Statistics New Zealand
TATAURANGA AOTEAROA

10 November 2006

Draft Curriculum Feedback
Ministry of Education
PO Box 1666
Thorndon
WELLINGTON

Dear Sir

Statistics in the New Zealand Curriculum Draft for Consultation 2006

Statistical abilities for citizenship and employment are even more important for this century than they were for the last, and the skill set that is accessible to school students needs to be very different from that of last century. I am therefore pleased to note this change is recognised in the New Zealand Curriculum Draft for Consultation 2006.

The change in the subject name from *Mathematics* to *Mathematics and Statistics* signals a major paradigm shift in educator perceptions of this subject. This is also evidenced in the introductory page (page 19) on the subject, and in the heading statement on each Level: *In a range of meaningful contexts, students will be engaged in knowing, doing, and thinking mathematically and statistically.*

I applaud this shift in perspective. It continues the shift that began with the previous curriculum document *Mathematics in the New Zealand Curriculum 1992,* and puts New Zealand into a leadership position in statistical education. However, this shift will be large and challenging for many teachers and to be successful will require considerable effort to support them through this shift.

Having said this, I should note that my staff have frequently been impressed by the energy and enthusiasm that many teachers have applied to statistics in recent years. However, for the mathematics teaching community to make and apply the proposed new paradigm shift effectively it will be essential to ensure that strong support in both written resources and professional development processes (both pre-service teacher training, and in-service) are available from the outset. Statistics New Zealand is willing to contribute to the planning and support for this work.

Page 32 on *Planning for Coherent Pathways* puts the focus on literacy and numeracy throughout the school years. These skills will increasingly involve statistical processes. It is important that research, resources and professional development support the role of statistics in literacy and numeracy.

In this respect there are 'Learning Areas' other than *Mathematics and Statistics* that do or could have statistical content. These include *Health and Physical Education, Science, Social Sciences* and *Technology.* Examples from Level 8 of the Draft are: 'critically evaluate a range of ... data' (*Health and Physical Education*), 'investigations' (*Science*), 'social inquiry' (*Social Sciences*), and 'experimentation and critical evaluation' (*Technology*).

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I consider it to be very important, both for the health of these areas and for the health of statistical skills, that:

- Statements about statistics-related skills in the achievement objectives for these areas are sufficient, and in accord with current statistical practice and pedagogy
- Adequate resources are provided to enable teachers to action these statements for their areas
- Professional development opportunities in these skills are provided for teachers in these areas
- Statistical skills introduced at each Level in Mathematics and Statistics are aligned with the needs of these other areas.

It is good to see that the achievement objectives for the areas are displayed in the fold-out pages by Level, so that linkages among the areas can be made. Statistical practice involves contexts, and the other areas are a rich source of contexts.

I understand that a group of statisticians and statistical educators (the Education Committee of the NZ Statistical Association and the Auckland Statistics Group) has been providing input into the *Statistics* strand of *Mathematics and Statistics.* Their work has already influenced the *Statistical investigation (thinking)* thread, and they are preparing a submission on the *Statistical literacy* and *Probability* threads. It is informed both by current statistical practice and current research on the teaching and learning of statistics. I would like the contents of their submissions to be incorporated into the final version of the Curriculum.

In summary, I congratulate the Ministry and the authors on what I consider is a bold and very valuable step forward, and I recommend that:

- Major efforts be put into teacher support from the outset: resources and professional development (both pre-service and in-service)
- The submission by the group of statisticians on the second and third thread of the *Statistics* strand be incorporated into the final version
- Appropriate curriculum statements and teacher support in statistics be provided to all other learning areas where and when needed.

Yours sincerely

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cc Dr Roger Littlejohn, New Zealand Statistical Association
Mr Malcolm Hyland, Ministry of Education
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