Australian Government

Department of Education, Employment and Workplace Relations

MSACMG712A Lead a problem solving process to determine and solve root cause

Revision Number: 1

MSACMG712A Lead a problem solving process to determine and solve root cause

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers guiding or leading a problem solving process to solve complex and/or unusual problems. The problem solving process will usually involve the use of either real or nominal groups to determine the root cause and propose the solution.

Application of the Unit

Application of the unit	This unit will typically be undertaken by managers and/or technical experts. In a typical scenario, a manager or technical expert will be confronted by a complex problem to which they need to develop a solution. The problem may be related to any area or process within the enterprise or in the value chain. The person may or may not have the required technical expertise for the particular problem, although the problem will require technical expertise to be solved. The problem may be capable of being adequately defined at the beginning of the problem solving activity, or may be progressively defined through continued iterations of the problem solving activity.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Recognise complex problem	1.1. Identify a complex issue which needs to be addressed 1.2. Undertake an initial investigation of the issue 1.3. Determine initial areas of expertise and data which may be required to analyse the problem 1.4. Develop an initial definition of the problem
2. Develop problem solving methodology	2.1. Draft a problem solving methodology 2.2. Develop required approaches and protocols for obtaining required data and information 2.3. Establish group to assist with problem solving 2.4. Allocate tasks, responsibilities and reporting arrangements to group 2.5. Develop arrangements for consultation with required people outside of group
3. Analyse problem	3.1. Apply methodology 3.2. Obtain data/information 3.3. Review problem definition 3.4. Review methodology 3.5. Obtain additional data/information as required
4. Identify root cause	4.1. Map causal links for the problem 4.2. Determine indicators of the problem or the problem precursors 4.3. Identify causes which can be controlled/brought under control
5. Develop a solution	5.1. Develop solutions for controllable causes 5.2. Determine benefit/cost for proposed solutions 5.3. Investigate proposed solutions for efficacy 5.4. Select the best available solution 5.5. Obtain necessary support and authorisations for proposed solution 5.6. Initiate the implementation of the solution
6. Check problem is solved and standardised	6.1. Monitor indicators of problem/problem precursor 6.2. Review problem solution/implementation as required 6.3. Ensure appropriate solution is standardised

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- ability to cooperate and work with others, both internally and externally to the work group
- analysis and planning
- data interpretation and application skills
- communication skills (both receiving and sending communications)
- problem solving and prioritising

Required knowledge

- understanding of thetechniques and methodologies of problem solving
- data required for problem solving
- alternative/proxy data sources
- benefit/cost analysis
- root cause analysis
- problem solving tools and techniques

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Demonstrates skills and knowledge required to: • undertake complex problem identification • establish appropriate methodologies, including establishing team responsibilities, to achieve root cause identification • propose and implement solutions that can be standardised.
Context of and specific resources for assessment	Assessment may occur on the job or in an appropriately simulated environment. Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.
Method of assessment	• Assessment must satisfy the endorsed assessment guidelines of the Manufacturing Training Package. • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge. • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application. • Assessment may be applied under project related conditions (real or simulated) and require evidence of process. • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred

EVIDENCE GUIDE	
	to other circumstances. • Assessment may be in conjunction with assessment of other units of competency where required.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Complex problem	A complex problem may be described as one which has several of the following characteristics:
	• requires going into the value chain for data/information
	• is wider than just applying to a single job
	• applies to less common solutions or problems
	• requires a higher level of knowledge and skill (which may or may not be possessed directly by the person solving the problem) such as:
	  • significant specialist knowledge
	  • significant specialist skill
	  • more theory/understanding of technology or process
	• data is not easily available and may need particular strategies to obtain such as:
	  • overcoming resistance from people including employees, customers or suppliers
	  • extracting data not regularly reported from systems control and data acquisition (SCADA) or similar systems
	  • the problem and/or proposed solutions require reporting or authorisations from a Board or external authorities such as licensing or regulatory bodies

Problem recognition	The problem recognition may include: • an obvious and current complex problem • an intractable problem which has been known about and 'lived with' for some time • a complex problem which has not been previously recognised The problem may, or may not be capable of complete definition at the start of the problem

RANGE STATEMENT	
	solving process (so requiring an iterative process)
Problem solving methodology	Problem solving methodology may include: • cross functional problem solving team • cross functional nominal group (virtual team) • members from outside the organisation on some basis • input from other members of the value chain • the use of known/proprietary problem solving approaches or some synthesis of methods • commissioned research either in whole or in part
Group	Problem will be such that it is beyond the scope of an individual to solve and so a group is required. The group may be: • real (i.e. physical, face-to-face) • nominal (i.e. never meets and may not know who each other is) • or any combination in between
Solution efficacy	Checking solution efficacy includes: • ensuring the solution breaks the causal tree • checking that other causes are not able to cause the problem • benefit/cost ratio • ease of implementation • permanence of solution
Solution standardisation	Standardisation of a solution solves the problem and should include all relevant standards within the organisation including: • standard operating procedures/work instructions • actual work practice • maintenance manuals and similar • product and/or process specifications

Unit Sector(s)

Unit sector	CM Graduate

Competency field

Competency field	

Co-requisite units

Co-requisite units		