

Unit 388 Creative Problem Solving Level 3

Credit value 5

Rationale

The aim of this unit is to enable candidates to understand the process of analysing a problem and providing a solution. Candidates will develop the skills to write a problem statement, generate, select and evaluate possible solutions and plan for successful implementation.

There are 3 outcomes to this unit. The candidate will be able to:

1. Identify and analyse the problem
2. Plan, monitor and evaluate a problem solution
3. Review their approach to problem solving and the proposed problem solution

Guided learning hours

The recommended guided learning hours for this unit are 30 hours.

Connections with other awards

NVQ links	Outcome	This award contributes to the knowledge and understanding of the following Areas of Occupational Competence for the City & Guilds NVQ for IT Professionals (4324)
306	1, 2, 3, 6	Investigating and defining requirements 3

Key Skills links

Communication	C1.3
Application of Number	N1.1
Information technology	IT1.1, IT1.2, IT1.3
Working with others	None
Improving own learning	LP3.1, LP3.2, LP3.3
Problem solving	PS3.1, PS3.2, PS3.3

Assessment

Assessment will be by means of a set assignment covering practical activities and underpinning knowledge.

Outcome 1: Identify and analyse the problem

Practical activities

The candidate will be able to:

1. select and use a technique to obtain information on a problem
2. provide solution criteria
3. create a problem statement
4. create an impact statement using time, cost, personnel issues
5. select and use analysis techniques to look at causes and potential solutions to problems:
 - diagrammatic representation
 - Why? Why? Why?
 - Ishikawa (Fishbone) Diagrams
 - creative thinking techniques such as paradigm shifting and busting
6. compare the main features and risks of each possible solution to:
 - create an evaluation grid (benefits vs. effort) to assess best solution
 - create a benefits vs. concerns table to assess if that solution could be implemented
7. Use tools like BOSCARD to make clear what is required (Background, Objectives, Scope, Constraints, Reporting, Roles and Responsibilities, Deliverables).

Underpinning knowledge

The candidate will be able to:

1. describe techniques for obtaining information
 - brainstorming
 - facilitation techniques – including nominal group technique (notes on a flipchart)
 - De Bono's 6 thinking hats
 - 10 decision making traps – according to Russo and Shoemaker
2. explain the process of creating a problem statement
 - defining the problem by simplifying
 - broadening the focus
 - reframing and comparing with other problems
3. explain the difference between the problem, possible causes and potential solutions
4. describe the 4M's - Manpower, Method, Machinery, Material and the 4P's and an E - People, Politics, Procedures, Plant and Environment

5. describe various techniques for thinking in more unusual ways to be creative - paper clip,
6. explain how force field analysis would extend the benefits vs. concerns analysis for a larger or more costly solution
7. explain McKinsey's 7 S model (Strategy, Structure, Systems, Staff, Shared Values, Style, Skills) and how one change will affect the others within an organisation.

Outcome 2: Plan, monitor and evaluate a problem solution

Practical activities

The candidate will be able to:

1. identify the steps to solve the problem using their preferred solution
2. use diagrammatic representations, Gantt charts or similar techniques to plan the solution implementation
3. present the solution to a line manager or experienced person to:
 - gain acceptance
 - gain feedback
 - decide on reporting method / timeframes
4. collect data around the problem by:
 - interviewing
 - sampling
 - surveying
 - using Tally Sheets
 - benchmarking
5. analyse data collected using:
 - Critical Review
 - Pareto Analysis
6. monitor and evaluate progress as the implementation progresses
7. plan tasks in a chronological and logical order
8. justify the solution to the decision maker
9. log results in a systematic and consistent manner

Underpinning knowledge

The candidate will be able to:

1. explain the process of using questions that start off broad and become more specific until they finally reach a conclusion

Outcome 3: Review their approach to problem solving and the proposed problem solution

Practical activities

The candidate will be able to:

1. check if the problem has been solved by gathering and comparing data to benchmarked data
2. assess whether the solution met the original criteria for the problem to be deemed solved
3. create a logical and easily understood document / presentation showing the results and the degree of success in solving the problem
4. create a summary of lessons learned to apply to the next problem including
 - what went well – correct team members recruited, positive attitude, solution works, satisfied stakeholders
 - 'even more effective if' statements – wider consultation, tried different methods, checked figures earlier, communicated better with stakeholders concerning the solution
5. create a summary of lessons learned for the solution, concerning the approach used in the problem solving process including
 - what went well – correct team members recruited, positive attitude, solution works, satisfied stakeholders
 - 'even more effective if' statements – wider consultation, tried different methods, checked figures earlier, communicated better with stakeholders
6. run a review session that:
 - shows the problem was solved (or not) with reference to the original criteria
 - agrees next steps regarding the problem if necessary, or gain acceptance from sponsors

Underpinning knowledge

The candidate will be able to:

1. explain the sign off and acceptance process
2. explain the importance of acquiring feedback about the problem solving process so that the lessons learnt can be applied to the next problem