A methodology for AMF Assessments

WMO Workshop on Aeronautical Competencies and SIGMETs
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What is Competency Assessment?

- It is a process of verifying that a worker has the required knowledge and skills to do his or her job
- Must have an established set of standards (international and/or local)
Why is assessment important?

- May be an organizational requirement
- To achieve certification
- To identify training needs
- To determine if a training initiative had value
Background

- Need a process that is:
  - Authentic
  - Repeatable
  - Fair
Conducting a Competency Assessment

- Identify your standards
- Develop your methodology
  - Tools/techniques
  - Assessors
  - Documents
  - Resources
  - Timelines
- Carry out your methodology
- Fine-tune the process for next time
Choosing assessors

Assessors must be:
- Professional
- Fair
- Confidential
- Objective

Assessor training and certification workshops
Competency assessment toolbox

- Experiential questions
- Post-mortem audit
- Direct questions
- Direct observation
- Portfolio evidence
- Examination
- Simulator
Experiential Questions

- Asking questions to assess knowledge based on the experiences of the forecaster

Pros:
- One can glean a lot of information from one well-crafted question
  - Example: What would you do if un-forecast thunderstorms started to develop over your forecast area?
- Can be prepared prior to assessment (example, winter-time phenomena questions during the summer)

Cons:
- Can be difficult to avoid yes/no questions without practice
- Sometimes questions can be leading, which doesn’t truly assess the competency
- Can interfere with the operational work that needs to be done
Post-mortem Audit

- An analysis of previous work from the forecaster (e.g. TAFs, charts)
  - Pros:
    - Easy to maintain objectivity
    - Clear-cut evidence
    - Are the standards respected
  - Cons:
    - Many other competencies not assessed (such as internal/external communication)
    - Time consuming; tedious
Direct Observation

Observing the forecaster at work, in an operational setting

- **Pros:**
  - Can glean a lot of information through observation

- **Cons:**
  - Resource intensive
  - Some processes/routines are internalized; may be difficult to observe the desired competency
  - Can be a distraction for some forecasters (nerves)
Direct Questions

Questions asked that are based directly on the situation during the direct observation

- Pros:
  - Very flexible/adaptable

- Cons:
  - Not natural for every assessor to come up with questions on the spot (no preparation)
  - Can interfere with the work
The assessee can provide an example of his or her work that specifically demonstrates competence for a particular AMF competency standard. A simple template that a forecaster can use for capturing portfolio evidence need to be created.

- **Pros:**
  - Some aspect of self-assessment involved, as the forecaster is gathering, compiling his or her own evidence (builds self-awareness)

- **Cons:**
  - Does not assess every competency
  - Would not be feasible to ask for case studies demonstrating each competency
  - Can be time-consuming (finding time for each forecaster to put together case studies)
Exam

- A traditional tool for assessing knowledge
  - Pros:
    - Every forecaster asked the same questions (fair, repeatable)
    - Once the exam/answer key is established, this tool is not quite as resource-intensive as some of the other tools
  - Cons:
    - Assesses knowledge-base, not skill-base
    - Knowing about something isn’t the same as being able to do something

Image credit: http://www.canadiangovernmentjobs.ca/images/gocwrittenexamsgroups.jpg
Simulator

- To test particular competencies while not on the desk (simulates desk work)
  - Pros:
    - Since the forecaster is not actually producing a product that goes out, the assessment process is less of a distraction
    - Can run similar simulators for all forecasters (repeatable), testing the same competencies
  - Cons:
    - A lot of preparation required
    - Very time-consuming to run for all forecasters in large offices
Convergence of Evidence

- Best to use a variety of tools, rather than to rely on one alone
- Looking for evidence to converge towards one solution
  - Meet the competency or not?
  - If evidence diverges… try another tool/technique to gather more evidence supporting one solution or another
Forecasts must demonstrate that they meet all of AMF competencies

- Post-Mortem
- Direct Assessment
- Results Finalized
Results finalized

- Complete “Final Assessment Form”
  - Competency met or not yet met (37 criteria)
  - Opportunities for improvement and highlights

- Forecaster must meet all AMF competencies to be certified as an AMF
  - If not, a remedial training plan will be developed by a Program Supervisor
Feedback

- Summarize the results
- Ask for feedback
- Maintain confidentiality; be professional
Important links


- [http://www.caem.wmo.int/moodle/](http://www.caem.wmo.int/moodle/)
  - Login as a guest to access the Reference Material