

**Annual Report: Education Committee of NZ Statistical Association
November 2022 to November 2023**
For AGM of 5 December 2023.

The AGM may wish to consider the magenta paragraphs on the last page.

Inputs into Curriculum

In the first few months of this 12-month period, we provided final inputs into the Curriculum Refresh. We put plenty of particular thinking into the Probability strand. There, as elsewhere, we wanted to make sure that the language was right, and that the knowledge was right for an area that is increasingly important in society and work. These inputs took a series of meetings and substantial work from a subset of committee members. We're very appreciative of the efforts of these members.

The latest update of the Curriculum came to us at the start of November:
[Refreshing The New Zealand Curriculum | Curriculum Refresh \(education.govt.nz\)](#) .
The What's Changing section:

[What's changing? | Curriculum Refresh \(education.govt.nz\)](#)
notes that the full curriculum will be for use from the start of 2027, but we're ahead, and schools and kura 'must use the refreshed mathematics and statistics and English learning areas from the start of 2025". The 31 page Maths and Stats part is here, and merits a read:
[What's changing? | Curriculum Refresh \(education.govt.nz\)](#) .

Inputs into Strategy

The Ministry's Literacy & Communication and Maths Strategy "aims to lift educational outcomes for all ākonga in Aotearoa New Zealand." Within this, the 'Common Practice Model' (CPM) includes a plan for the pedagogy for Maths and Stats.

The Phase 1 release is at
[Common Practice Model – Education in New Zealand](#),
and the Phase 2 details, with core teaching requirements, are due soon. We've made extensive inputs into both phases, with the intention of having the key features of statistical pedagogy built in.

Inputs into assessment

The assessment area has been quiet this year, with the new NCEA Level 1 achievement standards (four of them) written and being piloted, and the new NCEA Level 2 achievement standards awaiting further development. At Level 1 we'll have one subject, assessed through four standards. At Level 2 we'll have two subjects, Mathematics, and Statistics, each assessed through four standards. This gives New Zealand an opportunity to be world leaders at this level. The Review is at
[Review of Achievement Standards | NCEA \(education.govt.nz\)](#).

NZQA invited feedback on its biennial review of the New Zealand Scholarship Subject List. Scholarship statistics is not under threat, but we replied: 'We are clear that Scholarship Statistics is a very positive part of the Aotearoa New Zealand school system, and our strong view is that it needs to stay.' It asks for a level of statistical thinking that challenges and is appropriate for learners at that level. Scholarship Stats has a Performance Standard and Descriptors here:
[New Zealand Scholarship / NCEA on TKI, New Zealand Scholarship Statistics » NZQA](#).

In the assessment of probability, we see the arrival of the new Achievement Standards as an opportunity to shift the classroom focus from mental puzzles to skills for managing uncertainty and risk.

Finance

We've worked on a set of protocols for how we request funding from the NZSA's Executive, and the ideas have been considered by the Executive.

Together with our President, we met with educators from NZ Institute of Physics [Education Section – New Zealand Institute of Physics \(nzip.org.nz\)](https://www.nzip.org.nz) , to learn how they manage their teacher resources.

Our expenditure this year has been \$0.00.

Proposal for a new book: *Probability | Tūponotanga - A Guide for Teaching Probability*

This project aims to support the teaching and learning of tūponotanga | probability in Aotearoa New Zealand schools. The project will develop a digital teacher's guide, similar in purpose and structure to the *Statistical Investigations | Te Tūhuratanga Tauanga* book. The guide will align with the refreshed mathematics and statistics curriculum. The aim is to have initial chapters of the guide available by the end of 2024, for use in 2025 on the new curriculum.

The project would involve significant cost, which we hope would come from NZSA and other sources.

A set of recorded workshops

This is our other intended resource-creation project. It awaits time and opportunity for progress.

International contacts

We've maintained **international contacts** through our members in statistical education groups in the USA and the UK, and through renewed contacts (as suggested at last year's NZSA AGM) with the Statistical Society of Australia.

Members Chris Wild, Pip Arnold, and Anna Fergusson presented in July at the IASE Satellite in Toronto or the World Statistics Congress in Ottawa. Chris's plenary at the Satellite is titled 'Walking Backwards Into the Future.' See <https://www.stat.auckland.ac.nz/~wild/talks/IASE2023/> . He asks, among other things, 'how can we future-proof our children/students and build resilience in anticipation of a rapidly and unpredictably changing landscape?'

Pip Arnold attended the SRTL conference in Brisbane at the end of June. The conference topic was data and data-ing. Pip was a discussant, presenting her thoughts on what data and data-ing was

Pip continues as Vice-President of IASE, and organises the very topical webinar series: [IASE — Webinars: Webinars \(iase-web.org\)](https://www.iase-web.org/)

The statistics teaching journal *Statistics and Data Science Educator*

SDSE (<https://sdse.online/>), continues to provide ideas for teachers. Project leader Maxine Pfannkuch is passing her role on to Anna Fergusson. The plan was to support teachers to write and review the lesson plans, but this has proved difficult as teachers are so busy.

