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TE TĀHUHU O TE MĀTAURANGA

How does New Zealand's education system compare?

OECD's Education at a Glance 2012



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INTRODUCTION

Every year, the Organisation for Economic Cooperation and Development (OECD) publishes *Education at a Glance*, a set of indicators that compares the education systems of its 34 member countries, and around eight other participating partner and G20 countries. These indicators give us a good opportunity to view the characteristics and performance of our system against the systems of other countries. Despite some limitations, the Education at a Glance indicators are considered to "reflect a consensus among professionals on how to measure the current state of education internationally", and probably give us the most reliable and most complete basis for comparison currently available.

This is the 20th edition of *Education at a Glance*, and largely reflects education systems during the full onset of the global recession in 2009 and 2010. The editorial theme this year, "Taking stock of the global recession and looking ahead" discusses the disproportionate impacts of the recession on the younger and less educated, in terms of higher unemployment, higher NEET rates and greater earnings gaps, and the "remarkable resilience of the economic and labour market benefits of having a higher level of education - even in the face of dire fiscal conditions".

This year's EAG also highlights the fact that investment in education has increased in 24 out of 31 countries while national wealth as measured by GDP decreased in 26 of these countries, and that public expenditure per student continues to increase. In part, this reflects increases in private investment, as individuals look to return or stay longer in study, as employment prospects are lower. Public investment in education as a percentage of total public expenditure has remained constant between 2005 and 2009, and reduced in 19 out of 32 countries.

This year's edition of EAG contains around 220 tables, covering 31 broad indicators of Education systems. New this year are indicators on:

- How early childhood systems differ around the world, and
- The extent that parents' education influences access to tertiary education.

Traditional indicators include:

- Educational attainment in the population
- Participation and achievement
- Expenditure on education
- Employment and earnings by education level, and returns on educational investments
- Transitions from school to work
- Students travelling outside of their country to study, and
- Staffing: teacher-student ratios, salaries, and demographics.

Recently introduced indicators include:

- Upper secondary completion rates
- Vocational attainment - size and labour market outcomes

- Student financial support, and tertiary tuition fees
- Social outcomes: new tables on civic engagement, student attitudes to ethnic minorities, and life expectancy
- How education influences economic growth, labour costs and earning power, and
- Adult learning: new tables on the labour costs of adults in non-formal learning.

There are two PISA-sourced indicators this year:

- Career aspirations of boys and girls and the fields they pursue (PISA 2006), and
- How well immigrants perform at school (PISA 2009).

This summary presents high-level highlights in relation to New Zealand. Readers are encouraged to check out the full report. The report and all tables and graphs are available online. Some tables are only available online. www.oecd.org/edu/eag2012

EAG 2012 uses the *International Standard Classification of Education* (or ISCED 97) as a common basis for classifying and comparing educational levels. Under ISCED, pre-primary relates to those aged 3 or more, in centre-based education, and so under represents ECE as it is structured in New Zealand, as it excludes home-based ECE and ECE for those aged two and under.

Under ISCED, “upper secondary” refers to those with at least a year 12-equivalent school qualification. Those with a year 11-equivalent qualification, such as NCEA 1 or school certificate, are counted as “below upper secondary”. “Upper secondary” also includes Level 1-3 post-secondary study. Both these points have a reasonable impact on how results for “upper secondary” can be interpreted. The term “tertiary-educated” in EAG relates just to diploma level and above. Level 1-3 certificates are classified with “upper secondary” and level 4 certificates are classified as a separate “post-secondary non-tertiary” group.

NEW ZEALAND'S EDUCATION SYSTEM AT A GLANCE

New Zealand performing well on ECE indicators

- *At 91%, participation of 3 and 4 year-olds in ECE in 2010 was 10th highest in the OECD, less than France and Germany and most Nordic countries, but ahead of Australia, UK, US and Ireland, and well above the OECD average of 70%. At 86% of 3 year-olds enrolled in centre-based ECE in 2010, NZ ranked 11th. Similarly, at 95% of 4 year-olds, NZ ranked 13th. Note that the definitions used in EAG for ECE do not include home-based ECE or education and care for those aged under three.*
- *New Zealand had the second lowest ratio of full-time equivalent children to ECE teachers at 7.1, and the highest (combined public and private) expenditure per full-time equivalent child in ECE. Both these measures are influenced considerably by differences in what countries consider a full-time equivalent is. NZ's comparatively higher expenditure this year also reflects improved reporting of private spend on ECE than in the past. However, aside from these data and FTE definition changes, even under standardised definitions, NZ is likely to continue to rank well on these measures.*
- *For example, NZ ranked 7th= in terms of the percentage of public expenditure allocated to ECE (at 1.4%), and 13th= in terms of public expenditure on ECE as a proportion of GDP (at 0.6).*
- *New Zealand has the second highest level of privately owned ECE provision, after the Netherlands, although all receive government funding. Overall, 83% of expenditure was from public sources, which was about the OECD average of 82% in 2009.*

