Methodology

Teaching and Learning International Survey (TALIS) 2018

Who is surveyed?

In late 2017 and early 2018, more than 240,000 teachers and 13,000 principals in 48 participating countries and economies were surveyed for the OECD’s Teaching and Learning International Survey (TALIS). The study surveyed lower secondary schools in all countries (Years 7-10 in New Zealand), with some countries also participating at the primary and upper secondary levels.

New Zealand Data

When was the survey run?

New Zealand teachers and principals completed the TALIS 2018 survey in Term 4 of 2017. The survey was administered by the Educational Measurement and Assessment team of the Ministry of Education, in co-operation with an international study consortium comprising the International Association for the Evaluation of Educational Achievement (IEA), the Australian Council for Educational Research (ACER), and Statistics Canada.

Who was eligible for the survey?

Schools that had any Year 7 – Year 10 students in Term 4 of 2017 and their teachers were randomly selected to participate in TALIS. The sample design ensures that estimates from the survey are representative of teachers of these year levels in New Zealand.

Schools

Over 1,700 state, state-integrated, independent and partnership schools, including Māori-medium schools, were eligible to be selected for TALIS. These schools were secondary, composite, intermediate, and full primary schools, as well as a few contributing primary schools which retain Year 7-8 students in their bilingual units. Special schools, teen parent units, and Te Kura (the correspondence school) were not included.

The New Zealand survey team provided a list of all eligible schools to Statistics Canada, which was responsible for overseeing the sampling process in all participating countries. They drew a random sample of 232 schools in New Zealand. The stratified design ensured a spread of different sizes, institution types, state or independent schools, and decile groups.

Teachers

Eligible teachers included any teacher, full-time or part-time, who was teaching at least one student in Year 7, 8, 9 or 10 at the time of the survey in any subject area including special needs. Relieving teachers (employed for less than 6 weeks) and teacher aides were not included.

Each participating school supplied a list of all eligible teachers in their school, and international sampling software was used to select a random sample of up to 24 teachers from each school. In schools with up to 20 eligible teachers, all were selected. Information on teachers’ gender, age and broad subject area(s) was used to ensure the sample was spread across these characteristics.

How were the data collected?

Selected teachers were asked to complete the teacher questionnaire and a school leader, usually the principal, in each school completed a principal questionnaire. The questionnaires could be completed either online or on paper. New Zealand versions of the questionnaires were available in both te reo Māori and English, and included a few country-
specific questions as well as the extensive range of internationally required items. TALIS 2018 Principal Questionnaire, TALIS 2018 Teacher Questionnaire.

Anonymous survey ID numbers were used to protect the confidentiality of the respondents, and to connect teacher responses with the school characteristics reported by their principal.

How many people took part?

The final New Zealand survey includes responses from 2,257 teachers and 189 principals from 190 different schools. Although participation was voluntary, 79 percent of selected teachers responded to the survey in these schools. The survey was completed online by 95 percent of responding teachers and by 46 percent of responding principals, and on paper by the remaining respondents.

How does the OECD ensure the quality of data?

A number of quality assurance procedures are put in place, both nationally and internationally, to ensure that high-quality data are obtained. These include:

- rigorous training of survey staff;
- detailed documentation;
- monitoring of sampling procedures;
- quality checks and tracking progress at a number of stages, such as questionnaire adaptation and translation; survey administration procedures; participation rates, and
- strict procedures for data entry, data cleaning, and checking.

How are the estimates from TALIS produced?

TALIS uses statistical methods to make estimates of means, proportions and other statistics for the whole lower secondary survey population in each country. Most estimates are given as an average or percentage of lower secondary teachers, but those which draw on responses to the principal questionnaire are usually given as the average or percentage of principals/schools.

Sampling error and statistical significance

Statistical surveys like TALIS measure the accuracy of their estimates by standard errors. The standard errors for TALIS 2017 are reported in the tables of the international report. For overall proportions of teachers in the New Zealand TALIS data, the 95 percent confidence interval is usually somewhere between one to three percentage points either side of the estimate itself. However, for sub-groups of teachers and for estimates based on principal responses where the sample size is smaller, this interval can be wider.

