Annual report: Education Committee of NZ Statistical Association

November 2024 to November 2025
For AGM of 9 December 2025

Major activities for 2025

Our major activities this year have included working on the probability teaching guide, curriculum development and feedback, assessment for qualification feedback, and multiple conference attendance and presentations and contributions to statistics education, both nationally and internationally.

Curriculum updates and our actions

The mathematics and statistics curriculum has been through major upheaval in the last 12-16 months. A brief timeline is below explaining what has happened.

- October 2024 - New **year 0-8 curriculum** released for implementation in 2025 (copy of this document is here and still available (17-11-25) online here).
- January 2025 - draft **year 9-13 curriculum** released for feedback (copy of this document is here as it is no longer publicly available).
- October 2025 - Rewritten (complete change) **year 0-8 curriculum** with new **year 9-10 curriculum** released for implementation in 2026 (copy of this document is here, and also available online).

Of note:

- Rewritten year 0-8 curriculum no longer has probability objectives in years 0-4
- There are errors in the statistics and probability objectives in the updated document due to inconsistent or non-standard use of terms, e.g., the Year 5 definition of probability states that all **events** must be equally likely, while the Year 7 definition

states that all **outcomes** must be equally likely; the mean and median are described as being able to be skewed, which is incorrect as skewness is a property of the data distribution; Year 7 statements such as “the tapering sides of a data visualisation are known as tails” conflate data visualisations with data distributions, and introduce the language “tapering sides” that is not statistical nor appropriate for visualisations used at this curriculum level which should not include density plots
- The rewritten curriculum is now a “knowledge” curriculum, so any sense of statistical enquiry or investigation has “gone”, but can be implicitly found, as the practices listed do not refer to connecting or locating these practices within the broader goal of enquiry or investigation. Statistical literacy and critical thinking has also disappeared from the curriculum statements. The previous (2024 year 0-8, and draft year 9-13) versions had the statistical statements structured around the statistical enquiry cycle. This structure has gone.
- There are things that are probably placed at the wrong year level, e.g., the use of the language **sample space** in probability is at age 9, whereas our recommendation was that this was not used until around age 14-15, suggesting all possible outcomes was used instead; the progression of interpreting data visualisations is not connected with the progression of reasoning with data distributions.
- The document sends the statistics and probability curriculum back to pre-1992.

We have provided detailed feedback throughout every step of the process, 200+ total people-hours of work, and in many instances we have been able to provide input towards the final stages of the documents. This is not true for the documents that were published in October 2025.

Given our lack of input into the October 2025 year 0-10 curriculum document, we are very concerned about what changes will be made to the year 11-13 curriculum, from what was shared in the draft. The government has stated that in particular years 12 and 13 represent specialising in subjects, and has proposed a new subject at Year 13 named *Statistics and Data Science*. Given Statistics and Data Science are specialist subjects, the year 11-13 curriculum content related to statistics and data science “knowledge and practices” should have the input of specialist statistics and data science expert educators and education researchers, but the education committee has not been asked to provide input. There is an expression of interest process happening right now, there is no guarantee that we will be represented on the subject advisory group for senior mathematics and statistics.

Assessment

Early in 2025 we worked on behalf of secondary teachers, especially those in our committee, to get the Minister to consider the speed of change that was proposed for senior secondary, particularly around assessment for qualification. This included a formal letter to the Minister of Education, Erica Stanford, sent on our behalf by John Haywood, President of NZSA. As a result we engaged in communications with the Ministry to discuss the issues in more depth, and an outcome is the speed of change has slowed down, we hope in part to our contribution to the discussion.

However, all is not great as meanwhile major changes to national qualifications were being planned. Two major documents were released from the Minister of Education in regard to

senior assessment: (1) Proposed changes to national qualifications for assessment [also linked here in case it is removed] and (2) Senior secondary subject updates [also linked here in case it is removed].

