

Annual Report: Education Committee of NZ Statistical Association

December 2014 to November 2015

Mike Camden. For AGM of Wed 25 Nov 2015.

A busy year with four major events

1. Papers

We started the year with papers on several issues, addressed to the Ministry of Education or the Qualifications Authority, and available through CensusAtSchool. Here are the main ones:

<http://new.censusatschool.org.nz/resource/issues-in-level-2-ncea-use-statistical-methods-to-make-an-inference-as-91264/>

<http://new.censusatschool.org.nz/resource/review-of-e-asttle-assessment-tool-statistics-in-the-new-zealand-curriculum/>

<http://new.censusatschool.org.nz/2015/04/14/response-to-ramp-from-nzsa-education-committee/>

<http://new.censusatschool.org.nz/resource/response-to-the-2014-nzqa-external-assessments/> .

Note:

- RAMP is the Ministry's Review and Maintenance Programme for curriculum-related resources.

- The last paper took plenty of combined effort, and contains our views on the six 'exams' for the five externally assessed NCEA Achievement Standards, and Scholarship. Our purpose was to support the continual improvement of assessment in statistics. We stated:

We congratulate the authors on continuing the movement of the assessments towards the spirit of *The NZ Curriculum*. In most cases, the questions use contexts that require statistical thinking about all parts of the statistical enquiry cycle.

We included many detailed comments to improve statistical soundness, and to move the system further from mechanical processing to statistical thinking about data in its contexts. We need to make this task an annual activity, with this year's round just started.

2. Visit from Professor Christine Franklin of University of Georgia, USA

Chris was based at the University of Auckland for the first five months of the year. She joined the committee, worked with teacher groups in centres all around the country, and left us with some recommendations for our future activities. These are to:

- focus on helping teacher preparation programs in NZ
- focus on professional development for current teachers and on developing resources that are peer reviewed and easily accessible
- consider utilizing and encouraging the creation of more formative assessment items.

We're very appreciative of Chris's inputs, and also of Fulbright NZ, who supported her stay with us.

Chris is now the chairperson of the joint committee of the American Statistical Association and the (USA's) National Council of Teachers of Mathematics. The presidents of NZSA and ASA have exchanged emails about the benefits of us working with this joint committee, and we're looking forward to doing that.

3. Inputs to and from NZ Association of Mathematics Teachers conference

NZAMT14 was held at Auckland University of Technology in July. NZSA helped to fund and choose the two keynote statistics speakers: Robert Gould (University of California, Los Angeles), and Richard de Veaux (Williams College, Massachusetts). It seems they both left the participants buzzing.

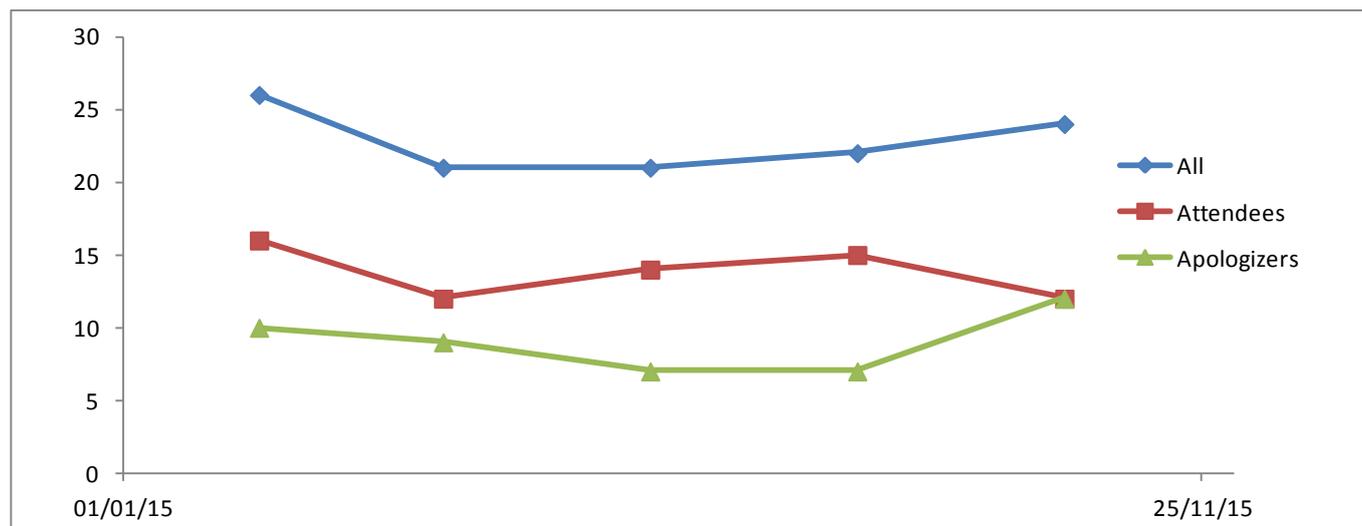
Members of the committee presented numerous workshops and ran a statistics forum. The forum gave valuable insight into what statistics teachers in schools need. The central need continues to be about professional development opportunities, in content, pedagogy, and assessment. We gather that NZ has a growing group of teachers who are very actively engaged with statistics.

