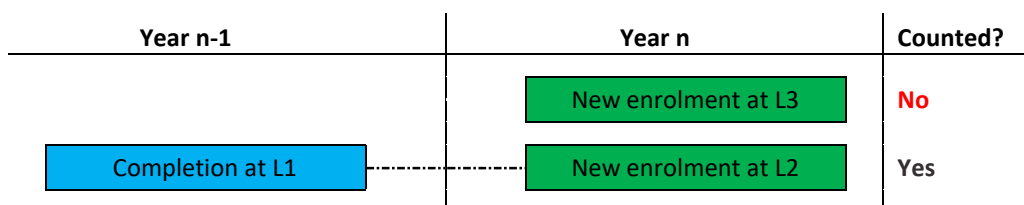


| Year n-1 | Year n | Counted? |
|---|---|---|
| Completion at L1 | New enrolment at L2 | Yes |
| Completion at L1 | | No |
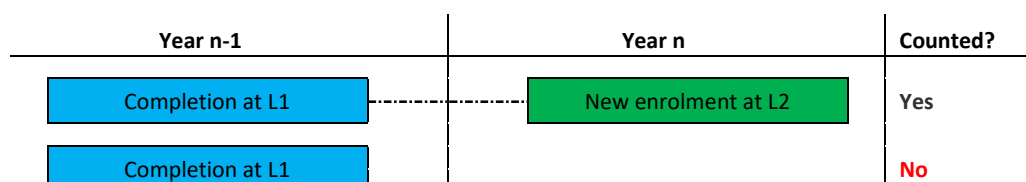
25    If the same student completes two qualifications but at different levels, both are counted if the student enrols in a higher qualification (see Figure 3). One enrolment, then, can be re-used to count multiple progressions for the same student.

Figure 3: Example – same student completes two qualifications but at different levels



| Year n-1 | Year n | Counted? |
|---|---|---|
| Completion at L2 | | Yes |
| Completion at L1 | New enrolment at L3 | Yes |
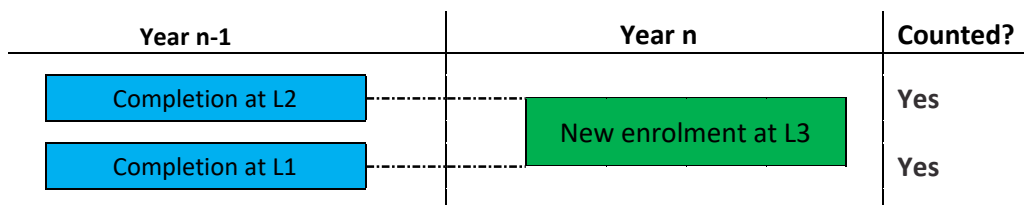
26    If a student has more than one post-completion enrolment, only one is counted per completed qualification level (see Figure 4).

Figure 4: Example – student has more than one post-completion enrolment



| Year n-1 | Year n | Counted? |
|---|---|---|
| | New enrolment at L3 | No |
| Completion at L1 | New enrolment at L2 | Yes |

27    If a student completes a qualification in year n-1 and subsequently enrols in a higher level qualification that same year, the student is counted in the EPI progression calculation for year n (see Figure 5).

Figure 5: Example – student completes a qualification and enrols in a higher level qualification one week after



| Year n-1 | Counted? |
|---|---|
| Completion at L1        New enrolment at L2 | Yes (in year n) |
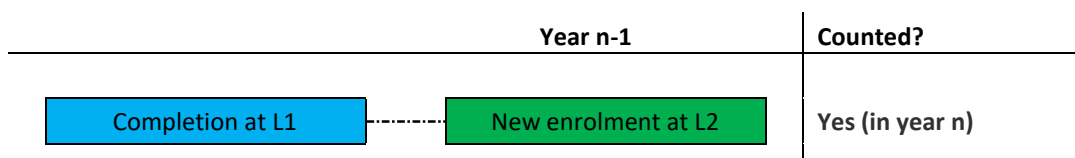
28    If a student completes a qualification prior to the end date of the final course and immediately enrols in a higher level qualification, the student will be counted (but the enrolment must be no more than six months prior to the final course end date) (see Figure 6).

Figure 6: Example – student completes a qualification one week before the final course end date and immediately enrols in a higher level qualification



| Year n-1 | Counted? |
|---|---|
| Completion at L1 / New enrolment at L2 | Yes (in year n) |
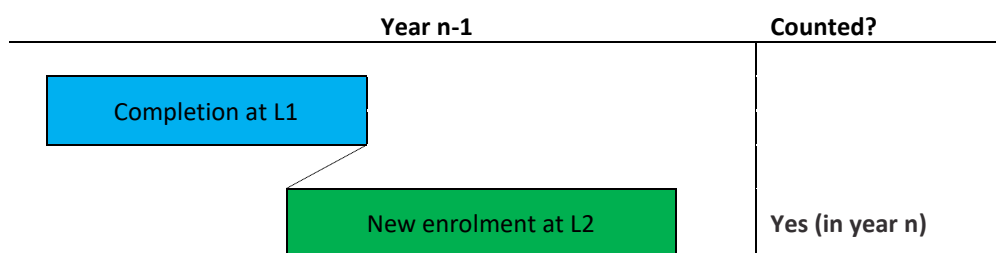
29    Table 2 shows a worked example calculating the completion progression rate.

