Annual Report: Education Committee of NZ Statistical Association
December 2013 to November 2014
Mike Camden. For AGM of Tue 25 Nov 2014.

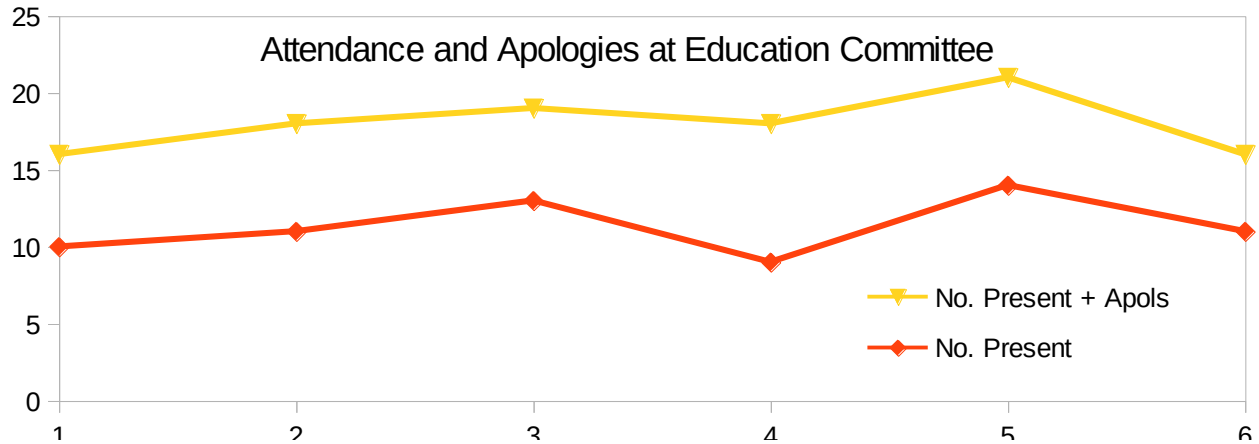
The situation

In these data deluge days, school students need to develop strong skills for dealing with data and risk. The steps forward that NZ made with the 2007 Curriculum are getting actioned: the revised National Certificate of Educational Achievement (NCEA) achievement standards, based on the Curriculum, are in operation. At NCEA Level 3, the current exams are the second round that are based on the new standards. Software is available and widely used.

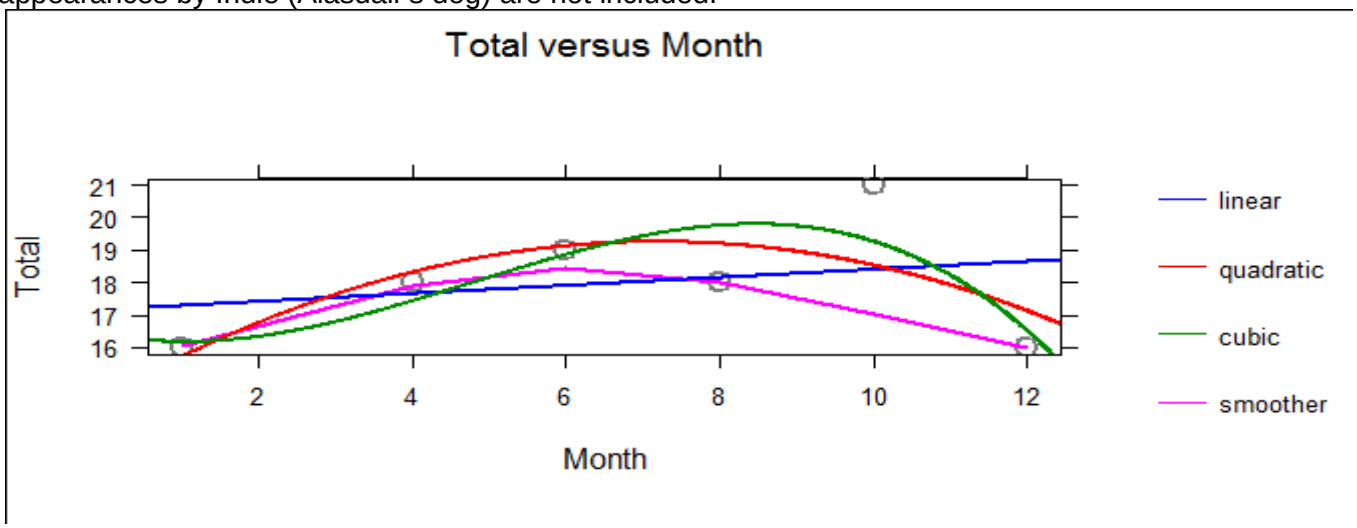
The education committee's main function is to support all those involved in school statistical education: teachers, assessment specialists, resource producers, etc. Many of the ongoing challenges are about assessment: how to ensure it is statistically sound, reasonable in workload, fresh in terms of the datasets used, progressing cleanly up the 3 NCEA levels, and aligned with the intent of the curriculum. We've recently sent feedback on exams and assessment examples to authors of these items.