NZ has a high proportion of tertiary qualified adults

- *New Zealand has a high proportion of tertiary qualified adults – in particular, a very high proportion with diploma qualifications. With 41% of 25 to 64 year-olds with a diploma or higher, we were ranked 5th= in the OECD in 2010. At 16%, we had the fourth highest proportion of adults with a diploma, and when this is combined with level 4 certificates we had the third highest level of attainment, after Canada and Ireland, for these types of qualifications.*
- *With 24% of adults aged 25 to 64 with a degree or higher, NZ ranked about 12th= in degree-educated attainment, and behind Australia, UK, Canada and the US.*
- *The longer-term trend continues towards a higher-educated population, consistent with many OECD countries.*
- *An estimated 22% of NZ adults in 2010 had a vocational level 1-4 qualification as their highest level of education. NZ ranked 20th out of 29 countries reporting this measure, slightly above Australia's level of 19%. This type of education was more common in Germanic countries where there is a separate vocational stream in schools. Austria and Germany, for example, had over 50% of their adult population with this as their highest level. Employment rates for vocationally-educated adults at this level were on average 5 to 10 percentage points higher than those with a general qualification. In NZ's case, employment rates were closer (83% compared*

with 81%). NZ's results, however, don't distinguish between level 1-3 certificates and level 4 certificates. Research shows that those with level 1-3 post-school certificates in NZ do not do as well, on average, as those with a general year 12 or 13 school qualification.

But we have higher than average levels of young adults with less than a year 12 equivalent qualification

- Despite high levels of tertiary-qualified adults, 21% of adults aged 25 to 34 years had below "upper secondary" attainment, that is, less than a year 12-equivalent school qualification or higher. The OECD average in 2010 was 18%.
- Over all ages 25 to 64, 73% of New Zealanders had gained an upper secondary qualification or higher in 2010. While the proportion of New Zealanders attaining an upper secondary level of education has increased over the past four years, it remains slightly below the OECD average (74%). The proportion of males attaining this level remains particularly low, while the proportion of females is above the OECD average.
- "Upper secondary" indicators are impacted by international definitions in two ways – the minimum requirement to have a 2 year qualification, which excludes those with NCEA 1 or school certificate; and the inclusion of level 1-3 post-secondary qualifications. These affect the interpretation of results, both in terms of policy implications for school-based initial education, and in terms of assessing NZ's relative performance against countries with more traditional upper secondary systems (ie school-based initial education and no one-year upper secondary qualification pathway).

Upper secondary retention is improving, but is still below OECD average

- Around 79% of 15 to 19 year-olds were enrolled in study in 2010. NZ ranked 25th out of 34 OECD countries in this indicator. The percentage of 15 to 19 year-olds in education has risen from 74% (4th lowest) in 2008, but still remains lower than Australia and US, and most European countries. The OECD average was 83% in 2010, and the EU average was 87%. While the published trend data shows an apparent decline for 15 to 19 year-olds from 81% to 79% between 2009 and 2010, the 2009 figure was overstated and has been subsequently revised to 79%.
- Enrolment rates reflect participation in both school-based and post-school-based settings. For example, in terms of NZ's rate of 79% for 15 to 19 year-olds, school-based retention increased from 51% to 53% in 2010, while participation in level 1 to 3 post-school study declined (7% to 4%), and study in level 4 post-school study remained constant (at 22%).
- Part of the improvement in participation is being supported by recent policy changes and targets aimed at keeping youth in education and achieving at year 12 or higher, and an increased focus on young people achieving level 4 qualifications or higher. In part, the changes also reflect improvements to reporting for youth in low-level post-secondary education.
- EAG 2011 contained for the first time a true cohort-based indicator for the rate of school-based upper secondary completion. This indicator was repeated in EAG 2012. New Zealand had a rate of 59% of students entering year 11 (in 2004) who

had gained a year 12 qualification or higher after 3 years. New Zealand's rate was in the bottom quarter of the 25 countries able to report this measure. While NZ's rate increased to 64% after 5 years, the OECD average increased from 70% to 85%.

