



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

University Entrance
Review 2016–2017
Discussion Document

March 2017

Contents

1. Purpose
2. Executive Summary
3. Background
4. What stakeholders told us
5. What the data tells us
6. Our initial conclusions
7. Next steps

Appendix 1: Terms of Reference

Appendix 2: The current and previous University Entrance requirements

Appendix 3: External Advisory Group membership

Appendix 4: Generic subjects

Commonly used abbreviations

EAG	The University Entrance External Advisory Group
GES	Guaranteed Entry Scores – the scores derived from NCEA results which some universities use for admission purposes
ITPs	Institutes of Technology and Polytechnics
NCEA	National Certificate of Educational Achievement
NZQA	New Zealand Qualifications Agency
PTEs	Private Training Establishments
STEM	Science, Technology, Engineering and Mathematics
TEOs	Tertiary Education Organisations (universities, ITPs, wānanga and PTEs)
TEIs	Tertiary Education Institutes – the subset of TEOs which are crown owned (the universities, ITPs and wānanga)

1. Purpose

NZQA seeks views on our initial conclusions for the 2016–2017 review of University Entrance.

This discussion document sets out:

- The function of University Entrance and previous reviews.
- NZQA’s approach to gathering information for this review.
- A summary of the feedback we have gathered from stakeholders.
- Our initial conclusions.
- Our suggestions in response to the feedback.

We are seeking feedback on:

1. The soundness of our conclusions.
2. The soundness of our suggestions.
3. If we have missed anything in our review.
4. If we should consider doing anything else.

2. Executive summary

The University Entrance award is intended to be an indicator of a student’s chance of success at degree level study at university.

The purpose of the 2016–2017 University Entrance review is to ensure that the requirements remain fit for purpose and relevant to stakeholders. The Terms of Reference for the review are in Appendix One. The University Entrance requirements were last reviewed in 2010–2011 and significant changes were made. The changes came fully into effect in 2014.

The 2016–2017 review focuses on the impact of these recent changes. We have talked extensively to stakeholders and considered the available evidence. Many people said that, as the major changes arising from the last review did not come fully into effect until 2014, there should be stability in the requirements for the next few years.

This discussion document presents our initial conclusions and makes some suggestions for improvement in some areas.

Key feedback from stakeholders:

- widespread support for the alignment of University Entrance with NCEA Level 3
- some concerns from all major stakeholders about the literacy and numeracy requirements and we have made some suggestions for addressing these
- there are a range of views on the requirement for 14 credits from each of three approved subjects but no clear consensus for change
- NZQA should have a regular process for reviewing and adding/removing subjects on the approved subjects list, and
- schools and wharekura find it challenging to provide accurate advice to students regarding tertiary education organisations’ (TEOs’) requirements for degree-level programmes. They would welcome a centralised resource.

We make several suggestions in this document in response to the feedback we received through engagement with stakeholders and our analysis of the available data. Depending on the feedback we receive, we may decide that changes to the requirements should be considered. If this is the case, we will publicly consult with stakeholders later in the year¹.

Our initial conclusions are:

- University Entrance must balance opportunity of access for students with their chances of success
- within the above context, the University Entrance requirements appear to be about right, and
- we could make some operational changes to improve the effectiveness and relevance of the award.

Although there are no recommendations for change arising from the review at this stage, the review process has shown that it is important to maintain strong sector involvement in the award. The forthcoming review of NCEA and other on-going developments in education may result in changes that impact on University Entrance, which may mean that University Entrance should be considered again to ensure it continues to be fit for purpose in a modern and contemporary education system.

¹ This would include formal consultation with the universities, as required under s247 of the Education Act

3. Introduction

3.1 Background

NZQA is responsible for determining the common educational standard that domestic students must reach to apply for entry to university². This standard is known as 'University Entrance'. The University Entrance requirements apply to students under 20 years old. Universities can determine their own entry requirements over and above this standard and some universities set higher requirements. This has always been the case, and the higher requirements may be higher general entry requirements and/or specifying prerequisites for some programmes of study.

Universities set their own entry requirements for all other groups of students, such as international students, students over 20 years old, students who have gained equivalent qualifications (e.g. International Baccalaureate or Cambridge examinations) and students who have not continued their school education beyond Year 12.

The Institutes of Technology and Polytechnics (ITPs), wānanga and Private Training Establishments (PTEs) are not required under the legislation to use the University Entrance requirements for entry into their degree level programmes. In practice however, most TEOs use the University Entrance requirements to determine or guide selection to their programmes. In addition, some regulatory bodies, such as the Nursing and Midwifery Councils, require all TEOs to base admission on the University Entrance requirements.

3.2 Purpose of the 2016–17 review

NZQA periodically reviews the requirements for University Entrance to ensure that they remain fit for purpose, up to date and relevant to stakeholders. The requirements were reviewed in 2005–6 and again in 2010–11. The review in 2010–11 resulted in substantial changes to the requirements and the standard was, overall, raised. The changes agreed through the 2010–11 review came fully into effect in 2014.

The table below provides an outline of the changes arising from the last two reviews:

NZQA University Entrance Review	Outcome	The University Entrance Standard at the end of the review:
2005–2006	The review in 2005–06 set the University Entrance requirements following the full implementation of the NCEA in 2004.	<ul style="list-style-type: none">• 42 credits at Level 3 in three subjects• 14 credits in each of two subjects from the approved subject list• 14 credits from not more than two additional domains on the NQF or approved subjects list• Literacy – 8 credits at Level 2 or above from English or Te Reo

² Education Act s247. The NZQA's authority relates only to the requirements for domestic students under 20 years old.