The year

Over these 12 months, we met 6 times for about 2 hours each time, on 4 December, 5 March, 7 May, 2 July, 3 September, and 5 November. We continued to use Statistics NZ's offices and video links between Auckland and Wellington . Also, members phoned in from Palmerston North, Christchurch, and Dunedin. We did not quite get all 22 members together at once, but we came close.



This graph conveys the steady commitment of members, in the midst of their other commitments. Guest appearances by Indie (Alasdair's dog) are not included.



This second graph, of the total of attendance plus apologies, allows 4 methods of predicting the future of the committee, all courtesy of R via iNZight. The linear model is the worst fit, but is the most optimistic!

The team

The team continues to have members from most of the possible forms of involvement in statistical education. Here are the 22 members at present:

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

We also keep in email contact with Neil Marshall of NZ Qualifications Authority. He has contributed to several issues and made valuable input into several of our documents. We maintain good relationships with other people in NZQA and in the Ministry of Education.

The issues we've been taking an interest in

Statistics teacher days: in Auckland, Christchurch, Dunedin; and maths teacher meetings elsewhere

Software: free and friendly: iNZight and Genstat for Teaching and Learning continue to become more friendly. Use of these items seems to be the norm now. Another recent appearance is NZGrapher.

BOYD: That's Bring Your Own Devices. Many schools have moved from using the computer lab to BYOD, and this brings new concerns for teachers and software providers: the software need to run online.

Census at School: a vital resource for teaching and learning. We've posted documents on there this year, and they include:

Statistics Forum NZAMT 2013: Statistics education – what resources do we need?
Values, ethics and statistical experiments
Growth in use of background context info in assessments, and datasets for use in assessment.

Science fairs, and the quality of the statistical work in them.

International conferences, and NZ input: ICOTS 9 (July), IAOS (October).

NZ Council for Educational Research's report on the 2 recent Teaching & Learning Research Initiative (TLRI) projects.

Archiving of Committee records 1999 to now: these are now on CD, and copies are going to the main players.

NZ Association of Mathematics Teachers conference 2015 in Auckland: we've provided input on possible statistical speakers.

Assessment: we comment where possible on exams and example material.

Some people of special interest this year

We noted Sharleen's departure from the Statistics NZ part of her work. Sharleen was the founding convenor of this committee from 1986. She continues to contribute to research on statistical education.

We are very pleased that 2 of the 3 Young Statistician prizes at IAOS went to NZers: Michelle Feyen and Laura O'Sullivan, both of Statistics NZ.

The new FutureLearn MOOC, Data to Insight, is totally in line with the thinking behind the statistics in the NZ Curriculum, and is being appreciatively used by many teachers already. We congratulate Chris Wild and his supporters on this very beneficial innovative course.

The coming year

The Ministry of Education has started a Review And Maintenance Programme (RAMP) for the resources that flow from the NZ Curriculum and the assessment of it. Mathematics and Statistics, along with Science and Digital Technology, are the first subjects to get started. We welcome this, and plan to contribute to it, around March.

Other issues that we may put energy into are:

- statistics in primary and middle school
- progressions in curriculum and assessment
- statistics for the at-risk groups in education
- BYODevices
- The ASTTLE assessment system
- Interactions of the mathematics and statistics parts of Mathematics and Statistics.

Having got some very smart 20th century aspects of statistics into NZ education, we will examine how we can bring in the relevant 21st century aspects, like new forms of data, and new ways of working with it.