A guide to recently created statistics resources for Aotearoa New Zealand

Here in Aotearoa New Zealand, we have statistics in curriculum and assessment that holds many opportunities for student engagement, and many challenges for teachers. We also have recorded workshops and other resources that have been produced here to support NZ teachers. The Education Committee of the NZ Statistical Association is producing this guide to some of these resources.

This guide originates in a request from the Hawke's Bay Principals' Association, but we hope that it is useful across the motu. We intend to expand and maintain it, and post it on CensusAtSchool.

Some major homegrown sources

CensusAtSchool New Zealand, <u>https://new.censusatschool.org.nz/</u>, is a place to find and contribute to data about our akonga. It also contains a wide range of resources on the teaching and learning of statistics in NZ. See the Resources tab. We hope that NZ teachers use it as a main point of reference.

Statistics and Data Science Educator, <u>https://sdse.online/</u>, has peer-reviewed lesson plans for teachers at all levels, early childhood to graduate. It is an online journal set up for teachers by members of the NZSA Education Committee.

inzight, <u>https://inzight.nz/</u>, is a software for data exploration and analysis, but it also gives access to a large number of datasets that are relevant to our NZ situation.

Data analysis tools

inzight, <u>https://inzight.nz/</u>, is a software for data exploration and analysis, but it also gives access to a large number of datasets that are relevant to our NZ situation and is free to use.

inzight lite, <u>https://lite.docker.stat.auckland.ac.nz/</u> this version of inzight is web-based and also free to use.

CODAP, <u>https://codap.concord.org/</u> web-based freely available also - Common Online Data Analysis Platform

Suggested overseas resources which could work well in our classrooms STEW - STatistics Education Web

<u>https://www.amstat.org/education/stew/statistics-education-web-(stew)</u> Peer reviewed fully complete lesson plans with resources that overlap with many of the concepts taught through our NZC. Hosted by the American Statistical Association

Statistics materials - to support PLD for teachers in years 9-13

Years 9-10

What makes a good investigative question? - Pip Arnold - CensusAtSchool New Zealand Describing distributions - Pip Arnold - CensusAtSchool New Zealand The Language of Shape - CensusAtSchool New Zealand Cleaning data - CensusAtSchool New Zealand

Sample to population inference

<u>Guidelines for "How to make the call" - CensusAtSchool New Zealand</u> <u>WPRH - Sampling Variation Animations</u>

Teacher PLD workshops and keynote presentations

Laying the foundations for inference - CensusAtSchool New Zealand

Includes workshop plan, all materials

- <u>Karekare College: building conceptions of populations and samples CensusAtSchool</u> <u>New Zealand</u>
- Introduction to making a call (Karekare College) CensusAtSchool New Zealand

A possible teaching sequence for year 10

- <u>Statistical Investigations Part 1: Introduction to the PPDAC cycle CensusAtSchool New</u>
 <u>Zealand</u>
- <u>Statistical Investigations Part 2 CensusAtSchool New Zealand</u>
- <u>Statistical Investigations Part 3 CensusAtSchool New Zealand</u>

TLRI building students inferential reasoning research project

http://www.tlri.org.nz/tlri-research/research-completed/school-sector/building-students-inferential -reasoning-statistics

Year 11

Teacher PLD workshops and keynote presentations

<u>2021 Statistics teachers day</u> <u>Statistics teachers' day : Exploring Worlds through data - Auckland Mathematical Association</u>

KEY MATERIALS FOR NEW LEVEL 1 NCEA STANDARDS

Exploring worlds through data

Three PLD sessions allow 2-3 hours for each one

- <u>Sample-to-population inference</u>
- Probability modelling
- <u>Prediction</u>

<u>2010 Statistics teachers day</u> Initial work on making the call - still relevant <u>Developing Students' Inferential Reasoning - CensusAtSchool New Zealand</u>

Includes workshop plan, all materials

• Making the call Yr 11 - CensusAtSchool New Zealand

Year 12

Year 13

Statistical Investigations Archives - CensusAtSchool New Zealand

- Experiments Archives CensusAtSchool New Zealand
- <u>Time Series Archives CensusAtSchool New Zealand</u>
- <u>Relationships Archives CensusAtSchool New Zealand</u>
- <u>Comparisons Archives CensusAtSchool New Zealand</u>

Statistical Literacy Archives - CensusAtSchool New Zealand

Probability Archives - CensusAtSchool New Zealand

- Probability Distributions Archives CensusAtSchool New Zealand
- <u>Calculating Probabilities Archives CensusAtSchool New Zealand</u>