Developing Occupational Questionnaires

Workshop Presented by the U.S. Office of Personnel Management

Agenda

- Background and Context
- Steps in Developing Occupational Questionnaires
- Implementation Issues

Background and Context

Impact of Automation

- Has drastically changed how agencies recruit, receive applications, and assess and select candidates
- Has made it easy for applicants to apply
- Challenge: Paring down the number of candidates while making consistent, accurate and merit-based distinctions among them

Current Hiring Context

- Need for high quality hires to carry out Federal agency missions
- High applicant volume
- Timeliness goals (80-day E2E hiring process)
- Lack of assessment and measurement expertise at many agencies

Hiring Reform

- Presidential Memorandum issued May 11, 2010
- http://www.whitehouse.gov/the-press-office/presidential-memorandum-improving-federal-recruitment-and-hiring-process
- Improve the applicant experience
- Reduce applicant burden (e.g., no KSA narratives in initial application)

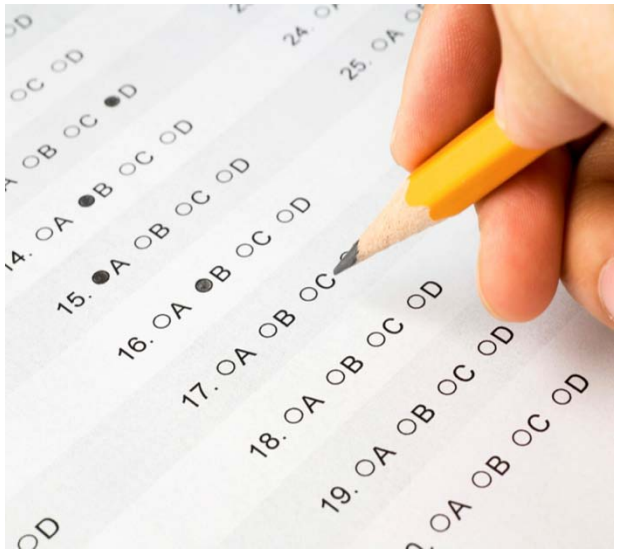
Role of Assessment in Federal Hiring

To make consistent, accurate, and merit-based distinctions among candidates

U.S. Merit Systems Protection Board, Identifying Talent through Technology: Automated Hiring Systems in Federal Agencies, 2004

What is an Assessment?

- Measurement tool used to screen, rate, and rank job applicants
- The assessment commonly delivered through automated staffing systems used for Federal hiring is an occupational questionnaire consisting of self-ratings of training and experience (T&E)



Benefits with Training & Experience Ratings

- Positions can be filled quickly
- Relatively inexpensive and efficient
- Low burden and high face validity for applicants
- Wide variety of KSAs/competencies can be assessed
- Easy to automate
- Test security is not an issue
- Measures of training and experience are familiar to agencies

Challenges with Training & Experience Ratings

- Response distortion
- Lower validity
- Lack of discrimination among candidates
- Less suitable for entry-level positions
- Adequate time to develop and subject matter expert (SME) involvement is needed

Setting Up for Success

1. Quality job analysis information
2. Trained and experienced occupational questionnaire developers
3. SME input and review
4. Infrastructure that promotes quality and accountability

Steps in Developing Occupational Questionnaires

Topics Covered

1. Developing an assessment plan
2. Assessing minimum qualifications
3. Writing items
4. Selecting rating scales

1. Developing an Assessment Plan

- Identify content areas (KSAs/competencies & tasks)
- Identify a target weight for each content area
- Set a target for the total number of items
- Map the total number of items

1. Developing an Assessment Plan

Step 1: Identify content areas

- Review job analysis data
  - Competencies and supporting tasks
  - Importance
  - Required at entry
  - Distinguishing value
- Measurable
- Unidimensional
- Job domain coverage

1. Developing an Assessment Plan

Step 2: Identify target weight for each content area

- Weights should equal 100%
- Recommend equal weights for each content area
- Use job analysis or subject matter expert input

1. Developing an Assessment Plan

Step 3: Set a target for the total number of items to assess

- Consider the following:
  - Number of content areas that need to be covered
  - Complexity of the content areas
  - Applicant burden
- General guidelines:
  - No fewer than 10 items
  - No more than 40 items
  - 40 items take approximately 20 minutes to complete

1. Developing an Assessment Plan

Step 4: Map the total number of items

- Determine the total number of items per content area
- Issues to consider:
  - Complexity of the content areas
  - Target weight for each content area

1. Developing an Assessment Plan

Sample Completed Assessment Plan

HR Specialist GS-11

Content Area	# of Items	% of Items	Target Weight
Content Area 1	3	20%	20%
Content Area 2	3	20%	20%
Content Area 3	3	20%	20%
Content Area 4	3	20%	20%
Content Area 5	3	20%	20%
Total	**15**		**100%**

1. Developing an Assessment Plan

Your Turn!