We provided feedback on the proposed changes for both documents. We continue to push for the subject name in years 11-12 in particular to be changed from mathematics to mathematics and statistics in the senior secondary subject list. This is the name of the curriculum learning area and the subject should be named appropriately.

Given the current use of “Mathematics” as the subject name for nearly all the proposed Year 11-13 subjects, the exception being the Year 13 Statistics and Data Science course, we are concerned that the content of these subjects will not contain substantial and future focused statistical “knowledge and practices”. We are also deeply concerned that the assessment of statistical concepts and skills will revert to traditional exam–style questions, rather than continue to support the use of practical data exploration, modelling, investigation, and communication.

Probability | Tūponotanga - A Guide for Teaching Probability

Again we would like to thank the NZSA for its support to get this teaching guide developed. We currently have two wāhanga formally published - see Probability | Tūponotanga - A guide for teaching probability (ages 5-18) - CensusAtSchool New Zealand. Views and downloads are continuing to increase as at 5 November 2025, Wāhanga 3 had 1202 views and 562 downloads and Wāhanga 4 had 949 views and 459 downloads.

In process at the moment are seven wāhanga:

- one due to be published in time for Statistics Teachers Day on 5 December
- one in final draft form, now dependent on international review; we plan to publish the final draft in time for Statistics Teachers Day on 5 December
- one due for publishing following updates from international review - with a view to publishing this year
- one wāhanga is about to move into the review pipeline
- one wāhanga in the review pipeline, at the NZ peer review stage
- two wāhanga being updated to move into the review pipeline

Alongside the support from NZSA, NZAMT has also provided teacher release time, and a number of probability activities have been developed for years 1-4 (fortunately before the curriculum changed). See A Year of Probability at School (Years 1-3) - CensusAtSchool New Zealand for the overview of the year 1-3 activities. The year 4 activities are here: Resources for Years 4-6 - CensusAtSchool New Zealand.

Committee members who have been involved in the writing and reviewing to date include: Maxine Pfannkuch, Pip Arnold, Stephanie Budgett, Anna Fergusson, Chris Wild, Sashi Sharma, Christine Franklin (USA), Mike Camden, Mark Hooper and Rachel Passmore.

International contacts

This year the NZSA education committee has extended its connections with overseas education committees to include Peter Howley and Ayse Bilgin from the Australian Statistical Society education committee.

Christine Franklin from the American Statistical Association has retired from the committee and Anna Bargagliotti has joined in her place. Anna is based in Los Angeles.

We keep connected with the Royal Statistical Society, though the time doesn't suit for them to join us (4am in the morning). They keep us posted via email communications. Rhys Jones and Sophie Carr have been the connections this year. Sophie is stepping down from her education role at the end of the year. Chris Brignell is the incoming VP for education and will join us virtually next year.

International and local contributions by members

Name	National	International
Pip Arnold	NZAMT conference Statistics teachers day AMA online sessions	Data science conference USA Brazil post graduate teachers session (virtual) IASE Executive (Vice President, 2021-2025) IASE webinar coordinator
Michelle Dalrymple	NZAMT conference	
Anna Fergusson	Statistics teachers day AMA online sessions	Data science conference USA USCOTS USA Keynote speaker IASE satellite conference Germany SERJ Assistant Editor (Technology) IASE Executive (Vice President, 2025 - 2027) ICOTS session organiser (2026)
Stephanie Budgett	UoA Learning Futures Community of Interest	IASE Satellite conference, Germany World Statistics Congress, The Netherlands SERJ Assistant Editor (Manuscripts) ICOTS International Programme Committee Chair (2026) TALMO webinar ASCILITE webinar
Dave Phillipps	NZAMT President NZAMT conference	
Mark Hooper	NZAMT conference	

Areas of interest of the committee

NZAMT conferences

This year was a conference year and NZSA supported Leticia Perez from the USA to be the statistics focused keynote speaker. Leticia also ran a number of workshops and was well received by all.