Table 2:  Example – calculating the total completion progression rate for a TEO

| Calculation key: | | a | b | b/a |
|---|---|---|---|---|
| NSN | Qualification | Qualification completed successfully | Re-enrolled at higher level after successfully completing | Completion progression rate |
| 111111 | QUAL01 | 1 | 0 | |
| 444444 | QUAL01 | 1 | 0 | |
| 888888 | QUAL01 | 1 | 1 | |
| 101010 | QUAL01 | 1 | 1 | |
| **Subtotal** | **QUAL01** | **4** | **2** | **50.0%** |
| 222222 | QUAL02 | 1 | 0 | |
| 444444 | QUAL02 | 1 | 1 | |
| 666666 | QUAL02 | 1 | 1 | |
| 777777 | QUAL02 | 1 | 0 | |
| 999999 | QUAL02 | 1 | 0 | |
| 101010 | QUAL02 | 1 | 0 | |
| **Subtotal** | **QUAL02** | **6** | **2** | **33.3%** |
| 333333 | QUAL03 | 1 | 1 | |
| 555555 | QUAL03 | 1 | 0 | |
| 666666 | QUAL03 | 1 | 0 | |
| 999999 | QUAL03 | 0 | 0 | |
| **Subtotal** | **QUAL03** | **3** | **1** | **33.3%** |
| *Total* | | **13** | **5** | **38.5%** |

# Cohort-based qualification completion rate

## How it is measured

30     The cohort-based qualification completion rate is the proportion of students in a starting cohort who go on to complete a qualification at the same level at the same TEO. The qualification completion rate of a cohort is calculated using Formula 3 (where year Y is the cohort entry year and year n is the reporting year).

Formula 3: Cohort-based qualification completion rate:

| | |
|---|---|
| *Numerator* | Total number of students in the starting cohort at level X for year Y who complete a qualification by year n |
| *Denominator* | Total number of students in the starting cohort at level X for year Y |

31     The cohort-based approach does not require a student to complete the qualification they initially enrolled in. The student is only required to complete a qualification at the same level.

## Methodology applied in calculating the cohort–based qualification completion rate

32     Cohorts are created for each year there is a new student enrolment in a NZQF level. The exception is for level 7 where two cohorts are created – Level 7 (non-degree) and Level 7 (degree). The level 7 degree cohort includes enrolments in qualifications with an award category code of either 20 (degrees) or 21 (graduate diplomas and certificates).

33     A student can only be counted once in a cohort at a NZQF level in a given cohort entry year. The master NSN is used to create and maintain cohorts. Where a student is in a cohort multiple times (as master NSN and slave NSN) then the slave NSN will be removed.

34     The rules for determining a new enrolment are:

a.     It is the student's first enrolment at the TEO in the NZQF level.

Example: A student enrols in a course on 1 March 2011 for qualification A. The NZQF level of qualification A is 4. This is the first time the student has enrolled in a course for a qualification at this level at this TEO. The student would be in a level 4 cohort with a cohort entry year of 2011.

b.     The student has previously enrolled in the NZQF level at the TEO but there is a five-year or more gap between enrolments.

Example: A student enrols in a course with a course start date of 2 March 2016 in a level 6 qualification at TEO A. The end date of the student's last enrolment in a level 6 qualification at the TEO was on or before 1 March 2011. The student would enter into the 2016 cohort at level 6 and still remain the in the 2011 cohort at level 6.

c.  The student has completed a qualification at the TEO at the NZQF level and is now enrolling in a qualification at the same level at the same TEO. A qualification completion date of 31 December of the year of completion is assumed meaning a learner cannot enter a cohort in the same year they complete in a cohort.

Example:  A student completes a level 4 qualification in 2013 at TEO A and then re-enrols in another level 4 qualification in 2014. The student would be counted as completed in the 2013 level 4 cohort and as started in the 2014 level 4 cohort.

35  If there are enrolments linked to different qualifications at different NZQF levels for the same student in the same year, the student will be included in a cohort for each of these NZQF levels.

36  The course enrolments submitted in a TEO's final December single data return (SDR) submission are used to create cohorts. The values associated with the course enrolment causing the student to enter the cohort are used.

37  Exclude course enrolments from cohort creation and update processes where:

a.  the associated qualification has a QAC Code of:

- 25: certificate of proficiency (student enrolled in course that can be credited to a degree)
- 37: certificate of proficiency (student enrolled in course that can be credited to a diploma)
- 50: Micro Credentials
- 55: Training Scheme
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: programmes of study taught under contract
- 98: programmes of study made of selected unit standards, and
- 99: ACE programmes of study at TEIs

b.  the course enrolment has a funding source of:

- 05 – STAR
- 06 – Training Opportunities
- 11 – Off Job Training
- 23 – ACE or
- 33 – Dual Pathways

c.  the course enrolment has a course classification code of 5.1.

38  A student is counted as completing in a cohort where they complete a qualification at the same level of the cohort. They do not have to complete the qualification they started, meaning completions will be counted even if the student switches qualifications at the same level.