		<ul style="list-style-type: none"> Numeracy – 14 credits at Level 1 or higher, from Mathematics, Statistics and Probability and Pāngarau.
2010–2011	The review in 2010–11 resulted in substantial changes to the requirements and the standard was, overall, raised. The changes agreed through the 2010–11 review came fully into effect in 2014.	<ul style="list-style-type: none"> NCEA Level 3³ Three subjects – at Level 3, made up of: <ul style="list-style-type: none"> 14 credits each of three approved subjects [i.e. from the approved subjects list] Literacy – 10 credits at Level 2 or above (from specified achievement standards): <ul style="list-style-type: none"> 5 credits in reading and 5 credits in writing Numeracy – 10 credits at Level 1 or above, made up of: <ul style="list-style-type: none"> specified achievement standards available through a range of subjects; or unit standards - package of three numeracy unit standards (26623, 26626, 26627- all three required).

As the changes made in the 2010–11 review were substantial, the 2016–2017 review provides the opportunity to consider the impact of those changes. This includes whether the changes have had the intended impact and to assess the nature and impact of any unintended consequences.

3.3 The review approach

NZQA has established an External Advisory Group (EAG)⁴ to provide advice and to guide the review. The EAG will consider feedback on this discussion document and consider the next steps. The EAG will make its recommendations to the NZQA Board. Evidence gathering for the review has had two main components. Firstly, stakeholders' views were sought. This included:

- workshops with each of the eight universities
- workshops with four Institutes of Technology (ITPs) – Otago Polytechnic, Western Institute of Technology at Taranaki (WITT), the Wellington Institute of Technology (WelTec) and Whiteria New Zealand (Whiteria)
- a hui with Te Whare Wānanga o Awanuiārangī (TWWoA)
- workshops with three regional groups (Taranaki, Christchurch and Auckland) of the National Association of Secondary Deputy and Assistant Principals (NASDAP), with about 65 school representatives
- face to face engagement with 16 wharekura

³ To meet the requirements for NCEA Level 3, a student must achieve a minimum of 60 credits at Level 3. 20 credits can come from NCEA level 2.

⁴ Seen Appendix Two for the EAG membership.

- a meeting with each of the NZ Union of Students Association (NZUSA), Business New Zealand and the Royal Society of New Zealand
- national surveys of:
 - School principals (43 respondents)
 - Secondary school students (48 respondents)
 - Tertiary students (75 respondents).

The second component of the review is the analysis of performance data. This includes:

- NCEA level 3 and University Entrance achievement rates over the last five years, and
- tertiary achievement rates – course completion and retention rates over the last five years. As the changes made through the 2010–11 review only came fully into effect in 2014, only one year of comparable tertiary achievement data (2015) is available.

An internal advisory group made up of NZQA and Ministry of Education (the Ministry) staff has also been established to provide advice and support to review.

3.4 This discussion document and your feedback

Section four of this document sets out the views we have heard to date. Section five looks at what the data tells us, and section six sets out some possible responses to the findings to date. We would like feedback on whether we have missed anything and whether we should be considering anything else. We would also like feedback on our suggestions for addressing the views we have heard to date.

4 What we've been told

The feedback is structured into three parts:

- general views on University Entrance as a mechanism
- views on each of the components of the University Entrance requirements – NCEA Level 3, the literacy and numeracy requirements, and 14 credits from each of three subjects on the approved subjects list, and
- other comments related to University Entrance and the transition to tertiary study.

Section one: general views

4.1 General support for the function and purpose of University Entrance

University Entrance serves several purposes in the current environment:

- primarily, it is an indicator of a student's chances of success in degree level study. Many, if not all, tertiary education organisations choose to use the University Entrance requirements as the minimum standard for entry into degree level provision
- University Entrance signals to students and schools the skills and the depth and breadth of knowledge required at degree level. Several stakeholders said, 'the cost of failure is high' in terms of student loan debt, damage to a student's confidence and opportunity costs (e.g. not being in employment)
- the University Entrance requirements provide basic information to schools and students on minimum entry requirements. Navigating different entry requirements of the full range of degree granting TEOs (currently 62) would be time consuming and difficult to get right, and
- it helps ensure that public funding (tuition subsidies and underwriting the student loan scheme) is directed at students who have demonstrated a reasonable chance of success at degree level study.

Many universities require a higher level of achievement than University Entrance for their degree level programmes. Five universities determine programme entry through a Guaranteed Entry Score (GES)⁵ which weights student achievement and confers *preferential* treatment to students who achieve at higher levels. Students who obtain University Entrance, but not the higher level GES determined by the individual university, *may* be able to enrol at degree level at that university, depending on their programme of choice and the demand for places (and any other prerequisites that may be required).

Many of the TEOs commented on the tension between a high likelihood of success versus access for students who may not have achieved at high levels at school but who have the *potential* to succeed at degree level. In general, the TEOs thought that the current University Entrance requirements had the balance about right.

Whilst many of the stakeholder groups expressed on-going support for University Entrance, some issues and concerns have been raised and these are explored in this

⁵ GES are typically derived from a student's best 80 Level 3 credits across a maximum of five subjects on the approved subject list, with 2 points for an achieved grade, 3 for a merit and 4 for an excellence.

chapter.

4.2 University Entrance and success at degree-level study

The TEOs commented that attainment of University Entrance is unlikely to enable a student's success across all programmes. Some programmes have specified prerequisites in place, particularly where scaffolding of technical knowledge is required such as engineering and health science programmes.

Whilst not part of the University Entrance requirements, TEOs were positive about students with high achievement levels in NCEA (e.g. merit and excellence grades) having the ability to succeed at degree level study.

The TEOs also commented on the tension between their drive for high performance as a TEO (e.g. reputation and impact on performance-linked funding) and the volume of students which generates funding. The universities felt that the University Entrance requirements were about right, although some would like more flexibility around the margins, as academic performance in school is a good predictor of success but not an absolute. Some TEOs noted for example that some students with relatively poor academic performance at school do very well at degree level and, conversely, some students with very good academic performance at school can struggle at degree level.

4.3 General support for the 2010–2011 changes to University Entrance

Overall, the TEOs are positive about the impact of the changes made through the 2010 review. The first cohort of students entering tertiary education under the new requirements in 2015 have now completed their first year of studies. TEOs generally considered that the 2015 cohort of students were either better prepared than in previous years or were about the same.