- Identify content areas from your Job Analysis/Position Description/Job Opportunity Announcement
- Determine number of items and weights for each content area

2. Assessing Minimum Qualifications

- Use Yes/No or multiple choice questions
- Use clear, unambiguous language that any applicant can understand
- Include response options for both qualified and unqualified applicants
- Describe experience requirements at each grade level identified, such that distinctions between grade levels are clear
- Describe education requirements, including references as appropriate

3. Writing Items

- Goal is to write the item in terms of **observable** and **verifiable** behaviors
- Crafting quality items requires time, effort, and practice
- Pick a strong action verb
  - *Writes vs. Develops*
  - *Assembles vs. Prepares*
- Specificity is critical

3. Writing Items

Follow the Formula:

Perform What? (Action Verb)	+	To Whom or What? (Direct Object)	+	To Produce What? OR Why? How? (Qualifying Statement)

Examples:

Sort + incoming mail + into functional groups for distribution.

Proofread and edit + letters, memos, e-mail or other written communication documents + to address format or grammatical, spelling, or typographical errors.

3. Writing Items

Item writing tips

- Write items in behavioral, observable, and verifiable terms
- Write clearly and succinctly
- Develop items that meaningfully distinguish among applicants
- Keep your competencies unidimensional
- Consider the level of job-specific experience required for the position
- Emphasize quality over quantity

3. Writing Items

Item Writing Pitfalls

Unnecessary Words

Wordy:	Relay various types of written information and communications, both in e-mail and memo format, to individuals at all levels of the organization and on multi and varied topics.
More Concise:	Write correspondence (e.g., e-mails, memos) on varied topics for distribution to individuals at all organizational levels.

3. Writing Items

Item Writing Pitfalls, cont.

Double-Barreled

Double-Barreled:	Assemble quarterly performance data from internal office sources into a computer spreadsheet and prepare a written report.
Two Statements:	Assemble performance data (e.g., quarterly, monthly) from internal office sources into a computer spreadsheet. Write a report summarizing trends in performance data for internal decision making purposes.

3. Writing Items

Item Writing Pitfalls, cont.

Overly Specialized Items

Overly Specific:	Add, subtract, multiply, divide, and compute percentages to calculate pay, time, and benefits.
Appropriate Level of Generality:	Use addition, subtraction, multiplication, and division, and compute percentages to perform basic calculations.

3. Writing Items

Item Writing Pitfalls, cont.

Vague, subjective, or evaluative wording

Vague:	Perform all required quality control procedures on time and attendance reports in an effective and thorough manner.
Behavioral:	Verify the accuracy of data or information in a report or database following established procedures.

3. Writing Items

Item Writing Pitfalls, cont.

Abbreviations/Acronyms

Abbreviated:	Prepare MOUs to secure new contracts.
Written Out:	Prepare proposals or Memorandums of Understanding in order to secure new contracts.

3. Item Writing

Your Turn!

- Identify content areas from your Job Analysis/Position Description/Job Opportunity Announcement
- Follow the item writing format
- Write a few items

4. Selecting a Rating Scale

- Generic vs. Customized
- Various Formats
  - Yes/No
  - Multiple Choice
  - Forced Choice (Ranking)
  - Select All That Apply

4. Selecting a Rating Scale

Generic Rating Scales

Pros

- Relatively inexpensive and efficient
- Measurement expertise is not required
- Positions can be filled quickly

4. Selecting a Rating Scale

Generic Rating Scales

Cons

- Experience-based scales may result in less discrimination among candidates for entry- and high-level positions
- Experience-based scales may be less appropriate for entry-level positions
- Transparency in terms of the ‘best’ answer
- May result in lower level of applicant engagement in responding

4. Selecting a Rating Scale

Customized Scales

Pros

- Response alternatives are specific to each occupation and grade level (increases face validity for applicants)
- SME involvement leads to greater question validity and upper management level buy-in
- Greater applicant differentiation
- Can be developed so that they are less transparent to applicants
- Higher level of applicant engagement

4. Selecting a Rating Scale

Customized Scales

Cons

- Response alternatives are specific to occupation and grade level
- Response alternatives are more difficult and time consuming to develop
- Requires measurement experts to develop the items
- Requires extensive SME involvement (dependent upon availability, interest, and competence of SME)
- Requires periodic review to ensure the questions are still applicable to occupation

4. Selecting a Rating Scale

Your Turn!