39  Other rules around recognising completions are:

a.  Count completions even if the student does not have a course enrolment with the same qualification code as the completion.

b. Count completions even if there is an enrolment that starts after the year that the student completed the qualification. An enrolment after completion means that the student will enter a new cohort.

40 Qualification completions are taken from SDR qualification completion files received up to the time the cohort rate is reported.

## Example

41 There are 100 students who start in a level 6 qualification in 2009. Five students complete in 2010; 10 complete in 2011; 40 complete in 2012 and five complete in 2013. The rate would be 60% (60/100).

## Full-time and part-time rates

42 Cohort-based qualification completion rates are calculated separately for full-time and part-time students.

43 A student is in full-time study over the entire course of their study if the number of years they were in full-time study is equal to or greater than the number of years they were in part-time study. For example a student is in study for 3 years. In the first and third years, the student is in full-time study. In the second year, the student is in part-time study. The student is counted as being full-time over their entire course of study because the number of years that the student is in full-time study is equal to or more than the years that the student is in part-time study.

44 If a student studies multiple qualifications at the same or different levels in a year the EFTS value across all of their study at the TEO is used to determine full time or part time status.

45 A student is studying full-time within a calendar year if the total EFTS value of the course enrolments for the student in a given year meets or exceeds the minimum EFTS value for being full-time. Study of less than 12 weeks in a year is considered part-time. The threshold values are shown in Table 3.

46 The number of weeks enrolled is determined by the number of weeks between the start date of the earliest course in the year and the end date of the last course in the year.

47 Where a student's study starts in one year and ends in another:

a. the portion of their study falling in the first year is used in calculating full-time and part-time for the first year and an end date of study of 31 December is used

b. the portion of their study falling in the second year is used in calculating full-time and part-time for the second year and a start date of study of 1 January is used.

Table 3: Threshold values by weeks enrolled

| Number of weeks enrolled in year | Minimum EFTS value to be full-time |
| --- | --- |
| 12-15 | 0.3 |
| 16-19 | 0.4 |
| 20 | 0.5 |
| 21 | 0.525 |

| Number of weeks enrolled in year | Minimum EFTS value to be full-time |
|---|---|
| 22 | 0.55 |
| 23 | 0.575 |
| 24 | 0.6 |
| 25 | 0.625 |
| 26 | 0.65 |
| 27 | 0.675 |
| 28 | 0.7 |
| 29 | 0.725 |
| 30 | 0.75 |
| 31 | 0.775 |
| 32-52 | 0.8 |

# Supplemental information for cohort-based qualification completion rates

## Non-completion progression rate

48    Non-completion progression rate is the proportion of students in a cohort who are no longer enrolled in the cohort, have not completed a qualification in the cohort and have enrolled in a qualification at a different level from the cohort. The change may be to a higher- or lower-level qualification.

49    The higher non-completion progression rate is calculated using Formula 4

Formula 4:  Higher non-completion progression rate at level X in year Y:

| *Numerator* | Total number of students in a starting cohort at level X for year Y who have not re-enrolled at the same level and not completed but who have enrolled at a higher level |
|---|---|
| *Denominator* | Total number of students in the starting cohort at level X in year Y |

50    The lower non-completion progression rate is calculated using Formula 5

Formula 5:  Lower non-completion progression rate at level X in year Y:

| *Numerator* | Total number of students in a starting cohort at level X for year Y who have not re-enrolled at the same level and not completed but who have enrolled at a lower level |
|---|---|
| *Denominator* | Total number of students in the starting cohort at level X in year Y |

51    Non-completion progression occurs when a student in a cohort:

   a.    does not complete a qualification at the level that they started in

   b.    has stopped enrolling in courses linked to a qualification at the level that they started, and

   c.    has a subsequent enrolment in a course (eg, the start date of this course is after the end date of the last course at the qualification level that they started in) linked to a qualification at a different level.

52    Note that if a student changes from a level 7 non-degree qualification to a level 7 degree qualification, this will count as a higher level progression from a level 7 non-degree to a level 7 degree.

53    Non-completion progression is not counted or no longer counted where:

   a.    there is a subsequent re-enrolment or completion at the same level of the cohort

   b.    the student enrols in multiple levels in the same year including the cohort level.  They are treated as concurrent enrolments in two different cohorts and non-completion progression does not apply

   c.    there are multiple enrolments in the same year in higher and/or lower levels, both higher and lower progressions will be recorded, however only the higher progression will be reported.

## Example

54    Examples of non-completion progression:

   a.    A student enrols in a course for a level 4 qualification in 2009. In 2010, the student enrols in courses for a level 2 qualification and a level 5 qualification. The student will be reported as progressing from level 4 to level 5.

   b.    A student enrols in a course for a level 6 qualification in 2011. In 2012 the student enrols in a course for a level 7 non-degree qualification. The student will be reported as progressing from level 6 to level 7 (non-degree). If the student were then to enrol in 2014 in a course for a level 3 qualification, the student would be reported as progressing from level 7 non-degree to level 3.

   c.    A student enrols in a course for a level 2 qualification and a course for a level 5 qualification, both in 2010. The student then enrols in a level 4 qualification in 2011. The student will be reported as progressing from level 2 to level 4.