4.4 Renaming University Entrance to Degree Entrance

All TEOs, including the universities, commented on the term 'University Entrance' and suggested that it would be better named 'degree-level entrance'. The renaming would reflect the use of University Entrance to determine or guide entrance to degree level programmes by most, if not all, TEOs (not just the universities).

There were mixed views on whether the requirements should also be mandatory for all degree-granting TEOs, as they are for the universities. Most ITPs and the Quality Tertiary Institutions (a PTE peak body) agreed that if the University Entrance award were renamed, its use should be mandatory for all TEOs. The more generic 'degree-level entrance' title would be helpful in signalling that the award provides pathways to a wide range of degrees, including applied and vocational degrees.

However, some ITPs and the NZUSA did not want the University Entrance requirements to be mandatory. They considered that maintaining an element of flexibility in admission requirements is important to ensure access to degree-level study for students who might 'just miss' University Entrance but who still have the potential to succeed.

Renaming University Entrance is outside of the scope of this review.

4.5 Understanding the University Entrance requirements

Some school respondents, including students, felt that the University Entrance requirements were complex and hard to communicate to students and parents/whānau (particularly which subjects can contribute to meeting the requirements).

Schools also find it challenging to keep up to date with the TEOs' individual programme requirements and/or higher entry requirements. Schools were concerned that students may inadvertently be given the wrong advice and consequently not be able to undertake their programme of choice. Schools want to give accurate advice to students and would welcome a centrally maintained database of TEO and programme requirements.

4.6 Process for reviewing subjects on the approved subject list

Until the 2010–2011 review, NZQA only added new subjects to the approved subject list as part of regular reviews of University Entrance. Following the 2010–2011 review, NZQA automatically added subjects to the approved subjects list that were derived from the *New Zealand Curriculum* and with achievement standards at Level 3.

TEOs and schools identified the need for a regular process to review the approved subjects list and to be able to provide feedback on the addition and removal of subjects on the list.

Section two: feedback on the components of the University Entrance requirements – alignment with NCEA Level 3, literacy, numeracy, and approved subjects

4.7 Alignment with NCEA Level 3 supported

TEOs and schools are all positive about aligning University Entrance with NCEA Level 3. Many people commented that aligning the final leaving school qualification with University Entrance makes sense.

4.8 Concern about literacy skills

All TEOs expressed concerns about some students' literacy skills, particularly extended writing skills such as those used in essay writing. Concerns with literacy were identified across a wide range of degree programmes, from humanities to science disciplines. Some TEOs said that to address the situation they either put in place prerequisite literacy standards into the entry requirements or they specifically include a writing skills paper in first year of degree programmes.

Some schools and TEOs felt that the changes made to the literacy requirements in 2014 have proved problematic because:

- the change enables students to achieve the required literacy credits through the assessment of 'literacy-rich' standards from a range of subjects other than English or Te Reo Māori. Many stakeholders, including schools, felt that while some of these standards may be suitable (e.g. history standards) other standards may not be as they weren't specifically designed to assess literacy (e.g. accountancy or

chemistry). Achieving some of these standards may not be an adequate measure of a student's literacy skills.

- whilst many respondents would like the University Entrance literacy requirements to be raised, there was concern this would not improve literacy skills in the short to medium term. Some commented that it would likely result in fewer students getting University Entrance, at least in the short term. There was also further concern that raising the requirement could impact disproportionately on Māori and Pasifika students. Stakeholders identified there may be alternative mechanisms for improving the literacy skills of some students.

4.9 Concern about numeracy skills

All TEOs expressed concerns about some students' numeracy skills, noting that the current numeracy requirements were the only requirements to be reduced in the 2010–2011 University Entrance review. Many respondents said that the numeracy requirements are insufficient for Science Technology Engineering and Mathematics (STEM) programmes as well as many other programmes such as accountancy, medicine, social sciences, media studies, earth sciences and business studies.

Whilst most TEO staff expressed a view that University Entrance numeracy requirements should be raised, some noted that programmes such as visual arts or languages did not require higher level numeracy skills and that raising the requirement would be an unnecessary barrier. Some staff also thought that the issue was not that the requirement was too low but that students had difficulty in applying the skills in different contexts.

Most school respondents agreed that Level 1 numeracy requirements may not be sufficient to enable students to succeed at degree level or other post-school destinations. However, school respondents also thought that increasing the numeracy requirement could have a disproportionate impact on access for some learner groups.

As with literacy above, most workshop attendees considered that increasing the University Entrance numeracy requirements may not directly increase numeracy skills in the short to medium term. There was concern that raising the standard would lead to a significant reduction in the number of students obtaining University Entrance.

4.10 Varied views of the impact of the approved subject list

A wide range of views were expressed about the requirement for 14 credits in each of three subjects from the approved subjects list. The TEOs supported the requirement as they consider that it ensures a reasonable degree of breadth and depth of learning.

Some schools felt strongly that the approved subject list was having a constraining effect on curriculum design and that it impedes innovative course delivery and course design.

However, an equal balance of schools thought the requirement allows sufficient flexibility in the curriculum to meet a wide range of students' needs, as only 42 credits are required in approved subjects (most students are undertaking courses with a total credit value of considerably more than 100). They felt that the requirement underscores the need for solid foundations for degree level study.

There were concerns about the impact of the approved list on students who are on other pathways (e.g. employment and vocational study). Some schools were concerned that subjects not on the list can be perceived as having a lower status and being of lower quality, and that this results in some students making poor decisions.

4.11 Concerns on the coherence of school courses

Many TEOs expressed their concerns about the coherence of school courses, observing that some students had insufficient breadth and depth of learning to succeed at degree level study. They commented on the breadth of the current approved subjects list, expressing a view that there are too many subjects and too many standards in some of those subjects⁶. Some TEOs expressed concerns that students might be selecting some subjects and standards because they are perceived to be easier.

