



# Educational performance indicators

Defining educational performance

# Educational performance indicators

## Introduction

This paper provides a summary of the indicators for measuring TEO educational performance that we are developing for use from 2010. Over time these indicators could be used for funding, public reporting and inclusion as key performance indicators in plans.

## Background

The government has signalled through the draft 2010-2015 Tertiary Education Strategy (TES) that it wants to see improvements in the performance of the tertiary education system. These improvements are to be through responsiveness to both the demands of students and industry, and in making better use of scarce resources. The government has indicated in the draft TES that it wants to link funding more closely to performance, and for information on the educational performance of TEOs to be made publicly available. This will require us to formalise how we measure TEOs' educational performance. The Minister has agreed that measurement of educational performance across the tertiary education sector will focus on the results TEOs enable their students to achieve, as indicated by students' successful course and qualification completion, continuation and progression.

In the medium term, we recognise that the funding system should be based on a broad range of measures of performance. For example these may include the medium-term impacts of tertiary education (such as entry to the labour market and medium-term earnings), and improvement in students' literacy, language and numeracy between the start and end of their qualification.

To address the more immediate need to measure performance we have developed a set of five output based performance indicators. These indicators meet the key criteria of being meaningful to the public, clearly defined, replicable within TEOs' own information systems, and useful for TEOs' own academic and management decision-making. These indicators use existing information which will minimise related compliance and administration costs. The indicators are:

- i. EFTS-weighted successful course completion rate
- ii. student continuation and completion rate
- iii. EFTS-weighted qualification completion
- iv. actual to expected qualification completion ratio
- v. completion progression rate.

The five indicators, which are described in more detail later in this document, represent a smaller and simpler set of educational performance indicators than is currently used by the TEC. We expect that the indicators will be used for more than one purpose. Eventually these could be used for determining aspects of funding, public reporting, or inclusion as key

performance indicators in plans. While we have not completed the work on the funding models we expect the indicators will:

- enable the identification of the range of performance in the provision of tertiary education
- provide information that can be applied in the allocation of funding
- enable the demonstration of value for money in the tertiary sector regarding the outputs of tertiary education.

We are developing these indicators as part of a larger programme of work that includes the publishing of performance information, how performance information is to be used in funding models and the supply of information for TEOs' benchmarking processes.

We are seeking feedback from Universities, Institutes of Technology and Polytechnics, Wānanga and PTE peak bodies on the following points:

- i. Opportunities to improve definitions.
- ii. Areas requiring further clarity from the TEC, for example in the stated business rules.
- iii. TEO practices that may affect data quality or lead to potential unintended consequences from the use of the indicators.

Clearly defining educational performance indicators is part of a larger information work programme at the TEC. This programme will improve the quality, accuracy and availability of centrally collected tertiary education performance information within the TEC and for TEOs by June 2010.

We are looking to finalise indicators and their definitions in December so they can be included in Plan Guidance to be released in February. In March 2010 we will produce individual TEO indicative reports against the educational performance indicators, with final reports produced in June. During and after the production of these reports we will continue to work with TEOs to improve the accuracy and quality of the data that is used for deriving the performance indicator reports.

## Proposed Indicators

The indicators outlined in this paper build on our work with the sector during 2006/07 to develop common indicator definitions for the 2008-2010 plan period.

Five output indicators that measure TEOs' educational performance are proposed. The output indicators measure the educational gains made by students from initial enrolment through to the completion of qualifications and/or progression to other studies. The indicators will also be analysed and reported in terms of "dimensions". These include student dimensions such as ethnicity and age, and education programme dimensions such as level of study or subject area.

We will retain the existing EFTS based input indicators and the draft TES also introduces two new input dimensions for education programmes – a Youth Guarantee identifier and a literacy and numeracy identifier. These two new dimensions will be used to measure and report youth achievement and literacy and numeracy gains.

One overall technical change we are making relates to how ethnicity data is treated in analysing information for the performance indicators. Until now the indicator methodology included all enrolments when determining the percentage of an ethnicity, which differs from the standard approach by Statistics New Zealand. Rather than counting all enrolments, Statistics New Zealand calculate the percentage using the total number of people who responded to the ethnicity question, which will now be the methodology for the education performance indicators. This change brings the indicator methodology in line with standard practice by Statistics New Zealand.

We have simplified all indicators by including the results of all students enrolled in formal qualifications, regardless of the EFTS size of the qualification. Previously students were not included if they were enrolled in a formal qualification with a total course EFTS value of less than 0.035<sup>1</sup>. This caused confusion and was difficult for TEOs to replicate. Similarly, the indicator methodology also takes a simpler approach than previously to the switching of qualifications.

A summary of each output indicator is provided in the following pages.

