

**Tertiary Education
Commission**

Te Amorangi Mātauranga Matua



Cohort-based completion and retention rates for industry training

Consultation paper – July 2016

Tertiary Education Commission
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Published in July 2016

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Introduction

We are seeking feedback on proposed changes to some of the performance measures for industry training. We would like to implement a cohort-based programme completion rate and a first-year retention rate for apprentices, and retain the credit achievement performance measure. These proposals apply only to industry training organisations (ITOs).

What is in this paper?

This paper includes nine key proposals to measure programme completions and apprentice retention. There is also information on how these rates are calculated for different New Zealand Qualification Framework (NZQF) levels and learner types.

The proposed business rules are set out in appendix 1, and examples of how the rules apply (if adopted) are set out in appendix 2.

We have also provided ITOs with their indicative rates using the proposed business rules. These give an indication of how the new methodology will work in practice. Please note that these rates are only indicative and that we will be working with ITOs to resolve any data issues once we have finalised a methodology.

How and when to provide feedback?

We welcome your feedback on the proposals in this paper. We have created an [online form](#)¹ where you can do this.

Please provide feedback no later than **5pm Friday 5 August 2016**. If you have any questions, please email us at tecinvestment.approach@tec.govt.nz or phone the Sector Helpdesk on 0800 601 301.

What is a good performance measure?

We believe good performance measures should:

- › reflect actual performance
- › reflect what is educationally important to learners and industry
- › support accountability for continuous improvement rather than compliance
- › enable decision-makers to better understand how to improve social and economic outcomes for learners and New Zealand, and
- › promote transparency and enable comparability of the outcomes of tertiary education.

¹ <https://www.surveymonkey.com/r/QZZFBX6>

Subsequently, performance measures should be based on key principles:

- › **Fit for purpose:** Performance measures and information need to support desired outcomes.
- › **Simple and transparent:** Performance information should have clear meaning and be calculated in a simple way.
- › **Timely:** Performance information should readily enable decision-makers to improve performance.
- › **Auditable:** Performance information must be able to be analysed.
- › **Consistent and comparable:** Performance information should enable meaningful comparisons across organisations, jurisdictions, and time.

Why do we need a new programme completion rate?

There are a variety of issues with the current methodology, which means that sometimes the programme completion rate does not provide meaningful information. This is because it uses a synthetic cohort. In other words, the completions in a year are counted against the enrolments in that same year, so the enrolments are being used as a proxy for a starting cohort.

One issue is that rates can exceed 100%. This happens when there are fewer enrolments in a year, but greater numbers of enrolments from earlier years are completing in that same year. So, when there is a decline in industry training enrolments, the programme completion rate increases.

On other occasions, the rates can decrease. This can be due to improvements in the economy, where enrolments in industry training increase in a year, at a greater rate than completions are occurring. This results in decreasing programme completion rates, even though more people are in work and training.

How were the proposals for a new measure developed?

Late in 2015 we held a workshop with representatives from five ITOs.² We received their feedback and agreement on a general approach (ie, cohort-based methodology).

Following the workshop, we worked through the details of this approach. We have produced a draft methodology and business rules for the programme completion and apprentice retention rates.

² The Skills Organisation; ServiceIQ; MITO; Skills Active; Careerforce

Why use a cohort-based completion rate?

A cohort-based completion rate is more robust than the current performance measure. The key advantages are that it:

- › reflects how the performance measure is normally interpreted
- › is simple to understand, and
- › is used in other countries such as Australia.³

The Ministry of Education has been using a cohort-based methodology since 2007 to measure educational performance across the tertiary education sector. Although our methodology will be slightly different, the two measures will show similar trends.

What factors can affect completion rates?

Different factors can affect completion rates from year to year. A reduction in the rate doesn't necessarily reflect the performance of the individual organisations. It is important to understand that the following factors can impact on rates:

- › The economy
- › Unemployment rates
- › Government initiatives or policy changes

Other situations, such as the Canterbury earthquakes and subsequent rebuild, may have wider impacts on performance and training opportunities.

When will the changes be implemented?

We are aiming to finalise the methodology by August 2016. However, this will depend on any feedback we receive. We will publish rates based on the existing methodology in August 2016. Once the new methodology is finalised, we will also publish cohort-based rates as soon as we can.

The new rates will inform our engagement with ITOs for the 2018-19 Investment Plan round.

³ Australian vocational education and training statistics; Apprentices and trainees

Cohort-based programme completion rate

We propose using a cohort-based methodology to measure programme completions for ITOs. We use the term *programme* rather than *qualification*, as not all programmes (such as supplementary credit programmes) lead to qualifications. However, there is a high correlation between programme and qualification completions (which is used by the Ministry of Education).