The standard error also needs to be taken into account when comparing two estimates, for example, changes from 2014 to 2017; the difference between New Zealand estimates and the OECD average; or differences between sub-groups within a country. We say that an observed difference is “statistically significant” if we are confident that the sample reflects a difference that really exists between the groups in the population. All differences highlighted in the text of these reports are statistically significant at the 95 percent confidence level.

International averages

The New Zealand TALIS reports compare New Zealand’s findings with the OECD average as presented in the international TALIS report. This is an average of the respective country estimates for the participating OECD countries, in which each country has equal weighting. Usually 30 or 31 countries are included, depending on the availability of data for each question.

A comparison population is used instead of the full survey population for 2017 when reporting any change since 2014

New Zealand first participated in TALIS in the 2013 cycle after the main international report had already been published – New Zealand teachers and principals participated in Term 4 of 2014, and for TALIS 2018 in Term 4 of 2017.

1 Across TALIS, in order to mitigate the possible effects of non-response bias, teacher responses were only allowed to be included where at least 50 percent of selected teachers from a given school had responded to the survey – unfortunately, around 60 New Zealand teacher responses, from seven schools, had to be discarded because their schools did not meet this requirement.

2 More information about confidence intervals and estimation from TALIS is available in TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners, OECD (2019), and in the TALIS 2018 Technical Report (forthcoming).
The definition of the TALIS survey population in New Zealand changed between 2014 and 2017. The 2017 survey population added teachers and principals in full primary schools where there were fewer than four eligible teachers, who had been excluded in 2014. This more than doubled the number of schools represented, but increased the teacher population by less than ten percent. In both the New Zealand reports and the international report, a comparison population which matches the 2014 definition is used when reporting changes since 2014. Figure 1 shows the proportions of schools (and therefore principals) and teachers from each school type which make up these populations.

The comparison population covers 92 percent of teachers and 40 percent of schools and principals eligible for the 2017 survey. In general the full 2017 survey population and the comparison population have similar proportions of teachers from each of the different school types. However, full primary schools and their principals comprise a much larger proportion of the full 2017 population than in the 2014 population.

For 2017 findings based on teacher responses, the comparison population estimates are usually very similar to those for the full population. In contrast, estimates based on principal responses can in some cases be quite different, because of the very different makeup of the schools involved.

**Figure 1 Changes to New Zealand survey population for TALIS, 2014 to 2017**

<table>
<thead>
<tr>
<th>School Type</th>
<th>2014</th>
<th>2017 Comparison</th>
<th>2017 Full Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 7-10 Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Primary</td>
<td>772</td>
<td>686</td>
<td>1,732</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Secondary</td>
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<tr>
<td>Composite</td>
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<tr>
<td>Independent</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Year 7-10 Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Primary</td>
<td>22,169</td>
<td>213,46</td>
<td>23,227</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Secondary</td>
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<td>Independent</td>
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</tbody>
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Source: TALIS 2018 Database.
Classification variables

TALIS can provide separate estimates for different groups within the survey population. The following classifications are used in these reports for this kind of sub-group analysis.

Novice / experienced

Teachers were asked how many years of work experience they had as a teacher in total. They are classified as “novice” if they have 5 years of experience or less working as a teacher. These novice teachers made up 21 percent of the Year 7-10 teacher population in New Zealand in 2017.

Full-time / part-time

Teachers were asked about their employment status as a teacher in terms of working hours, at both the sampled school and for all of their teaching employments together. By combining responses to both questions, we can estimate that 89 percent of Year 7-10 teachers were working full-time (more than 0.9 FTE) across all their teaching employments together.

At the sampled school, 86 percent of Year 7-10 teachers were working full-time (more than 0.9 FTE). This classification is used when reporting other variables which are specific to the sampled school, for example questions relating to weekly working hours.