## Completion rates at higher and lower levels

55    Completion at a higher or lower level is the proportion of students in a cohort who have completed a qualification a higher or lower level than the cohort, is no longer enrolled in the cohort and has not completed a qualification in the cohort.

56    Completion rates without a cohort (to higher level) at level X for year Y are calculated using Formula 6.

   Formula 6:  Completion rates to higher level at level X for year Y:

| Numerator | Total number of students in a starting cohort at level X for year Y who have not re-enrolled or completed in the cohort but who have completed at a higher level than the cohort |
|---|---|
| Denominator | Total number of students in the starting cohort at level X in year Y |

57    Completion rates without a cohort (to lower level) at level X for year Y are calculated using Formula 7.

Formula 7: Completion rates to lower level at level X for year Y:

| Numerator | Total number of students in a starting cohort at level X for year Y who have not re-enrolled or completed in the cohort but who have completed at a lower level than the cohort |
|---|---|
| Denominator | Total number of students in the starting cohort at level X in year Y |

58    Four rules are used:

a.    Do not count completions that are more than one NZQF level higher or lower than the cohort level.

b.    Do not count the completions if the student has previously completed at that level. For the completion to be recorded the student must not have previously completed in the lower or higher level cohort the completion is being recorded against.

c.    Discard the lower-level completion if the student goes on to complete at the cohort level.

d.    Count the first completion. Only one completion is to be counted per cohort level for the student.

## Example

59    Examples of higher or lower level completions include:

a.    A student is enrolled in a level 4 cohort and completes a level 3 qualification - the level 3 completion is recognised as a lower level completion against the level 4 cohort.

b.    A student is enrolled in a level 3 cohort and completes a level 5 qualification without any course enrolments linked to a qualification at level 5. The level 5 completion is not counted towards the level 3 cohort as it is more than one level higher than the level 3 cohort.

c.    A student is enrolled in a level 4 cohort and completes a level 3 qualification and in the following year completes another level 3 qualification (and has not been enrolled in a level 3 cohort). Only the first completion is to be counted.

d.    A student is enrolled in a level 6 cohort and completes a level 5 qualification in 2013 and level 4 qualification in 2014 - the level 5 completion is recognised as a completion against the level 6 cohort and the level 4 completion is ignored.

e.     A student is enrolled in a level 4 cohort, completes a level 3 qualification and then in the same year as the level 3 completion completes a level 4 qualification - the level 4 completion is recognised as a completion against the level 4 cohort and the level 3 completion is ignored.

f.     A student is enrolled in a level 4 cohort, completes a level 3 qualification and then in the subsequent year to the level 3 completion completes a level 4 qualification - The level 3 completion is initially recognised as a completion against the level 4 cohort. In the following year the level 4 completion is recognised and replaces the completion non-cohort (lower) level against the level 4 cohort.

# Cohort-based first year retention rates

## How it is measured

60 The first year retention rate is the proportion of students who are retained in study after their first year of study by enrolling in a qualification at the same level in the year after they enter the cohort. The first year retention rate of a cohort is calculated using Formula 8 (where year Y is the cohort entry year and year Y+1 is the reporting year).

61 First year retention rates are only measured for students enrolling in qualifications of two EFTS or more at level 4 and above.

Formula 8: The first year retention rate at level X for year Y for a TEO:

| Numerator | Total number of students in a starting cohort who are still in study at level X in year Y+1 at TEO A |
|---|---|
| Denominator | Total number of students in a starting cohort at level X for year Y at TEO A |

## Methodology applied in calculating the first year retention rates

62 The rules for creating and maintaining a cohort are the same as the rules for creating and maintaining cohorts for the qualification completion rate, except that:

    a. The qualification linked to the course enrolment that determines the student's entry into a cohort must have an EFTS value of two or more.

    b. Cohorts for first year retention are only created for NZQF levels 4 and above.

    c. Where a student first enrols in a level 4 or above qualification which is less than two EFTS and then enrols in a qualification at the same level that is two EFTS or more the student will not be included in the retention rate cohort. This is because the EFTS value of the first qualification that the student enrolled in is less than two EFTS.

63 A student is counted as being retained if there is a course enrolment, linked to a qualification at the same cohort level, with a start date in the year after they entered the cohort.

## Example

64 If there are 100 students who start a level 6 qualification at TEO A in 2013. In 2014, 60 of these students enrol in a course associated with a level 6 qualification. For 2014, the first year retention rate is 60/100 or 60%.

# Participation

## How it is measured

65    The participation indicator is used to monitor the extent to which groups of interest, specifically Māori, Pacific Peoples, and people under 25 years of age are engaged in tertiary education. Participation is calculated for any group of interest using Formula 9.

Formula 9:  Participation rate (as a percentage):

| | |
|---|---|
| *Numerator* | Total EFTS delivered for a group of interest in year n |
| *Denominator* | Total EFTS delivered in year n |

## Methodology applied in calculating participation rates

66    In calculating participation exclude:

a.    duplicate course enrolments with an identical NSN, start date, course code and TEO code. Retain only the last submitted enrolment in the course for the student

b.    dourses where the TEC does not expect course completions. Exclude courses where the associated qualification has a QAC code value of:

- missing or blank
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: Programmes of study taught under contract, and
- 99: ACE programmes of study at public tertiary education institutions.