However, some schools observed that the curriculum provides the flexibility for schools to design courses made up of standards from across the curriculum and not just within traditional subject boundaries. These courses can be coherent and tailored to learner pathways, but may not be easily recognised as such if coherence is measured by looking at the standards alone. The importance of curriculum design and building coherent programmes of study for all students has been noted as a challenge elsewhere.⁷

4.12 Varied views on the introduction of the 'generic' subjects into the approved subjects list

We heard a wide range of views on the introduction of the three new 'generic' subjects in 2013 – mathematics, science, and technology⁸. A brief explanation of these subjects is in Appendix 4. Some staff delivering core STEM programmes at university felt that these generic subjects did not, on their own, adequately prepare learners for study in programmes such as engineering or health sciences. They expressed a concern that including these subjects in the approved subject list may have inadvertently misled students into making wrong study decisions at school. In contrast, the ITPs and wānanga found these generic subjects are providing a good foundation for degrees such as nursing and teaching.

Schools were very positive about the new generic subjects, saying that they have provided a valuable option for students who don't want to specialise in core STEM subjects.

Section three: other University Entrance related comments

4.13 External and internal assessment of standards

Most TEOs commented on their preference for students to have some externally assessed achievement standards. They said that this preference is due to both the

⁶ The current approved subject list includes 50 subjects encompassing approximately 350 standards

⁷ *NCEA in context*, as above

⁸ A generic subject in this context is one which comprises standards that are also in other subjects e.g. mathematics comprises standards in two other approved subjects - calculus and statistics.

content of some of the externally assessed achievement standards and because they have greater confidence in the comparability and reliability of external assessment (i.e. examinations).

Many TEOs said that having experience of examinations better equips students for tertiary study and assessment. Tertiary students also said that they would have liked more examination experience. Some schools said that they like the comparability of the external assessment, for reputational purposes.

4.14 The transitions between secondary school and tertiary can be difficult

Schools and TEOs noted that transition from school to tertiary can be difficult for some students. This can be for a range of reasons, but most commonly cited is the need for students to be self-managing and motivated. Many TEOs (and some schools) are actively working to identify the issues and to put in place mechanisms to assist students to make more successful transitions. However, the transition challenges do not appear to be a direct consequence of the University Entrance requirements.

4.15 Understanding of NCEA

Schools and TEOs commented on the need to better understand each other's practices, differing cultures and requirements. Schools and wharekura find it challenging to provide accurate advice to students on TEOs' requirements for degree-level programmes. They would prefer a centralised resource.

University staff commented that their knowledge and understanding of NCEA is often held by relatively few individuals who have gained their understanding by being a parent or as staff in admission departments. In contrast, many ITPs are delivering NCEA and have active secondary-tertiary partnerships with schools in their area.

These concerns are not considered further in this paper as the matter is outside of the scope of the review.

5 What the data and other research tells us

This section is broken into:

- an analysis of the current University Entrance requirements in terms of achievement rates, and
- analysis of some themes identified through workshops and from the sector (see preceding section 4).

Overall, the data supplied by NZQA and the Ministry of Education suggests that doing well at school, studying (and passing) a broader spread of University Entrance approved subjects, and gaining NCEA Level 3 are good predictors of success in bachelors-level study.

NZQA data and research from which conclusions in this section are drawn can be found in the *Annual Report on NCEA and New Zealand Scholarship Data and Statistics (2015)*. The Ministry's data and research has also informed the conclusions in this section. The Ministry's own publications on school achievement and tertiary success can be found on the Education Counts website.

As the current University Entrance requirements came into effect in 2014, there is only one year of tertiary level data (2015) for those students proceeding to degree level study who achieved the award through the current requirements. The tertiary data informing this analysis is progression and retention data. Tertiary course completions data for these students is provisional, as some students are yet to complete courses, but finalised data will be available after May 2017, and the analysis will be re-checked at that time.

The analysis referred to in this section includes school data from 2014 and 2015. 'High and low' performing students refers to NCEA achievement levels at school, and success in the first year of their study at degree level.

Section one: analysis of the current University Entrance requirements

5.1 A dip in the number and proportion of students achieving University Entrance in 2014 but both increasing in 2015

Following the implementation of the new University Entrance requirements in 2014, there was a fall in the University Entrance achievement rate: 45.5 per cent of roll-based⁹ students left Year 13 with University Entrance in 2014 compared to 51.0 per cent in 2013. Prior to 2014, the proportion had been increasing by 0.7 percentage points per year on average over the previous five years.

Apart from the drop in the *proportion* of students leaving Year 13 with University Entrance in 2014, there was also a drop in the *number* of students awarded University Entrance. This was in part due to the reduction in the overall number of Year 13 students in that year. Despite the reduction in both the absolute number and the proportion of students who achieved University Entrance in 2014, a higher proportion of the cohort with University Entrance went on to degree level study in 2015.

⁹ The roll-based cohort consists of all Year 13 students on secondary school rolls as at 1 July.

The University Entrance achievement rate increased in 2015. The proportion of students leaving Year 13 with University Entrance rose to 48.6 per cent compared to 45.5 per cent of the roll in 2014. Both the number and proportion of students achieving University Entrance in 2015 increased in comparison to 2014.

5.2 Variances in University Entrance achievement by ethnicity and decile

Although a lower proportion of Māori and Pasifika students achieved University Entrance compared to all students, the numbers of Māori and Pasifika students achieving University Entrance increased in 2015 compared to 2014. 31.0 per cent of Māori students achieved University Entrance in 2015 as compared to 27.3 per cent in 2014, while 29.5 per cent of Pasifika students achieved University Entrance in 2015, compared to 28.9 per cent in 2014.

While the overall pattern of increased University Entrance achievement rates in 2015 compared to 2014 can be seen across all deciles, achievement rates continue to vary significantly by decile. In deciles 1–3 schools, 28.2 per cent of the roll achieved University Entrance in 2015, compared to 46.6 per cent in deciles 4–7 and 64.4 per cent in deciles 8–10.

5.3 The main reasons students did not achieve University Entrance

Just over a third (37 per cent) of Year 13 students in 2015 did not achieve NCEA Level 3 and so did not achieve University Entrance. Of those students who did achieve NCEA Level 3, approximately 23 per cent did not achieve University Entrance.