Primary / secondary

Although TALIS thinks of Years 7-10 as lower secondary schooling, in a New Zealand context schools can be classified as either secondary or primary depending on whether or not they teach Years 9, 10 and above. By this definition, we can estimate that 73 percent of schools eligible for TALIS in 2017 were primary schools (full primary, intermediate, a few contributing schools and independent primary), and 27 percent were secondary schools (composite, restricted composite, Year 7-13 and Year 9-13 secondary, and independent schools of these types). In contrast, only 23 percent of teachers eligible for TALIS in 2017 were working in these primary schools, and the remaining 77 percent in secondary schools.

How does the TALIS Year 7-10 teacher population compare to the whole teacher workforce in New Zealand?

The teachers who are eligible for TALIS are a subset of the entire New Zealand teacher workforce. In secondary, full primary and most composite schools only a proportion of teachers will be teaching these year levels at any given time; in intermediate and restricted composite schools, most or all of the teachers in the school are in the TALIS survey population.

Teachers from schools with only Year 1-6 students or only Year 11-13 students are excluded entirely, as are teachers in special schools, teen parent units and Te Kura (the correspondence school). On the other hand, teachers from independent schools are included in TALIS, but are usually excluded from official teacher workforce statistics.

While the purpose of TALIS is to provide estimates only for the population of Year 7-10 teachers, it is nonetheless of interest to see how this population compares with the whole teacher workforce in New Zealand. The comparisons of age, gender, decile-group and institution-type distributions given below (Figures 2 to 4) use Ministry of Education workforce data for teacher head-count (excluding day-relief teachers) in state and state-integrated schools in 2017, compared with the Year 7-10 teacher population estimates based on TALIS data.

Age Groups

The proportion of teachers under the age of 45 was slightly higher among the Year 7-10 teachers surveyed in TALIS than in the state and state-integrated teacher workforce in both primary and secondary sectors.
Gender

There was a similar proportion of female teachers in state and state-integrated secondary and composite schools, as among the Year 7-10 secondary teachers surveyed in TALIS. In the primary sector, the TALIS population of Year 7-10 teachers in primary schools has a slightly lower proportion of female teachers, than in state and state-integrated primary schools as a whole. This is mostly because contributing schools were excluded from the TALIS survey population.
Figure 3 Gender of New Zealand teacher workforce compared with TALIS survey population

![Gender of New Zealand teachers, 2017](image)

Source: [Education Counts: TALIS 2018 database](https://www.educationcounts.govt.nz)

### Decile groups

The proportions of teachers in different decile groupings are broadly similar in both primary and secondary sectors, for all New Zealand teachers in state and state-integrated schools, compared to the Year 7-10 teachers surveyed by TALIS from state and state-integrated schools. However, the total TALIS teacher population also includes teachers in independent schools.
### International Collaboration

**Who are the stakeholders?**

The Teaching and Learning International Survey (TALIS) is an initiative of the OECD and a collaborative effort of participating countries and economies. An international consortium comprising the International Association for the Evaluation of Educational Achievement (IEA), the Australian Council for Educational Research (ACER), and Statistics Canada was responsible for developing and overseeing TALIS 2018 internationally. This was in collaboration with Education International (representing teacher unions) and the European Commission, and with input from other social partners such as UNESCO.

**Which countries took part?**

- Argentina (Buenos Aires), **Australia**, **Austria**, **Belgium** (the Flemish Community also participated as a sub-national entity), Brazil, Bulgaria, **Canada** (Alberta), **Chile**, China (People's Republic of) (Shanghai), Chinese Taipei, Colombia, Croatia, Cyprus, **Czech Republic**, Denmark, Estonia, Finland, France, Georgia, Hungary, Iceland, Israel, Italy, Japan, Kazakhstan, Korea, Latvia, Lithuania, Malta, Mexico, Netherlands, New Zealand, Norway, Portugal, Romania, Russian Federation, Saudi Arabia, Singapore, **Slovak Republic**, Slovenia, South Africa, **Spain**, Sweden, Turkey, United Arab Emirates, United Kingdom (England), **United States**, Vietnam.

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3 OECD member countries in bold.
We shape an education system that delivers equitable and excellent outcomes

He mea tārai e mātou te mātauranga kia rangatira ai, kia mana taurite ai ōna huanga