- Identify a content area from your Job Analysis/Position Description/Job Opportunity Announcement
- Pick a type of rating scale
- Write the response options

4. Selecting a Rating Scale

- Goal: Help applicants be as accurate as possible when making their self-report ratings
- Ensure that items and rating scales are focused on clearly stated, observable and verifiable behaviors
- Use specific and unambiguous language
- Use rating scales that are anchored by clear, verifiable, and behaviorally based descriptions of what each response option means

Implementation Issues

Occupational Questionnaire Scoring

Sample Applicant Scores
for the HR Specialist, GS-11 Position

	Q 1	Q 2	Q 3	Average Score
Content Area 1	2	3	4	3
Content Area 2	4	3	3	3.33
Content Area 3	2	2	4	2.67
Content Area 4	4	4	5	4.33
Content Area 5	3	2	5	3.33

NOTE: Occupational questionnaire used a five-point rating scale (1-5).

Determining Scoring Criteria

- Obtain input from SMEs
- Have SMEs familiarize themselves with:
  - The job analysis data
  - The content areas being assessed and definitions for each
  - Questionnaire items and rating scales for each content area
  - The category rating category definitions (Best Qualified, Highly Qualified, etc.)

Determining Scoring Criteria

- SMEs identify scoring criteria independently then reach consensus
- Second SME group reviews scoring criteria for final confirmation

Category Rating Scoring

Sample Scoring #1

Category	Scoring Criteria
Best Qualified	Applicant must receive an average final rating of *at least* 3.5 **for each of the Content Areas.**
Highly Qualified	Applicant must receive an average final rating of *at least* 3.0 **for each of the Content Areas.**
Qualified	Applicants whose ratings do not meet the criteria to be placed in the Best Qualified or Highly Qualified categories.

Category Rating Scoring

Sample Scoring #2

Category	Scoring Criteria
Best Qualified	Applicant must receive an average final rating of *at least* 3.5 for **two** of the Content Areas and an average final rating of *at least* 3.0 for **three** of the Content Areas.
Highly Qualified	Applicant must receive an average final rating of *at least* 3.0 for **two** of the Content Areas and an average final rating of *at least* 2.5 for **three** of the Content Areas.
Qualified	Applicants whose ratings do not meet the criteria to be placed in the Best Qualified or Highly Qualified categories.

Design a Verification Process

- Manual verification of supporting materials by trained HR professionals can provide a valuable check on the accuracy of self-report ratings
  - Minimum qualifications
  - Education
- Ensure a standardized and consistent process

Design a Verification Process

- Consider use of follow-up assessments (e.g., structured interview, work sample, reference check) to verify competencies of top applicants
- Notify applicants in advance of agency verification policy, as well as use of follow up assessments as appropriate

Sample Verification Statement

I certify that, to the best of my knowledge and belief, all of the information included in this questionnaire is true, correct, and provided in good faith. I understand that if I make an intentional false statement, or commit deception or fraud in this application and its supporting materials, or in any document or interview associated with the examination process, I may be fined or imprisoned (18 U.S.C. 1001), my eligibilities may be cancelled, I may be denied an appointment, or I may be removed and debarred from Federal service (5 CFR part 731). I understand that any information I give may be investigated. I understand that responding “No” to this item will result in my not being considered for this position.

A. Yes, I certify that the information provided in this questionnaire is true, correct and provided in good faith, and I understand the information provided above.

B. No, I do not certify the information provided in this questionnaire is true, correct and provided in good faith.

C. No, I do not understand the information provided above.

Evaluating the Process

1. Were the items on the occupational questionnaire clear and easily understood by all applicants?
2. Did the occupational questionnaire items help to make meaningful distinctions among applicants?
3. Did scores on the occupational questionnaire help to identify the most highly qualified applicants?
4. Is there a high return-on-investment associated with use of the occupational questionnaire?

Infrastructure

- Establish clear standards of quality
- Train HR professionals in good assessment and item writing practices
- Arrange for SME involvement in the development and review of every occupational questionnaire
- Create an environment that promotes quality and accountability
- Centralize or designate certain individuals to develop occupational questionnaires
- Evaluate results

Red Flags

- Low score variability
- Returned certifications (no selection made)
- Hiring manager dissatisfaction
- High volume of applicant inquiries

Additional Resources

- Identifying Talent Through Technology: Automated Hiring Systems in Federal Agencies (MSPB, 2004) (See 13 recommendations for maximizing benefits of automated systems)
- OPM's Personnel Assessment and Selection Resource Center (http://apps.opm.gov/adt)

One Final Thought

"The ultimate goal of staffing is to make good hires as efficiently as possible. It is not to make bad hires quickly."

- Maximizing the Value of Your Investment in Qualifications Screening Technology. Rocket-Hire. Feb 2004.

Contact Information:

Classification and Assessment Policy

(202) 606-3600

competency@opm.gov