Annual Report: Education Committee of NZ Statistical Association:
December 2015 to November 2016
Mike Camden. For AGM of Tue 29 Nov 2016.

What we aim to do, and how we aim to do it

Early this year, we completed our strategy document, and the Association's executive approved it. The document states:

- our purpose, which is available at http://www.stats.org.nz/committees/education
- our structure, which now includes a steering group
- the process for approving new members
- responsibilities of members
- procedure for assuring quality of statements for release
- procedure for archiving of records.

We are enjoying working with more clarity and better safeguards.

Who we are, and how we meet

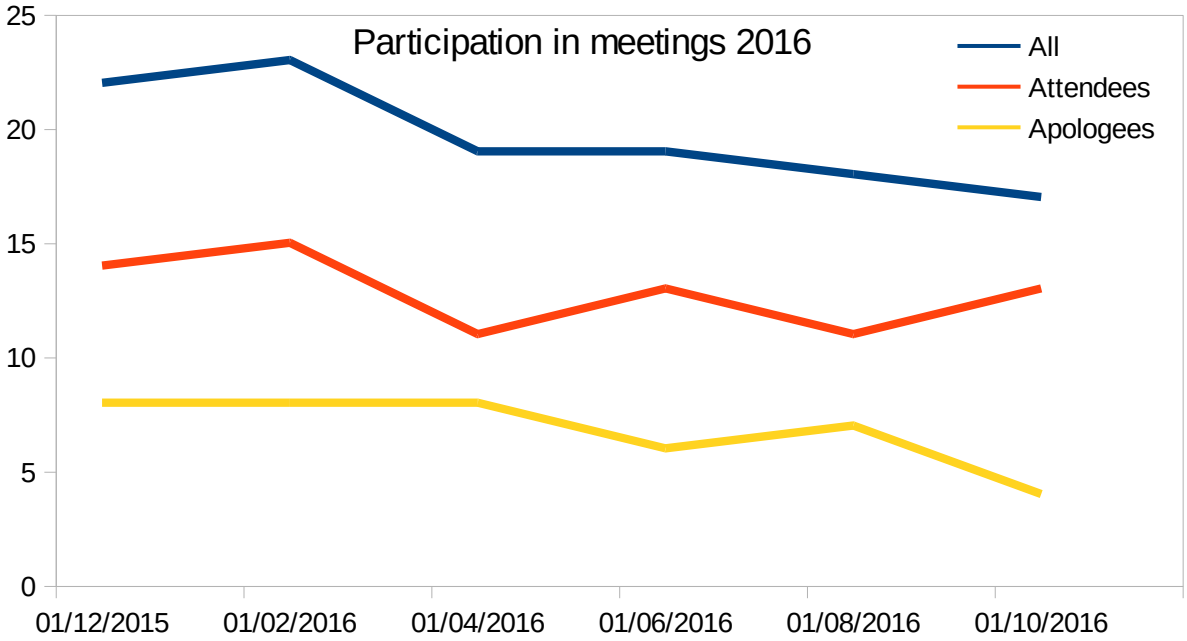
The team continues to have members from all of the possible forms of involvement in statistical education, and from much of NZ. The first eight people form the steering group.

- Alasdair Noble (AgResearch) (convenor and link with NZSA Executive)
- Mike Camden (secretary)
- Maxine Pfannkuch (University of Auckland)
- Pip Arnold (Cognition Education)
- Chris Wild (University of Auckland)
- Michelle Dalrymple (Cashmere High School)
- Anna-Marie Martin (University of Auckland)
- Mark Hooper (Otago Boys' High School)

- Alex Neill (till July, NZ Council for Education Research)
- Derek Smith (University of Otago)
- John Harraway (University of Otago)
- Sashi Sharma (University of Waikato)
- Marion Steel (Epsom Girls' Grammar School)
- Jeanette Chapman (Otago Girls' High School)
- Marie Fitch (University of Auckland) (deputy chair)
- Ruth Kaniuk (Lynfield College)
- Andrew Tideswell (Statistics NZ)
- Robyn Headifen (University of Auckland)
- Jeremy Brocklehurst (Lincoln High School)
- Maheswaran Rohan (Auckland University of Technology)
- Tilman Davies (University of Otago)
- Dave Phillipps (Lincoln High School)
- Jake Wills (Kapiti College)
- Chris Franklin (University of Georgia, USA).

