

## Carry out a statistical research project in a State sector context

**Level** 5

**Credits** 16

**Purpose** This unit standard is for people who are employed in the State sector in positions where they are required to interpret statistical data and report the results of their research.

People credited with this unit standard are able to: plan and carry out a statistical research project, prepare and communicate the research report, and evaluate the research project.

**Subfield** Public Sector Services

**Domain** Public Sector Core Skills

**Status** Registered

**Status date** 21 November 2008

**Date version published** 21 November 2008

**Planned review date** 31 December 2013

**Entry information** Open.

**Accreditation** Evaluation of documentation and visit by NZQA and industry.

**Standard setting body (SSB)** A centrally established and directed national moderation system has been set up by Learning State (trading name of the Public Sector Training Organisation)

**Accreditation and Moderation Action Plan (AMAP) reference** 0121

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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## Special notes

### 1 Statistical research and analysis

The research and analysis carried out for the statistical research project may include but is not limited to:

- confidence intervals on single mean or proportion;
- relationships between pairs of categorical variables;
- contingency tables for two categorical variables;
- row and/or column percentages for two categorical variables;
- chi squared test on two categorical variables;
- parametric hypothesis test on two paired or independent groups (eg t-test);
- non-parametric hypothesis test on two paired or independent groups (eg Signed Rank, Mann Whitney U);
- relationships between pairs of numeric variables;
- calculation of linear relationships between variables (eg correlation and regression coefficients).

### 2 Definition

*Research methodologies* may be qualitative as well as quantitative. Methods of gathering information and evidence include listening or interviewing respondents, observing behaviour, or examining written documentation, records, legislation, and case law.

### 3 Legislation relevant to this unit standard includes Privacy Act 1993, Official Information Act 1982, State Sector Act 1988, Statistics Act 1975.

### 4 This unit standard must be assessed against in a State sector workplace environment.

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## Elements and performance criteria

### Element 1

Plan a statistical research project.

#### Performance criteria

- 1.1 The purpose of the research is specified, and research objectives developed are consistent with the purpose.
- 1.2 Research design and planning is consistent with the research objectives, and is in accordance with legal, ethical, and organisational requirements.
- 1.3 Research plan identifies the organisational context and outlines the research procedures to be used.

Range research procedures may include but are not limited to – information sources, sampling methods, statistical analysis methods.

- 1.4 Research methodologies are selected and outlined to meet research objectives, provide information and data relevant to the research project and achieve reliable and valid findings.

## **Element 2**

Carry out a statistical research project.

### **Performance criteria**

- 2.1 Information and data sources are determined in accordance with the research plan.
- 2.2 Research data is collected and collated in accordance with the research plan.
- 2.3 Research data is analysed and interpreted to identify facts, issues, patterns, interrelationships, and trends in accordance with the research plan.
- 2.4 Analysis and interpretation of research data is consistent with the information collected and research methodologies employed.
- 2.5 Research findings are evaluated and explained in relation to the specified research objectives.
- 2.6 Identified research analysis and interpretation procedures ensure reliability and validity of research results.

## **Element 3**

Prepare and communicate the research report.

### **Performance criteria**

- 3.1 Research report produced is consistent with research objectives, provides timely and accurate analysis, and meets organisational requirements in terms of research standards.
- 3.2 Research report provides clear and accurate analysis of the information and data and the recommendations and/or conclusions are supported by the research findings.
- 3.3 Reporting of results of analysis of information is logically sequenced, concise and clear, incorporates predictions, assumptions, and identifies limitations.
- 3.4 Methods of presentation and reporting of research findings are appropriate for the research results and the needs of the recipients of the information, and meet organisational reporting and presentation standards.

## Element 4

Evaluate the research project.

### Performance criteria

4.1 Evaluation identifies strengths and weaknesses of the research project.

Range may include but is not limited to - sampling design, response rate, imputation methods, assumptions made, methods of analysis, data quality, statistical integrity, suitability for purpose, method of presentation.

4.2 Research report is evaluated in terms of the purpose and research objectives in accordance with the research plan.

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### Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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### Comments on this unit standard

Please contact the Learning State [qualifications@learningstate.govt.nz](mailto:qualifications@learningstate.govt.nz) if you wish to suggest changes to the content of this unit standard.