Compared with other countries, young New Zealanders are more likely to leave school sooner, and work, and to go on to, or back to post secondary study later.

- Around 11% of those entering year 11 leave with a one-year upper secondary qualification (eg NCEA 1). New Zealand has one of the highest proportions of adults whose highest attainment is a one-year upper secondary qualification (at 7%). One-year upper secondary qualifications are relatively uncommon in OECD countries, with only UK, Iceland and Luxembourg having levels at or above NZ's level. They do not count as "upper secondary" attainment under international definitions.
- While more of our 15 to 19 year-olds leave school with less than a year-12 qualification, they are more likely to be working or enrolling in post-secondary study than their counterparts overseas. In 2010, NZ had one of the highest 15 to 19 year-old employment rates, behind Norway, Mexico and Turkey,
- Many of this group will enrol in post-secondary study later. NZ has one of the highest rates of entry to tertiary education at older ages.

The global recession continues to be felt in 2010; while more young people stay in school, more are also unemployed, and NEET rates remain high

- Despite one of the highest levels of youth employment, NZ has relatively high proportions of 15 to 19 year-olds neither in employment nor education (NEET). The effects of the recession continue to be felt particularly for this age group. Rates have improved from those in 2009, but they are still higher than those in 2008.
- In 2010, NZ had the 6th highest rate of 15 to 19 year-olds not in education or employment. NEET rates for 20 to 24 year-olds remained about the same as 2009, at about the OECD average. For those aged 25 to 29 rates rose in 2010 to around the OECD average.
- The definitions used to measure NEET for EAG were changed to align with new official measures of NEET published Statistics New Zealand in 2012. However, due to production time lags between data supply and publication, these revised NEET figures for NZ won't be reflected until EAG 2013. The figures reflected in EAG 2012 are on average, 1 to 2 percentage points higher than official figures, as they don't fully capture the extent of youth in education. The table below compares the NEET rates in EAG 2012, with the revised NEET rates which will be reflected from EAG 2013 on. Under the new measure, NZ NEET rates for 15 to 19 year-olds remain higher than average, at 8.6% compared with 8.1%, while the rate for all 15 to 29 year-olds is better than the OECD average.

Year	Published NZ data in EAG 2012 (using old definition)				Official series (to feature from EAG 2013)				OECD average in EAG 2012			
	15-19	20-24	25-29	15-29	15-19	20-24	25-29	15-29	15-19	20-24	25-29	15-29
2008	8.5%	15.3%	16.5%	13.2%	7.0%	14.1%	16.0%	12.1%	7.9%	16.0%	17.4%	13.7%
2009	12.4%	18.3%	18.1%	16.1%	9.5%	17.7%	17.8%	14.8%	8.4%	17.9%	19.5%	15.4%
2010	10.4%	18.4%	20.5%	16.3%	8.6%	17.8%	20.1%	15.3%	8.1%	18.5%	20.0%	15.8%
2011					8.6%	16.5%	18.0%	14.3%				

Career aspirations of boys and girls

- Around 55% of NZ 15-year-olds reported aspiring to work as managers, administrators, legislators, or as professionals. This was about the OECD average. Across all OECD countries, 11% more girls than boys aspired to these types of occupations, and the difference for NZ was 16%. The percentage of degree level qualifications awarded to women is around 61%, at just above the OECD average.
- Overall Around 30% of NZ 15-year-olds planned to work in science related areas (OECD average was 33%), while a lower proportion – both for boys and girls - aspired to work in engineering and computing (8% compared with the OECD average of 11%). NZ 15-year-olds were more likely to want to work in health (16% compared with the OECD average of 14%).