We have a further six people who are in email contact, and contribute when they need to.

We had six regular meetings in the year, with the help of the Zoom conferencing service. We are now using a Google Docs set of folders to manage our written material.



What we prioritised for the year

Our new strategy requires us to prioritise our issues. Here are the 2016 priority issues.

- Statistics education in the primary sector
- Liaison with the Joint ASA/NCTM committee in the USA (ASA = American Statistical Association, NCTM = National Council of Teachers of Mathematics)
- Time Series, and especially the NCEA Level 3 Achievement Standard
- Probability, and progressions in it across the whole of the NZ Curriculum
- Datasets: sourcing, processing and making fit for assessment data that engages and is useful for students.
- Big data and its implications for content and pedagogy of learning in statistics
- The future of statistics in work and life, and the implications for school statistics.

We set up teams in these areas, and have progressed all of them to different extents.

What we do with the ASA/NTCM Joint Committee on Curriculum in Statistics and Probability

In March, we had an extra meeting, to coincide with the visit of Christine Franklin, chair of the joint ASA/NCTM committee, and discussed liaison and ongoing collaboration with this group. Chris will remain in contact as the ASA-NCTM liaison with our committee, and Maxine will be our contact and liaison with the USA committee.

As part of our collaboration, Anna attended the Joint Statistical Meetings (JSMs) in Chicago and presented at the Meeting Within a Meeting event, a two day workshop programme for middle-school and high-school teachers. The ASA/NCTM committee funded Anna's travel and attendance. The US teachers were enthusiastic about Anna's presentations and sharing of efforts in NZ. Anna also gave a presentation to the ASA board of directors. The ASA board and president (Jessica Utts) were very positive about and complimentary of the 'cutting edge' nature of NZ statistics education and plans for collaboration between the committees. Our collaboration was also discussed at the ASA statistics education section meeting at the JSMs.

An idea from this visit is for our committee to establish an online journal for peer-reviewed lesson plans. This would resemble the model used by the ASA: https://www.amstat.org/education/stew/.

What other issues concern us

Here are some of them.

The IASE's Resources page: http://iase-web.org/islp/Resources.php. We are in the process of contributing some NZ links to this.

Journalism training in NZ: data journalism is a rapidly changing field, and Statistics NZ has a history of supporting it.

Time series and the assessment of student statements about trend. We had input into: http://new.censusatschool.org.nz/resource/describing-the-trend-in-a-time-series/.

Relationships with NZQA and the Ministry of Education. We corresponded as needed, and hosted Ministry staff to our June meeting.

Assessment in NCEA. We are interested in how both internal and external assessment practices are evolving.

NZQA's 'Future State' programme. http://www.nzqa.govt.nz/about-us/future-state/. We are interested in opportunities for statistics in aspects like digital assessment (ie digital exams).

Software. NZ is well served with three excellent and free software systems for senoir students. We're interested also in availability of other systems, like TinkerPlots, for younger students.

New learning environments. We are interested in how to promote appropriate statistics pedagogy in these such as new learning models and modelling good practice.

Statistics master classes. We'd like to promote sessions where teachers can see a very experienced teacher of statistics in action, ideally with actual students and their interactions. These sessions would be recorded and available by video.

Census At School NZ: http://new.censusatschool.org.nz/. We see this as the main source of resources for teachers. It has a new user-friendly interface.

The SSAI's National Colloquium: STEMS: Putting Statistics into STEM in the Data Age. Several members took part in this. See https://stems2016.com/report/ , and, for an NZ view, http://www.stats.org.nz/site/uploads/newsletter77.pdf.

13th International Congress on Mathematical Education. NZ statistics education research had great exposure here.

The NZAMT15 conference in Christchurch in 2017. This will have some strong statistical content: http://www.nzamt2017.com/

What we see as Specific about Statistics

New Zealand's teachers in the learning area *Mathematics and Statistics* fill a vital and exciting role in education for a changing world. The statistical side of the the learning area has very specific needs, in teaching principles, assessment methods, data needs, software needs, and hardware needs. We summarised our concerns in the one-page statement: *Specifically Statistics – Maximising the benefits of statistical learning in schools*, available in http://new.censusatschool.org.nz/resources/.