For all students, approximately 14 per cent of roll-based students achieved NCEA Level 3 but did not achieve University Entrance¹⁰:

- 96 per cent did not meet the three subject requirement
- 36 per cent did not meet the literacy requirement
- 6 per cent did not meet the numeracy requirement.

For Māori students, approximately 22 per cent of roll-based students achieved NCEA Level 3 but did not achieve University Entrance. Of these:

- 97 per cent did not meet the three subject requirement
- 40 per cent did not meet the literacy requirement
- 10 per cent did not meet the numeracy requirement.

For Pasifika students, approximately 29 per cent of roll-based students achieved NCEA Level 3 but did not achieve University Entrance. Of these:

- 97 per cent did not meet the three subject requirement
- 44 per cent did not meet the literacy requirement
- 5 per cent did not meet the numeracy requirement.

¹⁰ The following percentages do not sum to 100 per cent as some students did not meet more than one of the University Entrance requirements.

Section two: what the data tells us

5.4 Is aligning University Entrance with NCEA Level 3 an effective indicator of success?

Analysis of Year 13 school leaving cohorts 2009–2014 and their success in their first year of bachelor degree study at tertiary level indicates that higher performing students do well, no matter where they went to school, what ethnic group they identify with and what they study. The data shows that doing well at school is the single best predictor of success at tertiary level – it is likely that strong performance at school is a function of motivation, self-efficacy and ability, amongst other factors.

For higher performing students, the achievement of University Entrance itself over and above achieving NCEA Level 3 appears to make little difference to success. An analysis of students without University Entrance versus students with University Entrance (under the age of 21 when starting bachelors study) from 2009–2013 shows little or no difference in their tertiary performance. However, lower performing students without University Entrance performed slightly less well at universities compared to lower performing students with University Entrance. The difference was especially marked at ITPs. Students whose highest achievement was at NCEA Level 2 generally performed less well.

TEOs and previous research studies have found¹¹ that some students with lower levels of performance at school do, nevertheless, perform well at degree level. Other personal attributes and traits (motivation, study habits and time management skills) also contribute to successful student outcomes. Another study¹², found that lower performing students from low-decile schools outperform lower performing students from high-decile schools. GES may over-estimate the ability of some students – those with lower levels of ability who attended high-decile schools. Such scores may, conversely, understate the ability of below-average students who come from low-decile schools.

5.5 Is the requirement for 14 credits from each of three approved subjects a good measure of success (depth of learning)?

Analysis of Year 13 school leaving cohorts 2009–2014 and their performance in first year bachelor degree study at tertiary level shows that students who only achieved two subjects have lower performance in their tertiary studies than those who achieved three subjects. The data indicates that achieving at least 14 credits in four or more approved subjects is also associated with greater success at tertiary level, and this difference was greater for students with higher school performance. These findings are seen irrespective of the level of literacy and numeracy of the cohorts.

5.6 Do higher literacy and numeracy skills make a difference?

The data analysis shows that higher literacy and numeracy skills¹³ do not appear to be a strong factor in achievement at tertiary level, once students' prior school performance and number of approved subjects is controlled for. Students with higher literacy and

¹¹ *Are particular school subjects associated either better performance at university?* Ministry of Education 2010

¹² *Academic performance of first-year bachelor students at university*, Ministry of Education 2010

¹³ A higher ratio of Level 3 reading, writing and numeracy credits compared to the median

numeracy skills have only a slightly higher likelihood of success at degree-level study than students with lower literacy and numeracy skills.

The data analysis indicates that there are other stronger predictors of success at degree level than higher literacy and numeracy levels. As noted above, students with NCEA Level 3 and University Entrance in 2009–2013 who had also achieved four or more approved subjects tend to perform better in degree level study than students with two or more approved subjects, irrespective of their levels of literacy and numeracy skills.

Similarly, students with lower levels of literacy and numeracy but with higher overall school performance will still have a higher likelihood of success at degree-level than a student with higher literacy and numeracy skills and lower school performance.

In other words, students' success in their tertiary studies seems to be largely independent of their literacy and numeracy skills.

5.7 Are externally assessed standards better evidence of the skills needed at degree level?

Data show that, on average, Year 13 students achieve just over half their credits from internal assessments. While no students achieve all their credits from external assessments, a small proportion of students gained all their credits through internal assessments.

Analysis indicates that achievement assessed internally or externally has little or no bearing on success in degree-level study, once overall performance at school is controlled for. However, it does appear that having proportionally more externally assessed achievement is strongly associated with going on to bachelor degree study. Poorer performing students with proportionally more externally assessed credits were more likely to proceed to bachelor degree study than higher performing students with proportionally more internally assessed credits. Universities are more likely to enrol students with higher proportions of credits from external assessments.

The reason some tertiary workshop attendees prefer external standards may be more to do with the content of specific standards rather than the mode of assessment. For example, the content of some externally assessed physics standards may be an essential for success in bachelor degree engineering programmes.

For European and Asian students, it was unimportant whether they gained their credits from internally or externally assessed standards. But, higher performing Māori students appear to do less well at tertiary study if they have proportionately more credits achieved through internal assessments. For Pasifika students, there is a consistent decrease in the likelihood of success at tertiary level with increasing proportions of internally assessed credits, although the relatively small numbers of students make these results less reliable.

5.8 Summary and conclusion

The implementation of the current University Entrance requirements (which came fully

into effect in 2014) had a strong impact on University Entrance achievement rates, although the rate increased in 2015 as students and schools became more familiar with the requirements.

As there is only one year of full tertiary data for students who achieved University Entrance under the current requirements, it remains too early to draw any definitive conclusions regarding the impact of the 2014 changes on achievement rates and success at tertiary level.

Overall, the data suggests that doing well at school, studying (and passing) a broader spread of University Entrance approved subjects, and gaining NCEA Level 3 are good predictors of success in bachelors-level study.