NZ has high levels of adults participating in tertiary study

- At ages 20 to 29, New Zealand enrolment rates are a little above average at 30%. By age 30, New Zealanders have spent a little over 18 years in education; above the average of 17.4, less than Nordic countries, but about the same as Australia.
- However, amongst older age groups New Zealand, along with Australia, has the highest rates of enrolment in the OECD (12% for those aged 30 to 39, and nearly 5% of those aged 40 and over).
- New Zealand has a high rate of entry into degree and diploma level programmes. We have one of the highest graduation rates for post-secondary non-tertiary qualification (level 4 certificates) and diplomas. The rate of graduation is considerably higher for females than for males. However, International students and older students contribute significantly to this result. When international and older graduates are removed, the rate at which the country produces tertiary-qualified graduates is about average.
- NZ continues to have one of the highest rates of part-time study in tertiary education. At 40% of degree-level-and-above students and 64% of diploma-level students – we ranked 4th and 3rd highest respectively in 2010.

NZ's investment in education

- New Zealand's funding of education is below the OECD average in dollars per student. But NZ devotes a relatively greater share of its GDP to education. This suggests that our spending reflects our national wealth – which is relatively lower than many other OECD countries. It also reflects the fact that we have a relatively high proportion of our population in the core ages for education. When compared to GDP per capita, expenditure per student it is at the OECD average.
- The government in New Zealand devotes a relatively high proportion of its expenditure to education. Government education spending represents an above average percentage of GDP. At 4.8% of GDP, government educational expenditure on primary, secondary and post-secondary non-tertiary institutions is the third highest in the OECD. It is also high at tertiary level where it includes a high proportion of student support.
- At pre-primary level, NZ's combined public and private expenditure in 2009 per full-time equivalent child was the highest in the OECD. This result is influenced considerably by differences in what countries consider a full-time equivalent to be, but even under standardised definitions, NZ is likely to continue to rank high on this measure. NZ ranked 7th, in terms of the percentage of public expenditure allocated to ECE (at 1.4%), and 13th, in terms of public expenditure on ECE as a proportion of GDP (at 0.6).
- The split of tertiary education expenditure between funding for institutions and funding for student support has been controversial in the past. In EAG 2012 (based on 2009 data), New Zealand is shown as second to the United Kingdom in the proportion of government tertiary education spending that goes to students (43%, against 54% for the UK and an OECD mean of 21%). But if we adjust for the proportion of the student loan scheme lending that goes directly to institutions (as tuition fees), the proportion of spending directed to students in NZ figure reduces to 24% - similar to that which applies in zero fee countries like Sweden.
- Seven countries don't charge tuition fees. Of the 18 that report their fees in EAG 2012, New Zealand has the sixth highest, behind the US, Korea, Japan, Australia and the UK.
- Expenditure per student below tertiary level increased by 20% between 2005 and 2009, following a similar trend across nearly all OECD countries - the average increase being 15%. All of the increase has been due to increased expenditure, as student levels have remained relatively constant. At tertiary level, both expenditure and students have increased by around 30% since 2005, significantly above OECD average, corresponding expenditure per student at tertiary level has changed by 2%, below the OECD average of 9%.
- Around 83% of all expenditure on education institutions in New Zealand in 2009 came from public sources, which was about the OECD average, above that of Australia (73%), US (72%) and UK (69%), but less than most Nordic countries.

Economic benefits of education

- Continuing a change of trend in 2008 and 2009, EAG results this year show the continuing impacts of the global recession on employment rates with a worsening of rates across most countries. However, educated New Zealanders maintained relatively higher rates of employment and lower unemployment than their counterparts in most countries. The employment rates of those with tertiary education were above the OECD mean, while employment of those with upper secondary education in NZ was the highest in the OECD.
- New Zealand's unemployment rates are also shown as lower than most OECD countries.
- As with all countries in the OECD, employment and earnings increase with level of education, but New Zealand has one of the smallest differences in earnings between adults with school and adults with tertiary qualifications, in particular diplomas. This reflects lower levels of income and fairly compressed wage differentials in New Zealand.
- The Treasury recently commissioned an economic analysis of NZ's compressed wage premiums for tertiary educated people, as reported by the OECD over several years. The analysis found that factors like...
 - the mix of qualifications in NZ compared other countries – NZ has a low proportion of its population with a postgraduate qualification, and this acts to lower relative earnings.
 - tax differences between NZ and other countries – NZ has the highest rate of net income as a percentage of labour cost. While NZ is at the bottom end of gross earnings premiums, once these are adjusted for tax, the differences reduce
 - the high proportion of migrants in the NZ labour market – a high proportion of our degree-educated was born and educated overseas and there is evidence that migrants don't have the same earnings as NZ educated graduates in the short/medium term.

