Session 4.0: Certification Scheme

14 December 2017
Components of a Competence Based Certification Program
Determine Knowledge, Skills, Attributes (KSAs)

- Job/Task Analysis or Practice Analysis
  - Identify Tasks
  - Identify KSAs

- Content Outline

- Survey validation
First step
Defining the Competencies

Certification Program Examination Development and Administration

Need for Credential?

Yes

Job/Task Analysis
Conducted or Updated

Job and Tasks Identified

Knowledge and Skills Identified

Survey Validation of JTA Results

Content Outline Developed

Exam Blueprint or Test Outline Developed

No

14 December 2017
Job Analysis
Job Analysis

- Job Analysis – method(s) used to identify the tasks and associated competence.
  - Note 1 to entry – Methods generally involved analysis of the associated tasks, knowledge, skills or abilities that constitute competence as required by the scope of work.
  - Note 2 to entry – Job analysis provides the basis for the validity of any assessments used in issuing credentials.
  - Note 3 to entry – Other terms for job analysis are job-task analysis, practice analysis, performance analysis and role-delineation study.

- From ISO/IEC 17027: Conformity assessment – Vocabulary related to competence of persons used for certification of persons
JTA Focus Group Meetings
## Accreditation Assessor JTA

<table>
<thead>
<tr>
<th>Group</th>
<th>Region</th>
<th>Personal Qualities</th>
<th>University Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asia/Pacific</td>
<td>Europe</td>
<td>Americas</td>
</tr>
<tr>
<td>Assessors (7 total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 17020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 17021</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 17024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 15189</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 17065 – Guide 65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 14065</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with 17025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Assessor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Lead Assessor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 Years of Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10 Years of Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 10 Years of Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trainer of Assessors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB Representatives (5 total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manages accreditation process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makes accreditation decision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAB Representatives (5 total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interfaces with ABs across many standards</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*14 December 2017*
IDENTIFY TASKS AND COMPETENCIES
Survey

Indicate your behaviour by ticking the appropriate

How many of your car journeys involve

Never
Task list and Competencies Available

Accreditation Body (AB) Assessor Specifications and Content Outline

Job Description: An assessor is an individual who performs an assessment of a conformity assessment body (CAB) for an accreditation body (AB) against an accreditation standard or normative document by reviewing documents and conducting onsite visits and/or observing conformity assessment body (CAB) activities.

<table>
<thead>
<tr>
<th>Domains/Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain I: Planning Assessment Activities</td>
</tr>
<tr>
<td>Task 1: Determine and/or Confirm Assessment Resource Needs</td>
</tr>
<tr>
<td>Task 2: Create the Assessment Plan</td>
</tr>
<tr>
<td>Domain II: Conducting a Document Review</td>
</tr>
<tr>
<td>Task 1: Review the Accreditation Application</td>
</tr>
<tr>
<td>Task 2: Assess the Conformity Assessment Body (CAB) Documents</td>
</tr>
<tr>
<td>Domain III: Conducting an Onsite Assessment (Office, Witness, Inspection, Surveillance, Re-accreditation)</td>
</tr>
<tr>
<td>Task 1: Conduct an opening Meeting</td>
</tr>
<tr>
<td>Task 2: Assess the Competence of the Conformity Assessment Body (CAB) against Accreditation Requirements</td>
</tr>
<tr>
<td>Task 3: Conduct Preparatory Meetings</td>
</tr>
<tr>
<td>Task 4: Conduct a Closing Meeting</td>
</tr>
<tr>
<td>Task 5: Create a Written Assessment Report (draft, final, interim, summary, etc.)</td>
</tr>
<tr>
<td>Domain IV: Conducting Post Onsite and Reporting Activities</td>
</tr>
<tr>
<td>Task 1: Communicate with the Accreditation Body (AB)</td>
</tr>
<tr>
<td>Task 2: Verify the Effectiveness of the Corrective Actions</td>
</tr>
<tr>
<td>Domain V: Developing Professional Competence (knowledge, skills and abilities)</td>
</tr>
<tr>
<td>Task 1: Demonstrate Professional Behaviors</td>
</tr>
</tbody>
</table>
Develop Examination Blueprints or Specifications

- Examination blueprint or specifications
- Item Specifications (Types of test items, performance prompts, essay questions, MC questions, etc.)
- References
- Assessment type
- Assessment format
Determine Eligibility Criteria

- Sufficient so that candidate has fair opportunity for success
- Not unduly or unnecessarily restrictive
- Place qualifications you will not be measuring during the examination process
- Must be based on data/criteria
Develop Objective Assessment Process

- Determine best way to objectively measure competence of candidate against the KSAs identified during the Job/Task Analysis process.
Develop Test Questions

- Performance Prompts
- Scoring Rubrics
- Multiple Choice items
- Item Banking systems
Norm Referenced Examination
Criterion Referenced Examination
Develop the Assessment
DOES YOUR EXAMINATION MEASURE WHAT YOU THINK IT MEASURES?
3. Find x.