The formula for the programme completion rate is:

$$\frac{\text{Total number of learners in the starting cohort of year } n \text{ who complete a programme at level } x \text{ within a given timeframe}}{\text{Total number of learners in the starting cohort at level } x \text{ for year } n}$$

The learners included in this measure are all those enrolled in programmes with an ITO reported through the Industry Training Register (ITR)—funded or unfunded—except where:

- › the enrolment has been deleted from the ITR
- › the enrolment has been withdrawn AND the participation start date and end date are in the same calendar month and year, or
- › the enrolment is in a limited credit programme.

The following information sets out, at a high level, the proposals to move to a cohort-based methodology for a programme completion rate. The appendix provides more detailed information on the business rules for these proposals.

Proposal 1: Use a starting cohort-based methodology for the programme completion rate

A cohort-based programme completion rate measures how many learners of a starting cohort complete their programme within a given period of time.

Industry training subsector representatives supported moving to this approach. It provides a simpler, more transparent and learner-focussed view of an organisation's performance. It will provide a more meaningful measure of the rate in which learners complete their programmes of training.

It has also been introduced for other tertiary education organisations in New Zealand and is used in other jurisdictions. Organisations will be able to benchmark their performance against these other organisations. It will also provide accurate comparisons between tertiary education organisations in the case of similar provision.

Proposal 2: Use the following three rules to determine when a learner is included in the starting cohort at level x for year n

Rule 1: First enrolment in a given NZQF level at an ITO

A learner is included in a starting cohort at level x in year n at an ITO where the learner's first enrolment in level x at the ITO is in year n. A learner can be active in only one cohort and level at any stage.

Rule 2: If a learner enrolls and completes in a programme at level x, they can enter a cohort again provided the new enrolment starts after the completion

A learner can enter into a new cohort at an ITO at level x if the learner has a previous enrolment and completion at level x, as long as the start date of the new enrolment at level x is after the date of the previous completion.

The new enrolment can occur in the same year as the previous enrolment and completion, or in a subsequent year.

Rule 3: If there is a gap of five years or more between a withdrawal at level x and a subsequent re-enrolment in level x then a learner can enter into a new cohort at level x and year n for the subsequent enrolment

A learner can enter a new cohort at an ITO at level x if there is a gap of five years or more between the withdrawal participation end date and the new enrolment participation start date. Note that the learner will still remain in the previous cohort.

Proposal 3: Include a learner completion if the learner completes a programme at the same NZQF level as the programme in which the learner started

A completion is only counted if the learner completes a programme at the same level in which they enrolled in the starting cohort year.

For complex apprenticeship programmes, the enrolment and completion of the parent programme is used in calculating cohort rates. The sub-programme(s) are not included in the cohort completion rate.

Calculating rates by NZQF level, learner type, and timeframes

Currently, we do not break down educational performance indicators by NZQF level. However, it is appropriate to group similar-sized programmes together, as they tend to have similar durations.

Proposal 4: Report rates by NZQF levels 1 to 3 and 4 and above for industry training

While programme completion rates will be reported by NZQF level groups (for example, NZQF levels 1 to 3), the rates will be calculated separately at each NZQF level and then aggregated to get an overall rate.

We will calculate an aggregated rate by summing the different numerators and denominators and then dividing the total numerator by the total denominator.

Proposal 5: Report rates separately for industry trainees and apprentices

Rates will be calculated and reported separately for industry trainees and apprentices.

Proposal 6: Set timeframes depending on NZQF level and learner type

We propose a target completion timeframe of:

- › three calendar years for industry trainees in programmes at NZQF levels 1 to 3
- › four calendar years for industry trainees in programmes at NZQF levels 4 and above, and
- › six calendar years for apprentices (New Zealand Apprentices and Modern Apprentices).⁴

⁴ As the ITR was implemented only in 2011, we do not currently have six years' worth of data to provide completion rates for apprentices. In the short-term, the rates are measured on five years (due to a lack of data).

Cohort-based apprentice retention rate

Unlike other subsectors, there has been no retention measure for industry training. We are taking the opportunity to introduce a retention measure for apprentices. Apprenticeships provide a premier vocational pathway and are funded at a higher rate than industry training.

The following information sets out the proposals for measuring a retention rate. Please refer to the business rules in appendix 1 for more information.

Proposal 7: Use a cohort-based methodology to measure first year retention for apprentices

A cohort-based retention rate measures how many apprentices are still in training after 12 months from starting at an ITO.

$$\frac{\text{Total number of apprentices who start in year } n \text{ who are still in training after 12 months at the ITO}}{\text{Total number of apprentices who start in year } n \text{ at the ITO}}$$

Proposal 8: A learner is included in the starting cohort if they are a New Zealand Apprentice or Modern Apprentice

For entry into the cohort, the rules are the same as for the programme completion rate. In addition, the learner must be enrolled in a New Zealand Apprenticeship or Modern Apprenticeship programme.