4. Strategic planning

We have recently set up a process that aims to set some strategic directions for ourselves. We're in a world where data, technology, work, and other aspects of life are likely to change fast, and we want to anticipate these changes.

Meetings

Since the last AGM, we met 5 times for about 2 hours each time, on 11 Feb, 8 Apr, 10 Jun, 12 Aug, and 14 Oct. We used Statistics NZ's offices and video links between Auckland and Wellington. Also, members phoned in from Palmerston North, Christchurch, and Dunedin. We're investigating other ways of meeting.



NZSA Education Committee: participation in meetings during 2015.

Members

The team continues to have members from most of the possible forms of involvement in statistical education. Here are the 29 members for the year:

- Alasdair Noble (AgResearch) (link with NZSA Executive)
- Alex Neill (NZ Council for Education Research) (chair)
- Matt Regan (University of Auckland)
- Derek Smith (University of Otago)
- Maxine Pfannkuch (University of Auckland)
- Tim Burgess (Massey University)
- Pip Arnold (Cognition Education)
- John Harraway (University of Otago)
- Sashi Sharma (Waikato University)
- Chris Wild (University of Auckland)
- Michelle Dalrymple (Cashmere High School)
- Emma Mawby (Statistics NZ)
- Andrew Tideswell (Statistics NZ)
- Anna-Marie Martin (University of Auckland)
- Marion Steel (Epsom Girls' Grammar School)
- Jeanette Chapman (Otago Girls' High School)
- Marie Fitch (University of Auckland) (deputy chair)
- Nicola Petty (Statistics Learning Centre)
- Ruth Kaniuk (Lynfield College)
- Mike Camden (NEET)
- Robyn Headifen (University of Auckland)
- Jeremy Brocklehurst (Lincoln High School)

- Maheswaran Rohan (Auckland University of Technology)
- Tilman Davies (University of Otago)
- Anne Lawrence (Massey University)
- Dave Phillipps (Middleton Grange School)
- Jake Wills (Kapiti College)
- Hanna Reid (Te Awamutu College)
- Mark Hooper (Otago Boys' High School)
- Chris Franklin (University of Georgia, and University of Auckland until June).

We are fortunate to have several people with current and recent classroom experience.

Other concerns

We note that NZ has a large number of active issues in statistical education. Here are some more that we take an interest in:

- the FutureLearn MOOC, Data to Insight, based at the University of Auckland
- student-friendly statistical software: iNZight, Genstat for Teaching and Learning, NZGrapher, Fathom, Tinkerplots (and the drivers for the first three are on the committee)
- the Level 1 'Bivariate' Achievement Standard
- sampling and the way it arises from the *Curriculum*
- time series, with improved software allowing more thinking
- outliers: where they start and stop
- inputs into statistics teacher days and events around the country
- our homepage (<http://www.stats.org.nz/committees/education>) and our archiving options
- the ISLP poster competition, and possible NZ competitions
- probability: content, pedagogy, and assessment
- the Ministry's Vocational Pathways
- quality practice questions for external assessments
- student progressions through the levels of the curriculum and NCEA
- the BYOD (Bring Your Own Devices) situation
- CensusAtSchool
- Statistics Education Conferences.

2016

We'll be aiming to ensure that NZ keeps its international position at the forefront of teaching, learning and assessment in school statistics. We'd like to ensure that recognition of the value of statistics keeps growing within NZ.