67    Calculate the total EFTS delivered using the EFTS by Month that fall within the calendar year. This is different from the successful course completion indicator. For example, a course starts in October of year n and ends in May of the following year. Only the EFTS delivered between October and December of year n will be included in the participation rate for year n. The EFTS delivered between January and May of year n+1 will be included in the participation rate for year n+1.

68    When calculating participation rates by group of interest:

a.    for an ethnic group, the numerator is EFTS delivered for the un prioritised ethnic group, so that all students who have declared any one of the three ethnicity fields for a particular ethnic group will be included in the EFTS delivered for that ethnic group. The denominator is the EFTS delivered for students of known ethnicity, so those who did not state any ethnic group are excluded

b.    when calculating participation rates for more than one dimension apply the dimension filters to the numerator but not the denominator (eg, students aged under 25 enrolled at levels 4 and above).

69    In reporting participation by source(s) of funding only include course enrolments for that source of funding.

# Appendix 1: Publishing EPIs

## What EPIs are published

70    The EPIs that will be published for reporting year 2017 onwards are:

    a.      Successful course completion rate

    b.      Student progression rate

    c.      Cohort-based qualification completion

    d.      Cohort-based first year retention.

71    Two previous EPIs student retention and EFTS weighted qualification completion rate will no longer be published.

## Timeframes for measuring cohort-based qualification completions

72    The period for measuring qualification completions differs by NZQF level:

    a.      For levels 1 to 3, use a two-year time period.

    b.      For levels 4 to 7 non degree, use a four-year time period.

    c.      For levels 7 (degree) and above, use a six-year time period.

73    For example, for the 2015 reporting year the cohort entry year by level are 2014 cohort for levels 1 to 3, 2012 cohort for levels 4 to 7 non degree levels and 2010 cohort for Level 7 degree and above.

74    The years are counted from the start of the calendar year for the staring cohort. For example, the six-year timeframe for a cohort that started at degree-level in 2010 would count completions up to the end of 2015.

## Timeframes for measuring the first year retention rate

75    The time period used for measuring first year retention rates is two years. For example, the reporting year of 2015 will include students who started in a cohort in 2014 in qualifications that were two EFTS or more at levels 4 and above.

## Sources of funding included in published rates

76    Course Completion

All sources of funding, except:

- 05 – STAR,

- 06 – Training Opportunities,

- 11 – Off Job Training,

- 23 – ACE or

- 33 – Dual Pathways.

77    Progression

Qualification completions where one or more courses were funded through:

- 01 - Student Achievement Component,
- 25 - SAC Level 1 & 2 Competitive Process Funding,
- 26 - SAC Level 1 & 2 Plan Process Funding,
- 27 - Under 25 Fees Free SAC Level 1 and 2 Plan Process Funding,
- 28 - Maori and Pacific Trades Training Level 1 and 2,
- 29 - Maori and Pacific Trades Training Level 3 and 4,
- 32 - SAC Level 3 & 4 Competitive Process Funding;

Enrolments at a higher level in any funding source.

78    Cohort-based qualification completion

All sources of funding, except:

- 05 – STAR,
- 06 – Training Opportunities,
- 11 – Off Job Training,
- 23 – ACE or
- 33 – Dual Pathways.

79    First Year Retention

All sources of funding, except:

- 05 – STAR,
- 06 – Training Opportunities,
- 11 – Off Job Training,
- 23 – ACE or
- 33 – Dual Pathways.

# Appendix 2: Sources of data

80    The data used to calculate the EPIs comes from the SDRs submitted by the TEO and TEO qualification information held in TEC's Course and Qualification Registers.

81    Data for enrolment events is taken from December SDRs or from the last SDR submitted for the year if the December SDR is missing.

82    Data for course and qualification completion events is taken from all SDRs available at the time of production, but only the latest submitted record will be used.

83    Cohorts are created using the final December SDR submitted for the year.

# Appendix 3: Calculating the indicators when TEOs merge

## Scope of merging calculations

84    This appendix describes the methodology used when TEOs merge or one TEO purchases another TEO. Data is merged on a yearly basis as per the methodology described below.

85    For cohort-based performance EPIs TEO mergers are treated the same as where a student changes TEO. The student will enter a new cohort based on their first enrolment in the NZQF level at the TEO.

## Participation

86    Include course enrolments with a course end date prior to the merger year in any participation figures for the pre merged entity.

87    Include the portion of an enrolment falling in the merger year in any participation figures for the merged entity.

## Successful course completions

88    Include courses completed with a course end date prior to the merger year in any completion figures for the pre merged entity.

89    Include courses completed with a course end date in or post the merger year in any course completion figures for the merged entity. This includes all EFTS from courses even if the course has a portion of its delivery in the year prior to the merger.

90    For example if TEO A and TEO B were to merge and the merger year was year n, the successful course completion rate for the combined entity in year n would be as shown in the formula below:

Formula 10:  Successful course completion rate for combined entity (as a percentage):

| Numerator | EFTS delivered for the total number of successfully completed course enrolments ending in year n at TEO A and TEO B |
|---|---|
| Denominator | EFTS delivered for the total number of course enrolments ending in year n for TEO A and TEO B |

## Student progression

91    Include students who completed a qualification at one of the pre-merger entities in the year prior to the merger year in the merged entity's progression rate if they enrol in a higher qualification at a TEO in the year of the merger date.