... accounted for nearly half the difference between NZ and the OECD mean in the return on tertiary qualifications for men and more than half of the difference among women.

- The low rate of return also partly reflects supply. New Zealand is in a group of countries, including Scandinavian countries and Australia, which have higher levels of tertiary qualified adults, and lower returns.
- The relative position for both public and private returns on education in New Zealand increased markedly in EAG 2011 (as measured by both Net Present Value and Internal Rates of Return measures. This reflects ongoing enhancements to the methodology used to calculate these indicators.
- However, EAG 2012 showed a decline in relative returns. While average earnings in increased across all levels, in particular, for tertiary educated women, the decline reflects the fact that average earnings for earners with no qualifications increased in at a higher rate than they did for qualified earners. This may reflect

early impacts of the recession with younger and lower-paid earners with no qualifications more likely to have left employment, artificially raising the average earnings in the remaining low-educated group.

NZ'ers in tertiary study overseas & overseas tertiary students in NZ

- New Zealand remains a net importer of tertiary students; many more come to NZ for tertiary study than leave NZ for tertiary study overseas.
- NZ has the 10th largest market in absolute market share terms (at 1.7%), down slightly from last year.
- In 2010, NZ ranked sixth in terms of proportion of tertiary-level students who were international (14%). While numbers had declined between 2005 and 2008, they increased slightly between 2008 and 2010. NZ ranked third highest (with 17%) at diploma level, and 6th highest (with 12%) at degree level.
- The level of international doctorate students has continued its significant rise since 2005 (since the introduction of domestic-fees status for such students). Over 37% of doctorate-level students were international (the fourth highest level after Luxembourg, UK and Switzerland).
- An estimated 2.4% of national tertiary students were enrolled abroad in 2010, a little above the OECD average of 2.0%.
- Nearly 5,000 New Zealanders were reported as studying in OECD countries in 2010. The most common study destinations remain as Australia, United States and the United Kingdom.

To what extent does parents' education influence access to tertiary study?

- This year, for the first time, EAG includes a measure of inter-generational educational mobility. Educational mobility tries to estimate the extent to which an individual's educational opportunities are dependent on his or her parents' education level. The OECD is attempting to assess whether the children of parents with low education have opportunities to advance to higher levels of education.
- EAG shows that New Zealand has very low mobility compared with other countries. The data suggests that the chance of a New Zealander attending tertiary education if his or her parents have low education is among the lowest in the OECD.
- However the data for New Zealand (and for Australia¹, Canada and the United States) has been compiled on a different basis to other OECD countries. In the tables on this indicator, there is an under-count of the numbers participating in higher education in those countries, as tertiary education under degree level was not counted in. This means that mobility has been understated. It is not possible to adjust for this difference to get a true reading of the relative mobility in the education system in NZ.

¹ Although Australia's results are not affected to the same extent as New Zealand, Canada and the US, as their mix of tertiary qualifications contains relatively fewer diplomas.

Staffing

- NZ has a slightly older profile of teachers in schooling, and an about average proportion who are women.
- At 1 to 7.1, NZ had the second lowest teacher to child ratio at pre-primary level (for 3 and 4 year-olds), and compares with an OECD average of 12.3 in 2010. This indicator is measured using country's own national definitions of full-time equivalent. At pre-primary level, differences across countries in these definitions are significant and have a considerable impact on resulting ratios. However, even under standardised definitions, NZ is likely to remain high in this indicator.
- At other levels of education, student to teacher ratios for NZ in 2010 were a little higher OECD averages.

Level	NZ	Rank	OECD Average
Primary	16.2	16th	15.9
Upper Secondary	14.4	14th	13.8
Tertiary	18.2	18th	15.5

- Starting salaries for school teachers in 2010 (presented in \$US and adjusted for purchasing pay parity (PPP)), were less than the OECD average. Progression through salary scales is quicker than for other countries, but level off sooner, with salaries after 15 years of experience also a little lower than the OECD average. Between 2000 and 2010, salaries for NZ teacher at 15 years of experience rose 8% at primary level and 13% at upper secondary level. This compared with an OECD average of 22% and 19% respectively. As with other measures of expenditure, when related to GDP per capita or the earnings of the tertiary qualified population, New Zealand teachers fare better than their OECD counterparts. Unlike most OECD countries NZ was one of only a few countries where the PPP salary did not decrease between 2009 and 2010.