



Australian Government

Department of Education, Employment and Workplace Relations

PSPGOV524A Interpret data and related statistics

Revision Number: 3

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Modification History

Release	TP Version	Comments
3	PSP12V1	Unit descriptor edited.
2	PSP04V4.2	Layout adjusted. No changes to content.
1	PSP04V4.1	Primary release.

Unit Descriptor

This unit covers the interpretation of data and related statistics. It includes interpreting graphs or tables, interpreting data and its summarised highlights, interpreting a range of official statistics in a policy environment, presenting statistical results and guiding others in the interpretation of data.

In practice, interpreting data and related statistics may overlap with other generalist or specialist public sector work activities such as acting ethically, complying with legislation, working safely, conducting research and analysis, etc.

This is one of 5 units of competency in the *Working in Government* Competency Field that deal with statistics. Related units are:

- PSPGOV520A Scope statistical data collection
- PSPGOV521A Collect statistical data
- PSPGOV522A Process statistical data
- PSPGOV523A Interrogate and analyse statistical data

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements are the essential outcomes of the unit of competency. Together, performance criteria specify the requirements for competent performance. Text in ***bold italics*** is explained in the Range Statement following.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret a graph or table	1.1 Reports based on the data are written which identify relevant relationships within the data. 1.2 Row and column percentages are calculated from a table. 1.3 A table/graph is interpreted in accordance with data reflected.
2. Interpret data and its summarised highlights	2.1 Data summaries and trends are defined and explained in a manner suited to the audience. 2.2 Survey data is interpreted according to accepted standards . 2.3 Data is interpreted and its highlights are summarised. 2.4 Interpretation is verified with a suitably qualified person.
3. Interpret a range of official statistics in a policy environment	3.1 Data summaries and trends are identified and explained. 3.2 Statistical tests are interpreted and this interpretation explained. 3.3 The sampling method/survey design is critiqued. 3.4 Interpretation of the data is undertaken in such a way as to inform decision making. 3.5 Interpretation is verified with a suitably qualified person. 3.6 The shortcomings of statistical applications in the policy environment are identified.
4. Present statistical results	4.1 Data is presented in tables, charts and maps so that the reader does not misconstrue it. 4.2 Glossaries, technical notes and referencing are included where required. 4.3 Reports that include statistical concepts , tables, charts and maps are prepared and presented in accordance with organisational policy and procedures. 4.4 Findings are presented in a way that is most appropriate for the audience. 4.5 Charts are used appropriately in presentations for the variables being charted and conform to accepted standards .
5. Guide others in the interpretation of data	5.1 Data summaries and trends are clearly defined and communicated to staff involved in the project. 5.2 Report findings are presented in a way that is most appropriate for the audience. 5.3 The assumptions on which the interpretation is based are communicated in accordance with audience needs.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Skill requirements

Look for evidence that confirms skills in:

- applying legislation, regulations and policies relating to statistical work
- explaining the results of an analysis in writing
- constructing graphs, tables and maps using software
- using presentation software
- communicating with diverse audiences including explaining, interpreting, presenting results
- responding to diversity, including gender and disability
- applying procedures relating to occupational health and safety and environment in the context of statistical interpretation

Knowledge requirements

Look for evidence that confirms knowledge and understanding of:

- legislation, regulations, policies, procedures and guidelines relating to statistical work
- summary statistics
- statistical tests and related assumptions
- different methodologies and related assumptions
- the quality of a statistic
- sources of error including standard error
- data collection methodologies
- sources of expertise within the organisation
- 'how numbers relate' or the associations between statistics
- the ethical issues associated with presenting statistical results
- intellectual property issues and how they might relate to the data
- confidentiality issues relating to the data
- relevant style manuals
- equal employment opportunity, equity and diversity principles
- public sector legislation such as occupational health and safety and environment in the context of statistical work

Evidence Guide

The Evidence Guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the Unit descriptor, Performance Criteria, the Range Statement and the Assessment Guidelines for the Public Sector Training Package.

Units to be assessed together

- *Pre-requisite* units that must be achieved prior to this unit: *Nil*
- *Co-requisite* units that must be assessed with this unit: *Nil*
- *Co-assessed units* that may be assessed with this unit to increase the efficiency and realism of the assessment process include, but are not limited to:
 - PSPETHC501B Promote the values and ethos of public service
 - PSPGOV503B Coordinate resource allocation and usage
 - PSPGOV504B Undertake research and analysis
 - PSPGOV520A Scope statistical data collection
 - PSPGOV521A Collect statistical data
 - PSPGOV522A Process statistical data
 - PSPGOV523A Interrogate and analyse statistical data
 - PSPLEGN501B Promote compliance with legislation in the public sector

Overview of evidence requirements

In addition to integrated demonstration of the elements and their related performance criteria, look for evidence that confirms:

- the knowledge requirements of this unit
- the skill requirements of this unit
- application of Employability Skills as they relate to this unit
- interpretation of data and related statistics in a range of (3 or more) contexts (or occasions, over time)

Resources required to carry out assessment

These resources include:

- legislation, policy, procedures and protocols relating to interpretation of statistics
- tools/equipment for interpreting and explaining statistics
- case studies and workplace scenarios to capture the range of situations likely to be encountered when undertaking statistical interpretation

Where and how to assess evidence

Valid assessment of this unit requires:

- a workplace environment or one that closely resembles normal work practice and replicates the range of conditions likely to be encountered when interpreting data and related statistics, including coping with difficulties, irregularities and breakdowns in routine
- interpretation of data and related statistics in a range of (3 or

more) contexts (or occasions, over time).

Assessment methods should reflect workplace demands, such as literacy, and the needs of particular groups, such as:

- people with disabilities
- people from culturally and linguistically diverse backgrounds
- Aboriginal and Torres Strait Islander people
- women
- young people
- older people
- people in rural and remote locations.

Assessment methods suitable for valid and reliable assessment of this competency may include, but are not limited to, a combination of 2 or more of:

- case studies
- demonstration
- portfolios
- projects
- questioning
- scenarios
- simulation or role plays
- authenticated evidence from the workplace and/or training courses

For consistency of assessment

Evidence must be gathered over time in a range of contexts to ensure the person can achieve the unit outcome and/or apply the competency in different situations or environments

Range Statement

The Range Statement provides information about the context in which the unit of competency is carried out. The variables cater for differences between States and Territories and the Commonwealth, and between organisations and workplaces. They allow for different work requirements, work practices and knowledge. The Range Statement also provides a focus for assessment. It relates to the unit as a whole. Text in ***bold italics*** in the Performance Criteria is explained here.

<i>Accepted standards</i> for survey data may include:	• showing awareness of data accuracy and reliability • identifying other related issues, such as sample size
<i>Statistical tests</i> include:	• equivalence of means and proportions • tests of association and prediction
Data <i>presentation</i> may include:	• the use of footnotes, caveats and references
<i>Statistical concepts</i> include:	• the results of statistical tests • trends over time • statistical associations • variability • sampling error
<i>Presentation of findings</i> may include:	• a mix of text, tables, charts, maps etc
<i>Accepted standards for charts</i> may include:	• appropriately labelled • appropriate scale selection • clear formatting

Unit Sector(s)

Not applicable.

Competency field

Working in Government.