This analysis of 2015 students' movement on to degree-level study, coupled with analysis of the general trends in achievement related to the performance of students in secondary school for earlier years, suggests that the current individual and collective University Entrance requirements are likely to be effective at identifying students who will do well at degree-level study.

6. Our initial conclusions

This chapter is in two sections:

- discussion of the University Entrance standard and the requirements, and
- discussion on other related issues that stakeholders have raised.

Section one

6.1 University Entrance standard continues to be relevant

The University Entrance standard must balance opportunity of access for students with their chances of success. Whilst University Entrance appears to be a reasonably good indicator of success, we also considered whether it is acting as an undue barrier to entry for some students. Given other opportunities for students (access to degree level provision at other TEOs, summer school, bridging courses etc.) and the cost of failure (for the individual and the country), our initial conclusion is that the balance is about right.

We have heard from TEOs and many schools that the University Entrance standard, as a minimum requirement, continues to be relevant. It provides a useful signal to future tertiary students and schools on the skills and knowledge that are required at degree level.

While we think that the current University Entrance requirements are about right, some improvements or adjustments could be considered. These are set out below.

Feedback question 1: Do you agree that the University Entrance requirements continue to be relevant and why?

6.2 The University Entrance requirement for NCEA Level 3

All the feedback across all stakeholder groups supported this requirement. We do not think the requirement should change.

Feedback question 2: Do you agree that University Entrance should continue to require NCEA level 3?

6.3 The University Entrance literacy requirement should remain as it is

Raising the University Entrance literacy requirements to Level 3, or increasing the number of credits required at Level 2, would be unlikely to have the desired effect (as detailed in section 5, the evidence suggests that when controlling for other factors, students with higher level skills do not do better).

The feedback from schools and TEOs suggests that there may be an inherent tension in using some of the current achievement standards to assess learning, knowledge and skills in the core subject as well as a student's extended writing skills. To address this, we propose to review the list of 150+ current standards that can be used as evidence of literacy skills for University Entrance. The purpose of the review will be to ensure that all the standards on the list are effective indicators of the kind of reading and writing skills that are required at degree-level study.

The Ministry also has a significant work programme (the Literacy Progressions) in place to address concerns about literacy¹⁴. This holistic work programme is focussed on Years 9 and 10, but the outcomes could, over time, improve Year 13 students' literacy skills.

In 2018, the Ministry will also undertake its planned review of NCEA¹⁵. This will be another opportunity to consider the relevance of and the broader NCEA settings, including the literacy and numeracy requirements for each level of the qualification.

Feedback question 3: Is reviewing the list of 150+ current standards which can count towards the literacy requirement sufficient to address the concerns about literacy in the short to medium term?

6.4 The University Entrance numeracy requirement should remain as it is

There has been considerable discussion on the merits and disadvantages of raising this requirement. On balance we think that the current requirement should remain in place, for several reasons. Not all degree level programmes require higher level numeracy skills, and raising the requirement might act as an unnecessary barrier to entry. There is also insufficient evidence that raising the requirement would have the intended effect. We also noted that 43 per cent of NCEA Level 3 graduates already achieve 14 or more credits in mathematics at Level 2.

We also considered whether the relevant achievement standards might be better indicators of numeracy skills than the unit standards. Whilst few students achieve the numeracy requirement though unit standards, NZQA is currently developing a digital assessment opportunity for the one of the current University Entrance numeracy unit standards. This is part of NZQA's Digital Assessment and Transformation programme. Digital assessment is likely to result in strengthened assessment of the standard.

As with literacy above, the Ministry has a significant work programme in place to address other concerns about numeracy. This work programme is also focused on Years 9 and 10, but the outcomes could, over time, improve Year 13 students' numeracy skills. Also as above, the Ministry's regular review of NCEA provides another opportunity for considering the numeracy settings within NCEA.

Feedback question 4: Do you agree that we should leave the numeracy requirements for University Entrance as they are?

6.5 The requirement for 14 credits in each of three subjects on the approved subjects list should remain as it is

Whilst there is less consensus on this, our initial view is that the current requirement is about right. This requirement is a mechanism for ensuring both depth and breadth of learning. Whilst some able students may 'just miss' this requirement, there are

¹⁴ *Alignment of Literacy and Numeracy Measures: research for the Tertiary Education Commission, 2014*

¹⁵ All qualifications on the NZ Qualification Framework are required to be regularly reviewed

opportunities for such students to either return to school over the summer and achieve the required credits or to undertake a bridging programme at a TEO to ensure that they are well-prepared for tertiary study. The non-university TEOs are also able to consider additional factors in their admission processes (unless otherwise required by a regulatory body).

The data suggests that achieving 14 credits in four or more subjects might be a better predictor of success. However, raising it to four subjects would be a significant step and as level of performance is a better predictor of success, we think that this requirement should not be changed.

Whilst the approved subject list does appear to be having some constraining effects on curriculum and course design in some schools, other schools have commented that there is the flexibility to deliver innovative courses within the requirements and to combine University Entrance subjects in different and less traditional ways. This may particularly be the case for smaller schools. This issue could be addressed by working with schools to support them to develop their curriculum within the existing settings.

Several schools also said that the universities' GES process, which draws on student achievement across five subjects, has an equal if not bigger effect on schools' curriculum design. This would suggest that reducing the requirement for three subjects may not have the effect that these schools seek.

NZQA will continue to monitor the University Entrance achievement data for Māori and Pasifika students. NZQA is also working with the Ministry of Education on the incorporation of *Te Marautanga o Aotearoa* derived subjects and standards to the list of approved subjects for University Entrance. This may, subject to consultation, provide more pathways to degree level study for Māori studying through *Te Marautanga o Aotearoa* curriculum.

Feedback question 5: Do you agree that we should maintain the current requirement for 14 credits across three subjects on the approved subject list and why?