Proposal 9: A learner is counted as retained if the number of funded months is 13 months or more in year n+1

If a learner withdraws or completes within 12 months, they are not included in the retention numerator. However, if a learner completes in this period, they will be reported separately as part of the retention reporting.

Appendix 1: Detailed business rules

What will be calculated?

1. Cohort-based programme completion rate based on NZQF level and learner type.
2. Cohort first year retention rate for apprentices.

Cohort-based programme completion rates

Formula for starting cohort-based programme completion rate

$$\frac{\text{Total number of learners in the starting cohort of year } n \text{ who complete a programme at level } x \text{ within a given timeframe}}{\text{Total number of learners who in the starting cohort at level } x \text{ for year } n}$$

Cohort programme completion rate definitions

3. 'learner': an industry trainee or apprentice.
4. 'start in year n': earliest participation start date in the Industry Training Register (ITR) in a calendar year.
5. 'complete a programme': completion of programme reported through the ITR (for complex programmes, the completion of the parent programme is counted, not the sub-programmes).
6. 'level x': is the NZQF level of the programme.
7. 'a given timeframe': a stated period of time that is a calendar year. The proposed timeframes are three years for NZQF levels 1 to 3 industry training programmes and four years for NZQF level 4 and above industry training programmes. Apprenticeship programmes will be reported separately and propose a completion rate within six years.⁵

Entry into a cohort

8. Cohorts are to be established from 2011 onwards as 2011 is the start of the ITR.
9. A cohort belongs to an ITO. If a learner is enrolled in two programmes at different ITOs they are in two cohorts.
10. A learner will belong to a cohort based on the cohort entry year and NZQF level of the programme enrolment.
11. The cohort entry year is the year of the earliest participation start date in an NZQF level.
12. A learner can only be active in one cohort at an ITO and NZQF level. An active cohort is where the learner is currently enrolled and has not completed.

⁵ The timeframe for apprenticeships will be six years. However, as the ITR has only been in production since 2011, there is only five years of data. Therefore the draft rates will reflect a five-year completion rate for apprentices.

13. A learner can enter a new cohort at an ITO at the same NZQF level after completing a programme at that NZQF level, including within the same year. The learner is to be counted as entering the cohort twice in the same year.
14. A learner can enter a new cohort after they have withdrawn from the programme where the withdrawal end date was at least five years earlier than the new enrolment start date and there have been no other enrolments in the same NZQF level since that enrolment.
15. Cohorts will exclude:
 - a. Enrolments that have been deleted
 - b. Enrolments where the participation start date and withdrawal date are in the same calendar month and year, and
 - c. Enrolments in limited credit programmes (LCP).

Cohort completions

16. Completions are to be recorded at each NZQF level.
17. Only programmes completed after the cohort entry date are to be counted.
18. Completion rates should be able to be calculated for any year from cohort entry year onwards (that is a completion rate after one year, two years three years, etc).
19. Completion rates will be published three years after cohort entry for NZQF level 1 to 3 programmes and four years for NZQF level 4 and above programmes.
20. Completion rates will be published six years after cohort entry for apprenticeships (Modern Apprenticeships and New Zealand Apprenticeships).

Complex apprenticeship programmes

21. For complex programmes the enrolment and completion of the parent programme is to be used in calculating cohort rates.

Merged ITOs

22. Where a learner has previously enrolled at an ITO that has subsequently merged with another ITO, then the first enrolment at the new ITO is counted as the earliest participation start date. This rule is applied due to different ITO practices when merging.

Reporting

23. In reporting the cohort rates, the cohorts are to be reported separately in two groups:
(1) New Zealand Apprentices and Modern Apprentices, and (2) Industry Trainees.

Cohort-based apprentice retention rate

Formula for cohort-based first year retention rate for apprentices

$$\frac{\text{Total number of apprentices who start in year } n \text{ who are still in training after 12 months at the ITO}}{\text{Total number of apprentices who start in year } n \text{ at the ITO}}$$

Definitions

24. 'start in year n': earliest participation start date in a New Zealand Apprenticeship or Modern Apprenticeship at the ITO.
25. 'still in training after 12 months': the number of funded months is 13 months or more in a New Zealand Apprenticeship and/or Modern Apprenticeship at the ITO during year n+1.

Entry into a cohort

26. As per cohort-based programme completion rate except the programme must be a New Zealand Apprenticeship or Modern Apprenticeship programme.
27. Any enrolments where the learner has completed the apprenticeship within the retention period are to be reported separately as part of the retention reporting.

