



Job Analysis for Selection in the Canadian Armed Forces

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Outline

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- Phase 1 - Combined Job Analysis Method
 - Overview
 - Process
 - Cognitive Task Analysis (CTA)
- Phase 2 - Post Focus Groups - Rating
- Phase 3 – Data Analysis
 - Task Importance Value
 - Interrater Agreement (rwg)
- Phase 4 – Selection Tool Selection

Objective

- Create Job Description
 - Occupation Level
 - Basic Qualification Level
 - Job specific
- Determine critical KSAO's
- Create appropriate selection process

Combined Job Analysis Method (CJAM)

- This process utilizes work orientated processes contained in a functional job analysis (FJA – Fine & Cronshaw, 1999) to provide information about the outputs, tasks, and relevant KSAOs required for the job.
- Combined with an importance analysis, during which SMEs rate each task's and KSAO's importance for selection (Brannick, Levine, & Moregson, 2007).

CJAM Process – Initial Preparation

- Research available materials
- Determine number of Focus Groups
- Request SMEs
 - 6 to 8
 - Good understanding of the current job

CJAM Process – Day 1 - Staging

- Provide SMEs with overview of:
 - Why they are there
 - The process over the 2 days
 - Scoring
 - End result

CJAM Process – Day 1

Generation of Outputs

- Outputs: a functional category of work under which various tasks fall
 - “What do you get paid to do?”
 - A baker bakes bread.
- May be started with a suggested list (2 schools of thought)
- Provides a framework
- Recorded with a computer / screen
- Group discussion – consensus is the key

CJAM Process – Day 1

Generation of Tasks

- Tasks: collection of activities that are directed toward the achievement of a specific output.
- All tasks required to complete output
- Recorded by computer / screen
- Group discussion – consensus is the key

CJAM Process – Day 2

KSAO Generation

- KSAOs are generated for all tasks under each output
- Group discussion – consensus is the key
- Less of focus on knowledge
 - Focus is on the knowledge required for selection

Cognitive Task Analysis (CTA)

- Object-orientated cognitive task analysis and design (Wei & Salvendy, 2006)
- Based on human information processing theory
- Decompose tasks identified as crucial for selection entered into the model to identify the cognitive facets of interest (Girard, 2009)
- Process tracing

CTA - Process

- Tasks identified
- Identify heavy cognitive loaded tasks
- Process tracing
 - SMEs describe in detail the steps taken to complete the task
 - No more than 6 to 8 steps
 - Checklist of steps is not cognitive heavy load
- Identify specific cognitive facets
- Selection tests can be identified to measure cognitive domains of interest

Post Focus Group– KSAO Rating

- SMEs rate final list of KSAOs:
 - Necessary for applicant to possess? (yes/no)
 - Practical to expect in applicant pool? (yes/no)
 - To what extent is trouble is likely if it is ignored in selection? (Scale of 1 – 5)
 - To what extent do the KSAOs distinguish from the superior and average worker? (Scale of 1 – 5)

Criteria for KSAO into Selection

- A clear majority of SMEs must indicate that it was necessary for an applicant to possess the KSAO for selection
- A clear majority of SMEs must indicate it is practical to expect KSAO in applicant pool
- Mean rating on “trouble-likely” must be 3 or greater
- (Brannick et al., 2007)

Criteria for KSAO into Selection

- Majority defined as $m > .75$
- Trouble likely defined as $m > 3$
 - $m > 1.5$ recommended by Brannick et al.
- Superior / average worker distinction
 - Mean rating of 2 or less used for screen out measures (pass/fail)
 - Mean rating of 2 or more used to rank order applicants

Summary

- Combined Job Analysis Method
 - Identify outputs
 - Identify tasks
 - Identify KSAO
- Cognitive Task Analysis (CTA)
 - Identify cognitive heavy tasks
 - Process tracing to identify underlying cognitive process
- Post Focus Groups
 - Identify critical tasks & KSAOs
 - Interrater Agreement (rwg)

Questions