Statistical Investigation

Statistical investigation is part of an information gathering and learning process which is undertaken to seek meaning from and to learn more about observed phenomena as well as to inform decisions and actions. The ultimate goal of statistical investigation is to learn more about a real world situation and to expand the body of contextual knowledge.

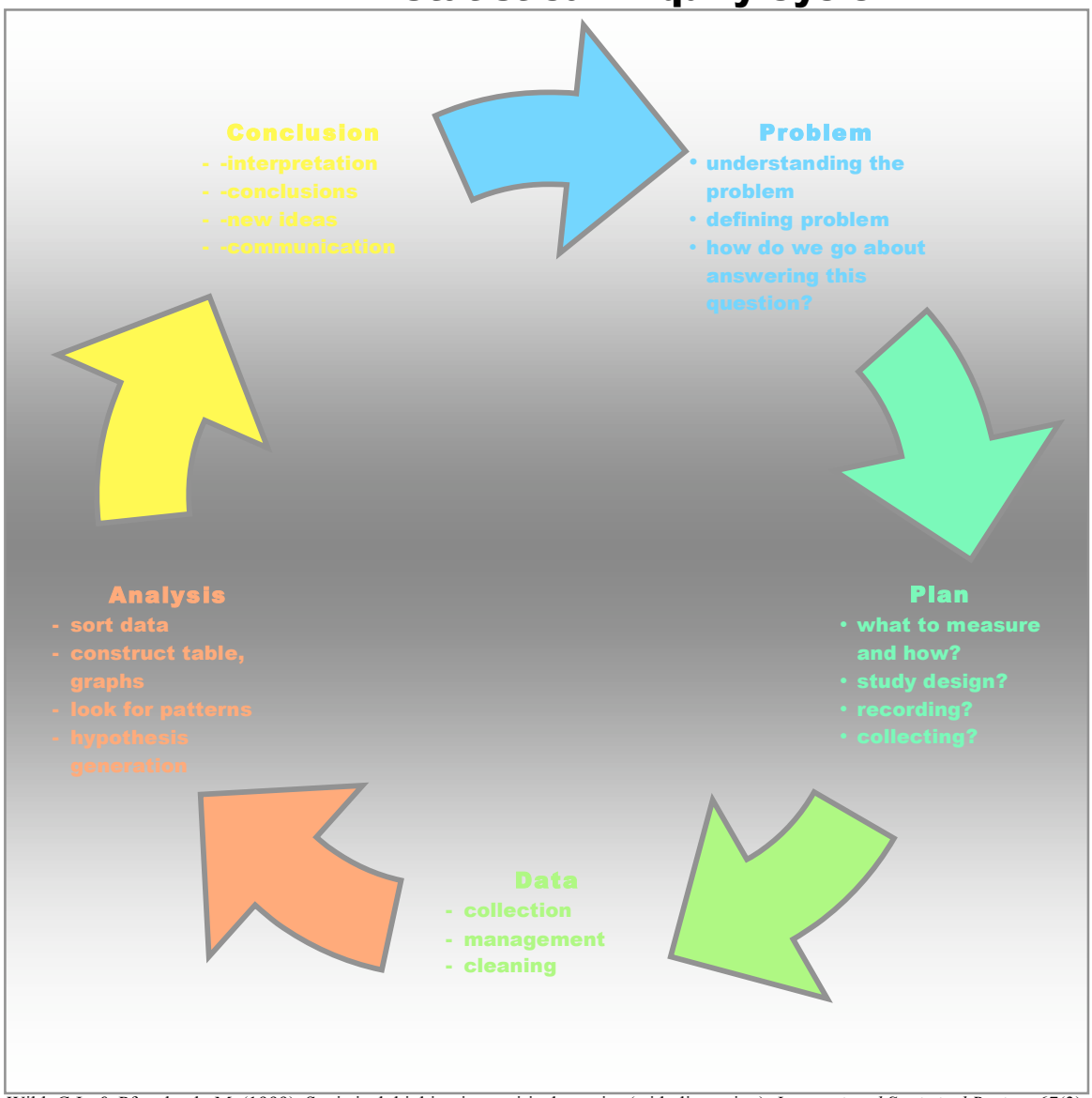
A scientific method is used for a statistical investigation since it is concerned with empirical data. The investigation is conducted using a statistical enquiry cycle. The cycle defines the way one acts and what one thinks about during the course of a statistical investigation (Wild & Pfannkuch, 1999).

The PPDAC (Problem, Plan, Data, Analysis, Conclusion) cycle used for the CensusAtSchool resources is designed to emphasise the statistical aspects of empirical problem solving.

- Problem – the statement of the research questions
- Plan – planning the procedures used to carry out the study
- Data – the data collection process
- Analysis – the summaries and analyses of the data to answer the questions posed
- Conclusion – the conclusions about what has been learned.

The new draft Mathematics and Statistics curriculum (www.cmp.ac.nz) has also adopted this approach for statistical investigation.

Statistical Enquiry Cycle



Wild, C.J., & Pfannkuch, M. (1999). Statistical thinking in empirical enquiry (with discussion). *International Statistical Review*, 67(3), 223-265.