NZSA education committee members who also presented at NZAMT conference included: Pip Arnold, Dave Phillipps, Michelle Dalrymple and Mark Hooper.

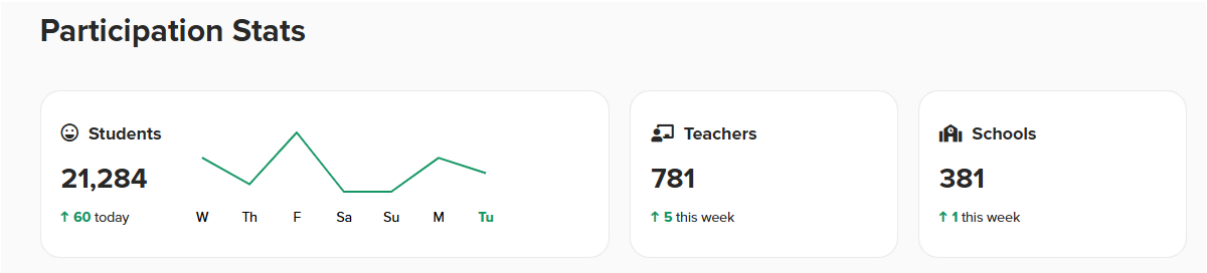
The next NZAMT conference is in Auckland in September 2027.

Statistics and Data Science Educator

This has been a quiet year for the SDSE. There are so many other things going on.

CensusAtSchool

CensusAtSchool launched the 2025-2026 questionnaire in March this year. As of 2 December the stats are:



Pip Arnold, Maxine Pfannkuch and Chris Wild from the education committee work alongside Rachel Cunliffe and Anne Patel, the co-project directors.

Rachel and Pip also worked with Tūturu to create resources for the health education, social studies and statistics learning areas under the theme of **gaming and gambling**. These resources use the data from CensusAtSchool 2025 questionnaire and can be found at https://tuturu.org.nz/. A free account needs to be created to see the resources.

The Education Committee

Here are the active members for 2025. The first eight people formed the steering group.

- Alasdair Noble (AgResearch) [convenor and link with NZSA Executive]
- Anna Fergusson (University of Auckland)
- Chris Wild (University of Auckland)
- Mark Hooper (Christ's College) [meetings scribe]
- Maxine Pfannkuch (University of Auckland)
- Michelle Dalrymple (Cashmere High School)
- Pip Arnold (Karekare Education | University of Auckland) [secretary]
- Stephanie Budgett (University of Auckland)

- Anna Bargagliotti (American Statistical Association and Loyola Marymount University, USA)
- Ayse Bilgin (Statistical Society of Australia and Macquarie University)
- Cami Sawyer (Ministry of Education)
- Dave Phillipps (Lincoln High School) [NZAMT president]
- Marina McFarland (Auckland Girls Grammar School)
- Matthew Parry (University of Otago)
- Mike Camden (Wellington)
- Peter Howley (Statistical Society of Australia)
- Rhys Jones (Royal Statistical Society Teaching Section and Education Policy Advisory Group)
- Sashi Sharma (University of Waikato)
- Sophie Carr (Royal Statistical Society, UK)

Members who have retired from the committee in 2025; we thank them for their work and support over many years

- Christine Franklin (American Statistical Association and University of Georgia, USA)
- Derek Smith (University of Otago)
- Marie Fitch (University of Auckland)
- Neil Marshall (Wanaka)
- Robyn Headifen (University of Auckland)

We have had four main meetings as well as additional meetings to prepare submissions and feedback. Our main meetings were: 5 March, 7 May, 6 August and 5 November. Our numbers varied from 9 to 14, with a mode of 14, a median of 12.5 and a mean of 12.

We thank University of Otago | Ōtākou Whakaihu Waka, and especially Jeff Ormndy, for the use of their Zoom system.