Section two

6.6 Other related matters

6.6.1 We should retain the 'generic' subjects

We think that these three generic subjects (mathematics, science and technology) are achieving the policy intent (providing opportunities for students to engage in broader STEM related subjects for longer) and that the advantages outweigh any disadvantages. These subjects help provide sufficient grounding for many non-specialist degree level programmes, and apart from some specific STEM degree level programmes, work well to create breadth of STEM knowledge and pathways for students. They also provide opportunities for students who are not intending to go on to tertiary study e.g. vocational pathways.

The feedback we received suggests that many schools did not understand how these three subjects work as approved subjects, and that we could do more to promote this understanding. In addition, schools have noted their support for these subjects and would welcome more generic subjects. It is important that students have access to

good advice on specific degree programmes' prerequisites to ensure that they make appropriate choices.

Feedback question 6: Do you agree that we should retain these three generic subjects on the approved subjects list?

6.6.2 We should have a regular review process for the approved subjects list

We have noted that stakeholders would like a clearer process for reviewing subjects on the approved subjects list. NZQA could instigate a similar process to the one used for reviewing [adding or removing] subjects for New Zealand Scholarship e.g. review through public consultation every three years, with an annual sector reference group providing advice.

The purpose of such a process would be to ensure that the list continues to be up to date and relevant. Minor revisions (such as those that may be necessary following changes to standards) could be managed on an annual basis. The approved subject list would continue to be made up of subjects derived from the *New Zealand Curriculum* and (depending on the outcome of forthcoming consultation) *Te Marautanga o Aotearoa*.

Feedback question 7: Do you support the establishment of a regular review process for the approved subjects list?

6.6.3 Re-naming 'University Entrance' and whether all TEOs should be subject to the same entry requirements to their degree-level programmes

We think that University Entrance should only be renamed 'degree-level entrance' if all degree-granting TEOs are subject to the same requirements (i.e. as the universities under the legislation¹⁶). As this would require changes to the legislation to extend NZQA's authority to determine entry requirements to all degree-granting TEOs, it is out of scope of this review.

We have also considered whether the name should be changed to reflect that obtaining University Entrance does not guarantee entry to university. Again, the need for change is not compelling and changing the name might create uncertainty and confusion, particularly internationally.

6.6.4 Improving understanding of the University Entrance requirements and individual TEOs' specific programme requirements

The Tertiary Education Commission's (TEC's) Information for Learners project will make it easier for learners and schools to understand the entry requirements for all degree level provision. The TEC is working with the TEOs on this project. In addition, Careers New Zealand is a recognised source of information and is becoming part of the TEC. This may provide further opportunities to assist learners in navigating their transitions into tertiary.

NZQA is also looking at ways to improve the presentation of the approved subject list.

¹⁶ Section 247 (1) of the Education Act

Currently, it is a list of subjects presented alphabetically with the associated standards. One alternative is for the subjects to be grouped by curriculum learning area or available as an excel file for users to sort as they wish. It may also be possible, over the medium term, to align it with the Vocational Pathways.

6.6.5 Supporting smoother transitions

We think that the University Entrance requirements do not, in themselves, have an impact on students' transition experiences. The requirements provide a strong signal to students on the level of skills and the depth and breadth of knowledge that is required at degree level. We think that the TEOs have an important role in ensuring that students can transition effectively between secondary and tertiary, and, as noted earlier, there are many examples of successful initiatives. Some schools are also tracking students post-school and identifying how they can better help students in their future pathways.

As noted above, the TEC's Information for Learners project has an important role to play in this area.

6.6.6 Course coherence concerns

The planned review of NCEA provides an opportunity for considering whether more should be done to ensure course coherence and alignment with the curriculum objectives. NZQA's course endorsement requirements¹⁷ and the Vocational Pathways are mechanisms that could be considered further in this context.

6.6.7 Internal versus external assessed standards

There is no evidence to suggest that externally assessed standards are better indicators of success at degree level. The evidence suggests that students should ideally have a balance of the two. One of the strengths of NCEA is its flexibility and introducing any requirement for externally assessed standards (e.g. examinations) could have a disproportionate impact on lower decile schools and on Māori and Pasifika students. Internally assessed standards are also good preparation for the research and coursework required of students as part of many degree level programmes at TEOs. NZQA will continue to promote and encourage course endorsement, which requires a minimum of three externally assessed credits and three internally assessed credits.

¹⁷ Students can gain course endorsement, if, in a single year, they achieve 14 or more credits at merit or excellence where at least three of these credits are from externally assessed standards and at least three credits are from internally assessed standards.

7. Next steps

Once the EAG has considered the feedback to this discussion document, it will provide advice and recommendations to NZQA's Board on the next steps. The options that will be considered are:

- Option 1: no changes should be made to the University Entrance requirements but improvements will be made to the underlying operational policies and processes that guide NZQA's implementation of the University Entrance requirements, as indicated in Section 6

or

- Option 2: changes to University Entrance requirements should be considered and public consultation is necessary to gather feedback on the proposed changes. The timetable for implementation will be dependent on the scale and impact of any agreed changes.

NZQA will ensure that stakeholders continue to be kept informed of progress via:

<http://www.nzqa.govt.nz/qualifications-standards/awards/university-entrance/review-of-university-entrance-requirements-2016-2017/>

Appendix 1

Review of University Entrance 2016

Terms of Reference

Purpose

To undertake a review of the requirements for the common standard for entrance to New Zealand universities, known as university entrance, to ensure that it remains relevant and up to date.

Background

The New Zealand Qualifications Authority (NZQA) is required under section 247 of the Education Act 1989 to set a common standard for entrance to university. In doing so it must consult with the Council of each university and Universities New Zealand (UNZ)¹⁸. NZQA regularly reviews the university entrance requirements (2005/6 and again in 2010).

University entrance is intended to provide evidence that a student has a reasonable chance of success at degree level study at New Zealand universities. The current university entrance requirements are an outcome of NZQA's review of university entrance 2010. The changes came fully into effect in March 2014. At the end of the 2010 review, NZQA committed to another review in 2016.

The 2016 review will allow NZQA to examine the current university entrance requirements to ensure that they are working as intended and are relevant and up to date.