92    For example if TEO A and TEO B were to merge (with TEO A being the retained identity of the merged entity) in year n (and year n is the merger year) the student progression rate for the combined entity in year n would be as shown in the formula below:

Formula 11: Student progression rate for combined entity (as a percentage):

| | |
|---|---|
| *Numerator* | Number of students enrolled at a higher qualification (with the allowed time parameters) following completion |
| *Denominator* | Number of students completing a qualification (at either TEO A or TEO B) at each level in year n-1 |

# Appendix 4: Dimensions

## Age

93    The age of a student is used in conjunction with the EPIs to identify outcomes for students aged under 25.

    a.    A student's age is calculated using the date of birth ("DOB" field from the Student File in the SDR).

    b.    If more than one date of birth exists, the Master NSN is selected.

    c.    The student's age in years is calculated as at 1 July of the year of interest and rounded down to a whole number.

    d.    Where the age is unknown due to a missing or invalid date of birth, the student is included in the 40+ age group when disaggregating by age band.

    e.    For cohort-based EPIs the age is as at the year the student entered the cohort.

## Ethnicity

94    The ethnicity dimension is used in conjunction with EPIs to monitor the achievement of groups of interest to the sector and government – specifically, Māori and Pacific Peoples students.

95    TEOs report up to three ethnicity (ETHNIC) codes for a student with each Student File. Students who report multiple ethnicities are counted once in each group with which they identified themselves. For example, a student who reports both Māori and Tongan ethnicities is counted once in the Māori group and once in the Pacific Peoples group.

96    The following methodology has been applied to all indicators, including participation, when the indicator is disaggregated by ethnicity.

    a.    Exclude students whose ethnicity is not stated (code 999).

    b.    Aggregate students whose ethnicity is Middle Eastern/Latin American/African with those in the "Other" ethnicity category.

## NZQF register level

97    The NZQF register level is used in conjunction with the EPIs to identify the level of study of a course or qualification.

98    When calculating retention and progression rates by register level, the register level filter is applied only to the denominator. For example, to calculate retention at Levels 4 and 5, we select students who enrolled in Levels 4 and 5 courses for the denominator, then include re-enrolments and qualification completions at any level (not just Levels 4 and 5) for those students in the numerator.

99    The above technique (of applying a register level filter only to the denominator) is not required when calculating successful course completion or qualification completion by register level. Qualification completion is first calculated at the qualification level anyway before being summed to derive a rate for the TEO and enrolments and completions for courses are, by definition, at the same level.

100    The register level is that associated with the qualification and not the course, even when calculating the successful course completion rate.

101    The TEC presents data by register level in different ways in order to meet differing needs. Plan Commitments and associated monitoring reports are designed to target TES priorities, which are grouped by levels 1-3 and 4 and above. Publication and performance-linked funding are more suited to a detailed breakdown by register level groupings (Level 1-2, Level 3-4, Level 5-6, etc).

## NZSCED

102    The NZSCED dimension identifies the field of study of a course or qualification.

103    The NZSCED will be used to disaggregate the EPIs by the field of study of courses. This dimension is a six-digit code taken from the course enrolment (for example, 010901 denotes biochemistry and cell biology).

104    For cohort-based EPIs the NZSCED is that of the qualification at the time the student entered the cohort.

## QAC code

105    The QAC code field is to

    a.    distinguish between formal and non-formal qualifications

    b.    determine whether the qualification is level 7 non- degree or degree.

106    For cohort-based EPIs the QAC Code is that of the qualification at the time the student entered the cohort.

# Appendix 5: Student retention (old measure)

## How it is measured

107 The student retention rate is the proportion of individual students (not EFTS) enrolled in one year who either re-enrol in any course at the same TEO in the following year or successfully complete their qualification. The retention rate is calculated using Formula 12 below (where year n is the reporting year).

Formula 12: Student retention rate (as a percentage):

| *Numerator* | Students re-enrolled in year n or completed in year n or year n-1 |
| --- | --- |
| *Denominator* | Students with some portion of an enrolment in year n-1 |

## Methodology applied in calculating student retention

108 To calculate the student retention rate first exclude:

a. Those course enrolments in year n-1 that are associated with qualifications for which we do not expect completions. These are qualifications with QAC code values of:

- missing or blank
- 25: certificate of proficiency (student enrolled in course that can be credited to a degree)
- 37: certificate of proficiency (student enrolled in course that can be credited to a diploma)
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: programmes of study taught under contract
- 98: programmes of study made of selected unit standards
- 99: ACE programmes of study at public tertiary education institutions.

b. Any duplicate course enrolments (with an identical NSN, start date, course code, and TEO code) retaining only the last submitted course enrolment with the highest qualification level for the student per year.

109 Count the number of students with some portion of an enrolment in year n-1:

a. Include all course enrolments with some portion of an enrolment in year n-1. Where a course enrolment straddles two or more calendar years it is included as an enrolment in each year.

b. Count the number of distinct students (NSNs) included in these enrolments. Where a student is enrolled in several courses associated with qualifications at different qualification NZQF level use the course enrolment record with the highest qualification NZQF level.