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<sup>1</sup> Note: These students still attracted funding

## EFTS-weighted successful course completion rate

A revised approach is being taken to determine a TEO's successful course completion rate. Course completion indicators will be calculated based on the EFTS value associated with the enrolment-completion event as shown in the following formula:

$$\frac{\text{EFTS delivered for the total number of successfully completed course enrolments in year n}}{\text{EFTS delivered for the total number of course enrolments in year n}}$$

This indicator shows on an EFTS basis, the percentage of courses being passed by students enrolled at the TEO. This replaces the successful course completion rate indicator used in 2008-2010 Investment Plans. We have improved the usefulness of this indicator by:

- taking into account the EFTS value of a course. Previously all courses were treated the same, irrespective of their length
- using the PBRF-Eligible course flag to exclude thesis-based courses. Previously all qualifications in Qualification Award Category Code levels 8-10 were excluded
- simplifying the calculation of the rate by including all completion records in the denominator, including 'still to complete' and 'unknown' values. Previously only the 'known' results were included in the denominator. This change also makes it more important for TEOs to submit course completion data when it is available and makes the indicator more easily understood by the public.

## Student continuation or completion

A simpler approach is being taken to determine a TEO's retention of students from one year to the next. The revised measure of continuation or completion is based on the following formula:

$$\frac{\text{Students re-enrolled in year } n+1 \text{ or completed in year } n \text{ or year } n+1}{\text{Students with some portion of an enrolment in year } n}$$

This indicator shows the percentage of enrolments in one year that either successfully complete a qualification or re-enrol at the TEO. It replaces the first year attrition indicator, which is complex to calculate and difficult for TEOs to replicate. We have made the indicator simpler and timelier by:

- basing the indicator on the student rather than the level of the qualification
- basing the indicator on all present in the cohort year rather than a starting date cohort
- using fixed calendar years rather than dates that vary with individual enrolment events. This allows results to be presented a year earlier.

## Qualification completion

A two and five-year cohort approach is currently used to measure qualification completion. The cohort approach shows the proportion of students who have completed a qualification (at the same or a higher level than that originally enrolled in) within either the two or five years from their original enrolment.

This approach is complex and difficult for TEOs to replicate. In part this is because qualification enrolment events are not recorded in the SDR, nor are movements between related qualification enrolment events. Additionally the two and five-year cohort approach does not deal well with part time students.

We are exploring whether a mixture of indicators would be more useful for the TEC and for TEOs. The options being explored are:

### a) EFTS-weighted qualification completion

This indicator is a count of the number of qualification completions, weighted by the EFTS value of each qualification and shows the volume of qualifications a TEO produces. The formula for calculating the EFTS-weighted qualification completion indicator is:

$$\text{Sum of qualification completions in year } n \times \text{EFTS value of the qualification}$$

### b) Actual to expected qualification completion ratio

This indicator compares the actual with the expected number of qualification completions. It shows the percentage of students who, having successfully completed courses towards a qualification, go on to complete the qualification.

The formula is:

$$\frac{\text{Actual number of qualifications completed in year } n}{\text{Expected number of qualification completions in year } n}$$

In this indicator, the *Expected number of qualification completions in year n* is made up of four components that influence completions:

- The number of enrolments in the qualification
- The rate at which students complete the courses that make up qualifications (EFTS-weighted successful course completion rate)
- The length of the qualification (EFTS value for a qualification)
- The workload of students studying for the qualification (average course EFTS enrolled in a qualification)

The calculation is:

Sum by Qualification	$\frac{\text{Number of enrolments} \times \text{EFTS-weighted successful course completion rate for year } n}{\text{EFTS value for qualification} / \text{Average course EFTS enrolled in a qualification in year } n}$
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It is recognised that quickly growing and diminishing programmes could affect this ratio as will programmes that are starting or programmes that are ending. It is considered that this can be mitigated by using a multi year rolling average rate.

A qualification completion rate can be determined by multiplying the ratio by the EFTS-weighted successful course completion rate for year n.

The benefits of the above approaches include:

- improving timeliness in reporting performance for the academic year just ended
- disaggregating down to an individual qualification to identify improvement opportunities
- simplifying the calculation through no longer needing to track a student from enrolment to completion.
- the actual to expected qualification completion rate also takes into account part time study and differing workloads of students.

## Completion progression rate

The completion progression rate is the proportion of students who undertake further formal tertiary education at a higher level within 12 months of completing a qualification. Completion progression is seen as a valid measure of the performance of a TEO in enabling successful students to move to higher levels of tertiary education.

The formula for completion progression is:

$$\frac{\text{Number of student enrolments at a higher qualification level within 12 months following the completion}}{\text{Number of students completing a qualification at each level in year n}}$$

We have improved this indicator by:

- including progression to higher level education funded through all tertiary education funding types
- changing qualification completion rules for this indicator to make them consistent with the revised qualification completion count indicator.

## **Summary**

Developing these performance indicators is part of wider work to link aspects of funding to TEOs' educational performance. Just how the indicators will be linked to funding has yet to be decided and the policy development will be informed by the robustness of the indicators, which in turn is still under investigation.