Resources available via CensusAtSchool

In CensusAtSchool, you'll find an introduction to the refreshed resources from the University of Otago. The twenty resources all involve NZ contexts, videos, datasets, and use of R: [Datasets with their NZ contexts – Statistics in Research \(2023\)](https://www.censusat.school.nz/resources/datasets-with-their-nz-contexts-statistics-in-research-2023/)

Also, you'll find our **Data Gems** document:

[Data Gems – A nGuide to Dataset Sources from Aotearoa and Beyond \(2023\)](https://www.censusat.school.nz/resources/data-gems-a-n-guide-to-dataset-sources-from-aotearoa-and-beyond-2023/)

which leads kaiako and akonga to datasets and data graphics. We'd like to add more New Zealand data, and make it easier to use in software such as INZight and CODAP.

To find our inputs, in CensusAtSchool, CensusAtSchool New Zealand - TataurangaKiTeKura Aotearoa , touch Resources, and scroll to find us at the bottom left.

Who we are in 2023

Here are the 24 members as at the end of 2023. 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 (Ministry of Education) [meetings scribe]
- Maxine Pfannkuch (University of Auckland)
- Michelle Dalrymple (Cashmere High School)
- Mike Camden [secretary]
- Pip Arnold (Karekare Education)

- Amy Renelle (University of Waikato)
- Cami Sawyer (Ministry of Education)
- Christine Franklin (American Statistical Association and University of Georgia, USA)
- Dave Phillipps (Lincoln High School)
- Derek Smith (University of Otago)
- Emma Mawby (Te Puni Kokiri)
- Marie Fitch (University of Auckland)
- Marina McFarland (Auckland Girls Grammar)
- Matthew Parry (University of Otago)
- Neil Marshall
- Rachel Passmore (University of Auckland)
- Rhys Jones (Royal Statistical Society Teaching Section and Education Policy Advisory Group)
- Robyn Headifen (University of Auckland)
- Sashi Sharma (University of Waikato)
- Sophie Carr (Bays Consulting, RSS Vice President, UK)
- Stephanie Budgett (University of Auckland)

We've had four main meetings

The four main meetings ran as shown, and we had numerous other meetings of subsets.

Participation 2023

Date	Attendees	Apologies	Total
15/02/23	9	5	14
10/05/23	9	11	20
09/09/23	11	6	17
08/11/23	9	6	15

News about members

The 2023 George Cobb Lifetime Achievement Award in Statistics Education was presented to Maxine Pfannkuch at the USCOTS Awards Session, on Friday 2 June this year, in Pennsylvania USA.

Chris Franklin reports that she was honoured to give the US introduction for Maxine at the award ceremony. 'The video introduction from Aotearoa New Zealand with Chris Wild and all was a hit. Maxine is an amazing ambassador for New Zealand, and for the George Cobb lifetime award.'

The Tribute Book

<https://www.causeweb.org/cause/lifetime/2023>)

shows how Maxine is respected and welcomed around the world. We are very fortunate, here in Aotearoa New Zealand, that Maxine has contributed so much to the statistical education community, and that she's still doing so.

Congratulations and thanks, Maxine, and thanks also to the people who made and supported the nomination.

At each biennial NZAMT teachers' conference, the organisers announce the winner of NZAMT's Bevan Werry Award. At the NZAMT conference in Whangarei this year, the award recipient was committee member Anna Fergusson. This made her a plenary speaker at the conference, and it funds her to travel within New Zealand to provide professional development around the country. Anna's plenary was well received. Congratulations, Anna! See [NZAMT - Bevan Werry](#).

We congratulate Anna Fergusson and Amy Renelle on completing their PhDs.

We welcome Stephanie Budgett to the committee. She is already working hard with us on probability and pedagogy issues.

The NZ Association of Mathematics Teachers has arranged for copies of Pip Arnold's book, *Statistical Investigations: Te Tūhuratanga Tauanga to go* to all secondary schools. See <https://www.nzcer.org.nz/nzcerpress/statistical-investigations-te-tuhuratanga-tauanga>.

Rhys Jones has written a book: *Statistical Literacy: A beginners guide*. This book breaks statistical terms and concepts down in a clear, straightforward way. From understanding what data are telling you to exploring the value of good storytelling with numbers, it equips the reader with the information and skills needed to become statistically literate. The book is due to be released in February 2024. <https://uk.sagepub.com/en-gb/eur/statistical-literacy/book276400>.

These requests to the AGM come from the committee's Strategy document.

We'd like the AGM to endorse our proposed Steering Group for 2024. They are:

- Alasdair Noble (AgResearch) [convenor and link with NZSA Executive]
- Anna Fergusson (University of Auckland)
- Chris Wild (University of Auckland)
- Mark Hooper (Otago Boys College) [meetings scribe]
- Maxine Pfannkuch (University of Auckland)
- Michelle Dalrymple (Cashmere High School)
- Mike Camden [secretary]
- Pip Arnold (Karekare Education)

We'd like the AGM to consider and comment on our priorities and ongoing activities for 2024:

Priorities:

1. Inputs into Review of Achievement Standards, Curriculum Refresh, and any related opportunities including the Learning Matrix for years 11 to 13.
2. Future of our school statistics curriculum, including resource creation
3. Support for a redesign of Years 1 to 13 probability in the curriculum, including production of a Guide for teachers.

Ongoing activities:

1. International collaboration with partners in the USA, UK, Australia, and elsewhere
2. Reviewing implementation of the statistics strand of the NZ Curriculum, with inclusion of assessment. [The operational side of Priority 2]
3. Maintaining the New Zealand online statistics teaching journal: *Statistics and Data Science Educator (SDSE)* <https://sdse.online/>
4. Statistics education in the primary sector
5. Datasets and data sources for teaching, learning, and assessment.