110 Count the number of students re-enrolled in year n or completed in year n or year n-1:

a. Count the number of distinct students (NSNs) who had some portion of a course enrolment in year n-1 and a subsequent course enrolment with a course start date in year n. Both enrolments must be at the same TEO.

b. Count the number of distinct students who have completed a qualification in year n-1 or year n.

   - To be counted the qualification completion must meet the methodology used to derive qualification completions for the EFTS weighted qualification completions indicator. Include both precise and imprecise completions.
   - Students do not have to be studying for the same qualification or at the same level to be counted as continuing or completed.
   - Qualification completions are counted once towards year n reporting, if they occur in either year n or year n-1.

c. Count the number of students who have re-enrolled only, have re-enrolled and completed a qualification, and have not re-enrolled but have completed a qualification. This is the total number of students retained.

111   When calculating retention by qualification NZQF level, use level of the course enrolment belonging to year n-1.

a. Where the student was enrolled in two or more qualifications of differing NZQF levels, use the course enrolment record with the highest level.

b. Where the student was enrolled in two or more qualifications at the same NZQF level, use the course enrolment record with the earliest course end date.

c. Where the student was enrolled in two or more qualifications at the same NZQF level and the course enrolment record has the same course end dates, use the course enrolment record with the earliest course start date.

112   When reporting by fund only include those students with course enrolments in the selected fund in year n-1.

## Examples in calculating student retention

113   Figure 7 shows how possible enrolment scenarios are treated under this methodology. In Figure 7, the student retention rate is calculated for 'year n'. Each rectangular box represents an enrolment.  'QC' represents a qualification completion.

Figure 7:  Examples – 'year n' student retention rate

| Year n-1 | Year n | Status | Counted? |
|---|---|---|---|
| Case 1 | Case 1 | Continuing | Yes |
| Case 2 | Case 2 | Not Continuing | No |
| Case 3 | Case 3 | Continuing | Yes |
| Case 4   QC | Case 4 | Completed | Yes |
| Case 5   QC | | Completed | Yes |
| Case 6 | Case 6   QC | Completed | Yes |
| | Case 7 | Not Continuing | No |

| Case 8 | QC | | Case 8 | QC | Completed | Yes |

The <u>Case 1</u> student has re-enrolled and is counted as retained, because they have a new course enrolment start date in 'year n' at the same TEO.

The <u>Case 2</u> student is **not** counted as retained because they have no new course enrolment start date in 'year n' and have not completed a qualification.

The <u>Case 3</u> student is counted as retained because they have re-enrolled in a course starting in 'year n'.

The <u>Case 4</u> student has completed and re-enrolled and is counted as retained but only once, because they completed a qualification in 'year n-1' and re-enrolled in a new qualification in 'year n' at the same TEO.

The <u>Case 5</u> student is counted as retained because they completed a qualification in 'year n-1'.

The <u>Case 6</u> student is counted as retained because they completed a qualification in 'year n'.

The <u>Case 7</u> student is **not** counted as retained, because they do not have a new start date in 'year n' and did not complete a qualification in'year n'.  This student may re-enrol in 'year n+1', but they are not counted as retained for the 'year n' reporting year.

The <u>Case 8</u> student has completed a qualification in 'year n-1' and also continued and completed another qualification in 'year n'.  They are therefore counted as retained, but only once.

114   Table 4 shows a worked example calculating the student retention rate.  A student can only be counted once in columns b, c, or d.

Table 4:  Example – calculating the student retention rate

| TEO | A<br>No. of students enrolled in year n-1 | b<br>No. of students re-enrolled in year n | c<br>No. of students completed qualification in year n-1 | D<br>No. of students completed qualification in year n | e = b + c + d<br>Total no. re-enrolled and/or completed qualification | e/a<br>Student retention rate |
|---|---|---|---|---|---|---|
| TEO1 | 23,423 | 9,369 | 2342 | 6,558 | 18,269 | 78.0% |

# Appendix 6: EFTS weighted qualification completion (old measure)

## How it is measured

115    The qualification completion rate is the number of qualifications completed at each TEO (weighted by the 'size' of the qualification) divided by the total number of EFTS delivered for the total course enrolments ending in a given year. The qualification completion rate is calculated using Formula 3 below (where year n is the reporting year).

116    The 'size' does not refer to the number of EFTS enrolled in the qualification, but the EFTS value of the qualification taken from the Qualification Register. A Bachelor's degree, for example, typically has an EFTS value of 3.

Formula 13:  EFTS-weighted qualification completion rate (as a percentage):

| | |
|---|---|
| *Numerator* | Sum of qualification completions in year n x EFTS value of the qualification |
| *Denominator* | EFTS delivered for the total number of course enrolments ending in year n |

## Methodology applied in calculating the qualification completion rate

**Qualifications completed in year n**

117    Identify what qualification completions are to be included:

d.    Where duplicate qualification completion records exist (identical NSN, qualification code, and TEO number combination), select only the latest submitted record.

e.    Exclude qualifications where the TEC does not expect a completion.  These are qualifications with a QAC code value of:

- missing or blank
- 25: certificate of proficiency (student enrolled in course that can be credited to a degree)
- 37: certificate of proficiency (student enrolled in course that can be credited to a diploma)
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: programmes of study taught under contract
- 98: programmes of study made of selected unit standards, and
- 99: ACE programmes of study at TEIs.