Process

NZQA will establish an external advisory group, which will be supported by an internal project working group with assistance from the Ministry of Education. The external advisory group will provide expert advice to NZQA on the current university entrance requirements and it will consider the nature, impact and timing of any proposed changes to the current requirements.

The external advisory group will be chaired by NZQA and membership will include representatives from:

- Ministry of Education
- Tertiary Education Commission
- Universities New Zealand
- Two individual universities
- Polytechnics
- Wānanga
- Private Training Establishments
- Secondary education (English and Māori-medium).

NZQA will also develop separate mechanisms for involving students in the review.

¹⁸ Referred to as the Vice-Chancellors' Committee in the legislation, but now trading as Universities New Zealand.

The internal project working group will support the external advisory group through the development of an evidence base and, as required, options for change. The governance arrangements for the review are attached as Appendix B.

A detailed project plan with timelines will be produced, which will cover the following:

- Gathering information
 - Data analysis
 - Qualitative analysis through engagement with stakeholders
 - Environmental scanning
- Analysis and, as required, the design of options for change;
- Preparation of consultation material
- Consultation activities
- Analysing submissions
- Preparation of advice to NZQA as decision maker by the end of 2016
- Communicate implementation plan

Implementation

Any changes to university entrance will be communicated to the senior secondary schooling and tertiary education sectors well in advance, e.g. before students begin their Year 11 study in 2018. This would ensure students, schools and universities have sufficient time to prepare for full implementation of any changes in 2020.

Interdependency

Te Marautanga o Aotearoa and University Entrance

NZQA is working with the Ministry of Education and the university sector on the incorporation of learning and achievement derived from Te Marautanga o Aotearoa (TMOA) curriculum into the current university entrance requirements. If agreed, this would require some changes to the approved subjects list. The scope of these changes will be taken into account as part of the review of university entrance 2016.

Literacy and numeracy

The Ministry of Education are assessing the NCEA literacy and numeracy requirements for relevance. The scope of any changes, especially to NCEA numeracy requirements, will be taken into account as part of the review.

Appendix 2

University Entrance requirements

Current University Entrance requirements (which came into effect in 2014):

- NCEA Level 3¹⁹
- Three subjects at Level 3, made up of 14 credits each of three approved subjects [i.e. from the approved subjects list]
- Literacy - 10 credits at Level 2 or above (from specified achievement standards):
 - 5 credits in reading and
 - 5 credits in writing
- Numeracy – 10 credits at Level 1 or above, made up of:
 - achievement standards – specified achievement standards available through a range of subjects; or
 - unit standards – package of three numeracy unit standards (26623, 26626, 26627- **all** three required).

The previous University Entrance requirements are set out below:

- 42 credits at Level 3:
 - 14 credits in each of two subjects from the approved subject list; and
 - 14 credits from not than two additional domains on the NQF or approved subjects list
- Literacy – 8 credits at Level 2 or above from English or Te Reo Māori
- Numeracy – 14 credits at Level 1 or higher, from Mathematics, Statistics and Probability and Pāngarau

¹⁹ To meet the requirements for NCEA Level 3, a student must achieve a minimum of 60 credits at Level 3. 20 credits can come from NCEA level 2.

Appendix 3

Membership of the External Advisory Group

Judie Alison, Advisory Officer, PPTA
Pauline Cleaver, Ministry of Education
Wiremu Doherty, CEO, Te Whare Wānanga o Awanuiārangi
Elizabeth Forgie, Executive, SPANZ
Daniel Haines, Tertiary Education Commission
Myles Hogarty, Principal De La Salle College
Kiritina Johnstone, Ministry of Education
Dr. Ineke Kranenburg, Academic Director, Auckland University of Technology
Sue Laurenson, Associate Dean, University of Auckland
Nathan Matthews, Associate Professor, Te Whare Wānanga o Awanuiārangi
Sheila McBreen-Kerr, Academic Director, Ara Institute of Canterbury
Neil Miller, Executive Director, Quality Tertiary Institutions
Watson Ohia, Tumuaki, Nga Taiatea Wharekura
Shona Ramsay, Ministry of Education
Angela Roberts, President PPTA
Wendy Robinson, Universities New Zealand
Dugald Scott, Universities New Zealand
Deidre Shea, Vice-President, SPANZ
Arihia Stirling, Tumuaki, Te Kura Māori o Nga Tapuwae

And

Kristine Kilkelly, Deputy Chief Executive, Assessment, NZQA (Chair)
Frannie Aston, Policy Lead Assessment NZQA
Anthony Naganathan, Policy Analyst NZQA

Appendix 4

Explanation of generic subjects (mathematics, science and technology)

1. These three subjects were introduced in 2013. They comprise standards from other related subjects as follows:
 - Science comprises all the standards from biology, chemistry, earth and space science and physics;
 - Mathematics comprises all the standards from calculus and statistics; and
 - Technology, which comprises five specific technology subjects and standards.
2. These generic subjects provide opportunities for students to gain broad knowledge and skills in these STEM-related areas. They are not intended on their own to provide specialist skills and knowledge that might be required for STEM-related degree programmes. For example, a deliberately constructed mathematics course comprising standards from statistics and calculus is likely to provide sufficient grounding for degrees such as nursing and teaching, or provide a good pathway into employment.
3. In addition to deliberately constructed courses designed to deliver these generic subjects, there are two other scenarios in which students can achieve 14 credits in one or more of these generic subjects:

'Spare' credits in a subject

4. This scenario occurs when a student achieves more than 14 credits in a subject and has sufficient 'spare' credits to count towards the generic subject as illustrated below:
 - a student who achieves 21 credits in biology and 21 credits in chemistry will meet the 14 credit requirement for three subjects – biology, chemistry, *and science*
5. In this case, the student will have a significant body of knowledge in STEM-related subjects and standards.

Less than 14 credits in two or more core subjects

6. A student may also meet the 14 credit requirement for a generic subject without achieving 14 credits in any core subject. For example, a student may achieve 14 credits in mathematics through achieving seven credits in each of two separate statistics and calculus school courses.