Here it is
4c) Expand

\[(a+b)^n = (a+b)^n\]

etc.
Develop Test forms

- Create Forms
- Establish passing standard
- Standardize graders/raters
- Equate additional forms
Passing Score Study

14 December
2017
Create Administration policies and Procedures

- Paper vs computer
- Windows vs open
- Exam site conditions (manual)
- Instructions for administrators and proctors
- Allowed/not allowed materials
Create Program Policies and Procedures

- Eligibility policies and procedures
- Recertification policies and procedures
- Retake policies and procedures
- Ethics policies and procedures
- Disciplinary policies and procedures
Post-Examination Processes

- Item Analyses
- Candidate comments
- Poorly performing items
- Regrades/rescores
- QC checks of process
Update Item Banks

- Statistics
- Edits
- Create new forms
- Create new items
- Update references
Defend Certification Program

- Defend exams
- Candidate review policies and procedures
- Conduct candidate reviews
Respond to complaints and issues

- Respond to complaints
Competence is not . . .

- Completion of a training/education program.
- Providing evidence of work experience.
- Qualifications provided.

- Competence can only be determined by objective verification.
How to develop schemes for the certification of persons

ISO CASCO Scheme Document

Guidance of ISO/IEC 17024
Certification Scheme

8.1 There must be a certification scheme for EACH category of certification.
Certification Scheme Must Contain the Following:

8.2.a Scope of certification
8.2.b Job and task description
8.2.c Required competence
8.2.d Abilities (when applicable)
8.2.e Prerequisites (when applicable)
8.2.f Code of conduct (when applicable)

NOTE 1 A code of conduct describes the ethical or personal behaviours required by the scheme.
NOTE 2 Abilities can include physical capabilities such as vision, hearing, mobility.
Certification Scheme Must Include the Following

8.3.a Criteria for initial certification and recertification
8.3.b Assessment methods for initial certification and recertification
8.3.c Surveillance methods and criteria (if applicable)
8.3.d Criteria for suspending and withdrawing certification
8.3.e Criteria for changing the scope or level of certification (if applicable)
The Development of the Scheme Must Include:

8.4.a the involvement of appropriate experts

8.4.b the use of an appropriate structure that fairly represents the interests of all parties significantly concerned, without any interest predominating

8.4.c the identification and alignment of prerequisites, if applicable, with the competence requirements

8.4.d the identification and alignment of the assessment mechanisms with the competence requirements
The Development of the Scheme Must Include:

8.4.e a job or practice analysis that is conducted and updated to identify the tasks for successful performance, identify the required competence for each task, identify prerequisites (if applicable), confirm the assessment mechanisms and examination content, identify the re-certification requirements and interval.

NOTE Where the certification scheme has been developed by an entity other than by the certification body, the job or practice analysis might already be available as part of that work. In this case, the certification body can obtain details from the scheme documentation for verification.
Scheme Requirements

8.5 The certification body shall ensure the certification scheme is reviewed and validated on an on-going systematic basis.

8.6 When the certification body is not the scheme owner of a certification scheme it implements, the certification body shall ensure that the requirements contained in Clause 8 of this International Standard are met.
Questions resulting from Survey

- **Clause 8.2 d)** – *Aptitude vs. abilities vs. competence*
  - **Aptitude**: natural tendencies, innate capacity, talent
  - **Ability**: capacity to perform an activity (ISO/IEC 17027: 2.1)
  - **Attribute**: inherent characteristic of a person (example, visual acuity, sensitivity to others, openness) (ISO/IEC 17027: 2.10)
  - **Competence**: ability to apply knowledge and skills to achieve intended results (ISO/IEC 17024: 3.6)
Questions resulting from Survey

- *Role of Scheme Committee*
Questions resulting from Survey

• **Responsibility of the CAB and relationship with external committees**
  
  – CAB is responsible for all external committees that fall within the scope of the scheme (except for external committees that are associated with an external scheme owner)
  
  – However CAB is still responsible to ensure a scheme it uses meets the requirements of Clause 8 regardless if there is an external scheme owner (clause 8.6)
Questions resulting from Survey

• **Definition of a Scheme Owner**
  – Person, organization or body who is the developer and maintains the certification scheme for persons.
  – Could be external to the CAB
  – For example Government or Industry Association
  – NOTE: ISO is not a scheme owner
Questions resulting from Survey

• *Responsibility of Scheme Owner versus Responsibility of CAB*
  
  – Scheme Owner is responsible for the scheme.
  
  – CAB that chooses to use a scheme for which it is not the owner must have permission to use the scheme.
  
  – CAB that chooses to use an externally owned scheme and seeks to meet ISO/IEC 17024 must ensure that the requirements of Clause 8 are met.
Questions resulting from Survey

• *Dealing with Schemes based on ISO or other national standards not meeting Clause 8*
  
  – Clause 8.6 applies in this case (external scheme owner)
  
  – The CAB is still responsible for ensuring that the requirements contained in Clause 8 are met.
  
  – CABs may need to do additional activities to bring the scheme into compliance.
Questions resulting from Survey

• Review and validation of a scheme, Systematic and Ongoing definition
  – Schemes should be updated on some systematic, ongoing basis.
  – Frequency will depend upon the industry/content of the scheme and changes to the industry or practices.
  – IT schemes change very frequency and would need to be updated very often (yearly, etc.) while other schemes such as welding might not change very often so could be updated every 10 years or so.
Questions resulting from Survey

• Certification Schemes with no recertification or extremely long recertification periods
  – No recertification is not allowed.
  – Extremely long recertification periods
    • Recertification should correspond to updates in the scheme
    • How does the CAB ensure the continuing competence of the certified person?
    • If using ongoing surveillance could be acceptable (See 9.6.3).
Questions?