

COLLECT AND MANAGE RESEARCH DATA

UNIT CODE: MATH/OS/AS/CR/02/6/A

Unit description

This unit specifies the competencies required to collect and manage research data. It involves, preparing data collection tools and equipment, selecting a representative sample, carrying out data collection, preparing code book, entering research data/merging to servers, performing data clean-up, developing, and storing data source files.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
1. Prepare data collection tools and equipment	1.1 <i>Data collection tools</i> are printed and stapled as per the number of respondents. 1.2 Stationeries and other material are procured and organized as per the workplace procedures.
2. Select a representative sample	2.1 The representative sample is determined as per the statistical procedure 2.2 The representative sample is selected as per the research methods
3. Carry out data collection	3.1 Use of proposed research design is demonstrated as per the research proposal. 3.2 Knowledge of data ethics and confidentiality is demonstrated as per the procedure. 3.3 Knowledge of law and human rights as well as religious and cultural believes is demonstrated as per the research. 3.4 Data collection is done as per the set research design.
4. Prepare code book	4.1 Codes are prepared as per the variable and responses. 4.2 The codebook is prepared as per the codes. 4.3 Code book is tested as per the available data

5. Enter research data/Upload to servers	<p>5.1 The data is captured in the codebook as per the data collection tool.</p> <p>5.2 The serial number in the codebook is recorded on the face of the questionnaire as it appears on the codebook.</p> <p>5.3 Data entered is stored as per the organisation procedures.</p>
6. Perform data clean-up	<p>6.1 The raw <i>data clean-up</i> is done to as per the procedures.</p> <p>6.2 Ensuring that raw data is consistent with expectations and reasonable ranges is done as per the procedures.</p> <p>6.3 Missing data variables and errors are handled as per the procedures.</p>
7. Store data source files	<p>7.1 Data source files are filled, labelled and coded as per the workplace filling procedures</p> <p>7.2 The data source files are stored as per the organisation procedure.</p>

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Data collection tools may include but is not limited to:	<ul style="list-style-type: none"> • Questionnaires • Emails • Call records • Lists • Measurement tools • Interview records etc.
2. Data collection may include but is not limited to:	<ul style="list-style-type: none"> • Observation • Using a questionnaire • Measurements • Counting etc.

3. Data clean-up may include but is not limited to	<ul style="list-style-type: none"> • Handling missing data • Handling outliers • Handling outliers etc.
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REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Organisational skills
- Problem solving skills
- Communication skills
- Leadership skills
- Confidentiality
- Data collection skills
- ICT literacy skills
- Report writing skills
- Use of Internet

Required Knowledge

The individual needs to demonstrate knowledge of:

- Organization work procedure and processes
- Law relating to confidentiality of research data
- Research methods
- research design
- data ethics and procedures
- laws and human rights
- sampling
- data storage
- data cleaning
- data entry
- data coding
- data collection methods

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Demonstrated knowledge of Research design 1.2 Demonstrated data collection skills 1.3 Developed a code book as per the variables in the data collection tool 1.4 Entered research data as per the responses in the collection tool 1.5 Performed data clean-up as per the procedure 1.6 Stored the entered data as per the organisation procedures 1.7 Demonstrate knowledge of sampling skills
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Printers 2.2 Computer 2.3 Means of transport 2.4 Stationary 2.5 Internet 2.6 Telephone 2.7 Reagents for clinical and biological data 2.8 Appropriate apparatus and equipment for experimental data
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Portfolio Assessment 3.2 Interview 3.3 Case Study/Situation 3.4 Practical Tests 3.5 Oral questioning
4. Context of Assessment	<p>4.1 Competency may be assessed on the job, off the job or a combination of these or during Industrial Attachment.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>