Specification of Competency Standards for ICT Operation and Support

Unit of Competency

Functional Area: Core Skills

<table>
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<th>Title</th>
<th>Understand the principle of troubleshooting</th>
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Range
This unit of competency applies to all IT personnel who are involved in production work such as: technical support, software development, system installation, etc. There are many kinds of troubleshooting, including: configuration troubleshooting, program troubleshooting (debugging), system troubleshooting, network troubleshooting, etc. The specific troubleshooting that required specialised technical skills will be covered elsewhere. This UoC is concerned with general principles of troubleshooting which illustrates the common competencies for troubleshooting.

Level 1
Credit 3

Competency Performance Requirements
1. Knowledge for understanding the principle of troubleshooting
   - Possess good literacy skills that can read various product technical manuals, work instructions, work procedures, organisational guidelines and procedure, etc.
   - Possess basic communications for liaising with users or vendors
   - Possess logical thinking and diagnostic skills
   - Possess basic knowledge of hardware, OS and system scripting
   - Possess basic knowledge of Occupational Safety procedures

2. Understand the principle of troubleshooting
   - Understand the problem from:
     - User
     - Program result
     - Problem log/report
     - Symptoms
   - Understand the importance to verify the problem actually does exist using combination of techniques including but not limited to the following:
     - Reproduce the problem
     - Systematic questioning user
     - Apply tools to detect the problem
     - Study reports and event logs
     - Analyse error messages
   - Understand the use of different techniques to perform fault finding and produce a list of probable causes, including but not limited to the following:
     - Visual checks
     - Use fault finding tools to collect and analyse data
     - Analyse the logic of software against program design
     - Program testing
   - Understand the next step is planning to resolve problems including making provision for rollback when applied solution fails to correct the problem

3. Exhibit professionalism
   - Committed to resolve problems
   - Follow organisation safety guidelines and procedures when troubleshooting and/or performing rectification of equipment
### Functional Area: Core Skills

| Assessment Criteria | The integrated outcome requirements of this UoC are the abilities to:  
|                    | - Understand the principle of troubleshooting and can systematically follow troubleshooting steps to verify and locate the problems  
|                    | - Understand that solutions can only be offered when one can correctly diagnose the probable cause of the problem |
| Remark             |