118    Match qualification completions with course enrolments. This is done to access other information about the qualification completion.

a.    Before matching remove course enrolments for non-formal qualifications, these are those with QAC code values of:

- missing or blank
- 90: certificates of personal interest

- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: programmes of study taught under contract, and
- 99: ACE programmes of study at TEIs.

b.  Match each qualification completion with an enrolment record where they have the same student NSN, TEO, and qualification code. These are called 'precise matches' in this document.

c.  For those records that cannot be matched on student NSN, TEO and qualification code match on student NSN and TEO. These are called 'imprecise matches' in this document.  These are included as it is assumed that the enrolment is for the completed qualification at the same level as the course level (or below).

d.  Remove all unmatched qualification completion records.

e.  Remove all precise and imprecise qualification completion matches where a matched course enrolment has a course end date later than the reporting year. If there is a course enrolment with an end date after the qualification completion, we assume the student has not completed their studies.

a.  Remove all precise and imprecise qualification completion matches where there are no enrolment records in the selected fund(s).

b.  Prioritise matched qualification completion records within the reporting year and with the same 'year requirements met' as follows.

- Precise matches with at least one course enrolment in the selected fund(s).
- Imprecise matches against course enrolments in the selected fund(s).
- If both precise and imprecise matches exist for the selected fund(s), only count the precisely matched qualification completions.


**EFTS delivered for the total number of course enrolments ending in year n**

119   Exclude the following course enrolments when calculating the EFTS delivered for the total number of course enrolments ending in year n:

a.  Duplicate course enrolments with an identical NSN, start date, course code, and TEO number.  Retain only the last submitted course enrolment for the student.

b.  Course enrolments ending in year n for which the TEC does not expect a qualification completion, which are denoted by the QAC code values:

- missing or blank
- 25: certificate of proficiency (student enrolled in course that can be credited to a degree)
- 37: certificate of proficiency (student enrolled in course that can be credited to a diploma)
- 90: certificates of personal interest
- 91: Non-Formal Training Scheme not otherwise defined
- 96: STAR
- 97: Programmes of study taught under contract
- 98: Programmes of study made of selected unit standards, and
- 99: ACE programmes of study at public tertiary education institution

c. Course enrolments that are not in the selected fund(s)

d. Note - include PBRF-eligible course enrolments that are in the selected fund(s).

120 When calculating completion by qualification register level:

a. The register level values for the denominator are those associated with course enrolments; and

b. The register level values for the numerator are those associated with the qualification completion.

## Examples

121 Figure 8 below shows the completed qualifications with qualification codes y and z will not be counted because they can only be imprecisely matched with enrolments to other qualifications, and that another precisely matched qualification completion exists.

Figure 8:  Example – excluding qualification completions with imprecise matches to enrolments when a precise match exists

| NSN | Completed qualification | Course enrolments | Match | Counted? |
|---|---|---|---|---|
| 99999999 | BA code x | Course A qual code x / Course B qual code x | **Precise** | **Yes** |
| 99999999 | BSc code y | Course A qual code x / Course B qual code x | **Imprecise** | **No** |
| 99999999 | BA code z | Course C qual code a / Course D qual code a | **Imprecise** | **No** |

c. If there are more than one imprecisely matched qualification completions (and no precisely matched completions), only one can be counted (see Figure 5).

- Where imprecisely matched qualification completions have different EFTS values, the imprecise match completion with the highest qualification EFTS value is selected.
- If there are imprecise matches with identical qualification EFTS values, then the imprecise match with the highest qualification award level is selected.
- If the award level is identical, then the first imprecise match when sorted alphabetically using the qualification code is selected.

Figure 9: Example – excluding a second qualification completion with an imprecise match to enrolments

| NSN | Completed qualification | Course enrolments | Match | Counted? |
|---|---|---|---|---|
| 99999999 | BA code x, EFTS value 4 | Course A qual code y  /  Course B qual code y | **Imprecise** | **Yes** |
| 99999999 | Diploma code a, EFTS value 3 | Course A qual code y  /  Course B qual code x | **Imprecise** | **No** |

122    Table 5 shows a worked example of the EFTS-weighted qualification completion rate calculation.

Table 5: Example – calculating the EFTS-weighted qualification completion rate

| Calculation key: | | a | b | c | d | e |
|---|---|---|---|---|---|---|
| TEO | Qualification | Sum of qualification completions | EFTS for qualification | Numerator (a×b) | EFTS consumed for courses ending in year n | EFTS-weighted qualification completion rate (c/d) |
| TEO1 | QUAL1 | 235 | 1 | 235 | 287 | |
| TEO1 | QUAL2 | 126 | 2 | 252 | 401 | |
| TEO1 | QUAL3 | 165 | 1 | 165 | 225 | |
| TEO1 | QUAL4 | 0 | 2 | 0 | 20 | |
| **Total TEO1** | | | | **652** | **933** | **69.9%** |