Appendix 2: Rationale for timeframes and groupings

The following table sets out the proposal and the rationale for why we have elected the particular proposal.

Proposal	Rationale
<p>NZQF level grouping 1 to 3 for industry training</p>	<p>Grouping levels 1 to 3 aligns this proposal with the EPIs being introduced for the Student Achievement Component and Youth Guarantee funds. Level 3 aligns more closely with levels 1 and 2 than with level 4 and above.</p> <p>The average nominal credit value for programmes at levels 1 to 3 is 64 credits (ranging from 42 to 71 credits).</p>
<p>NZQF level grouping 4 and above for industry training</p>	<p>Grouping levels 4 to 7 aligns to Better Public Service target 6 (Increase the proportion of 25- to 34-year-olds with advanced trade qualifications, diplomas and degrees (at Level 4 or above)).</p> <p>The average nominal credit value for programmes at levels 4 to 7 is 127 credits (ranging from 112 to 185 credits).</p>
<p>Apprentices versus industry trainees</p> <p>Retention rates for apprentices</p>	<p>Apprenticeship programmes have, on average, greater numbers of credits and are of longer duration than other level 4 industry training programmes. The average credit value is 185 credits, compared with 127 credits for industry trainees.</p> <p>Apprenticeships provide a premier vocational pathway that sets up a person for a career in an industry. They are funded at a higher rate than other industry training programmes.</p>
<p>Timeframe of three years for industry trainees at levels 1 to 3</p>	<p>In 2015, 94 percent of learners enrolled in level 1 to 3 programmes with nominal durations of 18 months or fewer. Three years is twice the length of this duration. In the 2011 level 1-3 cohort, rates begin to plateau at three years, with a 1 percentage point change between years 3 and 4.</p>
<p>Timeframe of four years for industry trainees at levels 4 and above</p>	<p>In 2015, 92 percent of learners enrolled in level 4 to 7 programmes with nominal durations of 24 months or fewer. Four years is twice the length of this duration. In the 2011 cohort, rates begin to plateau at four years, with a 1 percentage point change between years 4 and 5.</p>
<p>Timeframe of six years for apprentices</p>	<p>The average nominal duration for apprenticeships range is 36 months.</p> <p>There are currently 359 New Zealand Apprenticeship programmes in which apprentices are enrolled. These programmes range in duration from 12 to 85 months. Three programmes have durations of 72 months or greater. The apprenticeship with the largest number of enrolments—Carpentry—has a duration of 52 months.</p> <p>In the 2011 cohort, rates change 2 percentage points between years 5 and 6. Year 6 (2016) is only part-way through, and the percentage points will increase. Six years is the likely timeframe and may be sufficient. However, we will review this if there is significant change between years 6 and 7.</p>

Appendix 3: Examples for a cohort-based programme completion rate

Starting cohort proposal/rule	2011	2012	2013	2014	2015	Reporting information
<p><i>Proposal 2 Rule 1</i></p> <p>First enrolment in a given NZQF level at an ITO</p>				Enrolment (Level 3)	Enrolment (Level 3)	<ul style="list-style-type: none"> - Included in 2014 cohort - Will remain active in 2014 cohort until completed or withdrawn - Not included in 2015 cohort, as still active in 2014 cohort
				Enrolment (Level 3) Enrolment (Level 4)		<ul style="list-style-type: none"> - Included in 2014 cohort at level 3 - Included in 2014 cohort at level 4
<p><i>Proposal 2 Rule 2</i></p> <p>A learner can enter a cohort again provided the new enrolment starts after the completion</p>		Enrolment (Level 3) Completion (Level 3)	Enrolment (Level 3)			<ul style="list-style-type: none"> - Included in 2012 cohort - Included in 2013 cohort, as 2012 has a completion at an earlier stage
			Enrolment 1 Jan (Level 3) Completion 1 Jul (Level 3) Enrolment 1 Aug (Level 3)			<ul style="list-style-type: none"> - Included in 2013 cohort - Included for a second time in 2013 cohort, as the previous enrolment has a completion that occurred prior to the new enrolment
<p><i>Proposal 2 Rule 3</i></p> <p>If there is a gap of five years between a withdrawal and subsequent re-enrolment, a learner can enter a new cohort</p>	Enrolment (Level 4) Withdrawal (Level 4)		Enrolment (Level 4)			<ul style="list-style-type: none"> - Included in 2011 cohort - Not included in 2013 cohort as withdrawal is not 5 years earlier than the new enrolment at the same level - However, if the new enrolment occurred in 2016 (depending on withdrawal and start dates), it would be included in the 2016 cohort

