



# Developing Occupational Questionnaires

# Agenda

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



# Background and Context

# Impact of Automation

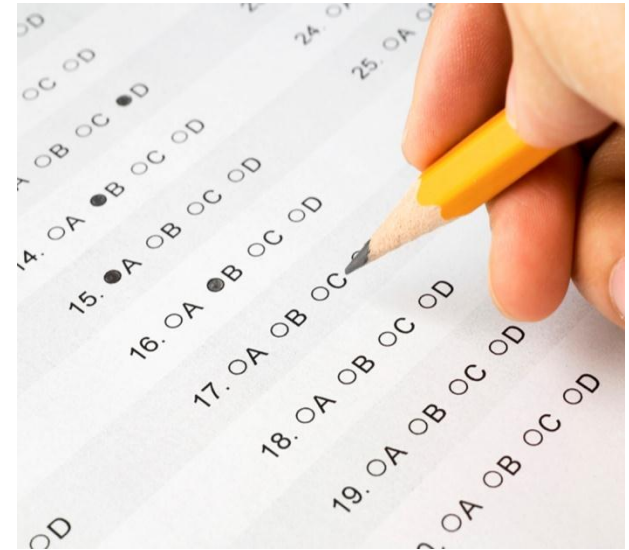
- Has drastically changed how agencies recruit, receive applications, and assess and select candidates
- Has made it easy for applicants to apply
- Challenge: Paring down the number of candidates while making consistent, accurate and merit-based distinctions among them

# Current Hiring Context


- Need for high quality hires to carry out Federal agency missions
- High applicant volume
- Timeliness goals
- Lack of assessment and measurement expertise at many agencies

# What is an Occupational Questionnaire?

- Assessment method used to screen, rate, and rank job applicants
- Commonly delivered through automated staffing systems used for Federal hiring
- Consists of self-ratings of training and experience (T&E)



# Benefits of Occupational Questionnaires

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- A vertical strip on the left side of the slide shows a close-up, slightly blurred view of the American flag, focusing on the stars and stripes.
- 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
  - Occupational Questionnaires are familiar to agencies

# Challenges of Occupational Questionnaires

- Response inflation/deflation
- Lower validity
- Less differentiation among candidates
- Less suitable for entry-level positions
- Requires adequate time to develop
- 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



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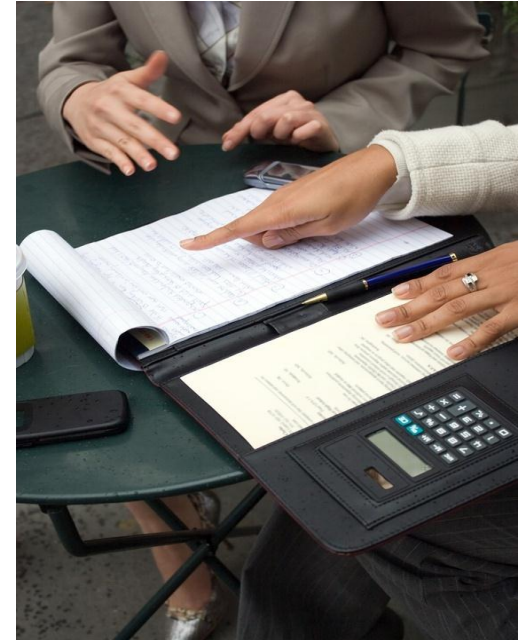
# Steps in Developing Occupational Questionnaires

# Topics Covered

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- A vertical strip on the left side of the slide shows a close-up, slightly blurred view of the American flag, focusing on the stars and stripes.
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 to select competencies (and supporting tasks) by reviewing scores for:
  - Importance – Higher ratings indicate greater importance
  - Required at entry – Lower ratings indicate the competency is needed at entry (not learned on the job)
  - Distinguishing value – Higher ratings indicate the competency is valuable for distinguishing superior from fully successful employees

# 1. Developing an Assessment Plan

## Step 1: Identify content areas, continued

- Measurable - Not all competencies (e.g., Integrity/Honesty) are best measured with a self-report instrument
- Unidimensional – Only measure one competency at a time (e.g., measure Oral Communication and Written Communication separately)
- Job domain coverage – Try to capture the full range of general and technical job requirements

# 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 to determine if any areas are more important and should be given more weight



# 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

*Note: These numbers may change as you begin creating the questionnaire.*

### HR Specialist GS-11

<b>Content Area</b>	<b># of Items</b>	<b>% of Items</b>	<b>Target Weight</b>
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%
<b>Total</b>	<b>15</b>		<b>100%</b>

## 2. Assessing Minimum Qualifications

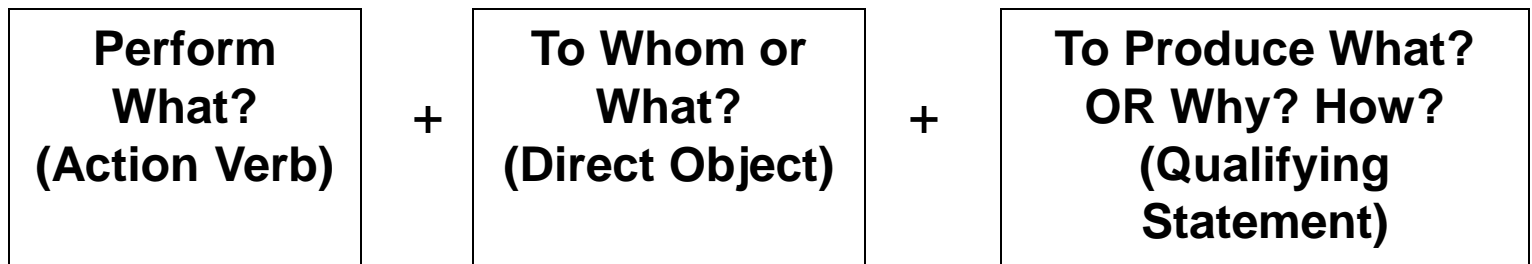
- Use Yes/No or multiple choice questions
- Use clear, unambiguous language that any applicant can understand
- Include response options for both qualified and unqualified applicants
- Describe experience requirements at each grade level identified, such that distinctions between grade levels are clear
- Describe education requirements, including references as appropriate
- Provide a link to the Qualification Standard and/or Individual Occupational Requirements (IOR) as appropriate

### 3. Writing Items

- Goal is to write the item in terms of **specific**, **observable**, and **verifiable** behaviors
- Crafting quality items requires time, effort, and practice
- Pick a strong action verb
  - *Writes vs. Develops*
  - *Assembles vs. Prepares*
- Should be written so that a colleague or supervisor could verify that the applicant performed that behavior

# 3. Writing Items

Follow the Formula:



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: Pitfalls

**Unnecessary words** add to the length of an item, do not add meaning, and can actually make the task seem more complicated than it is. You want your items to be concise so they are easily understood.

<b>Wordy:</b>	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.
<b>More Concise:</b>	Write correspondence (e.g., e-mails, memos) on varied topics for distribution to individuals at all organizational levels.



### 3. Writing Items: Pitfalls

**Double-Barreled** items include multiple tasks or competencies, thus forcing applicants to choose which part of the statement they will respond to, giving you incomplete or ambiguous information as to what experience the applicant has.

<b>Double-Barreled:</b>	Assemble quarterly performance data from internal office sources into a computer spreadsheet and prepare a written report.
<b>Two Statements:</b>	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: Pitfalls

**Overly specialized items**, or items based on job-specific task statements, may unnecessarily omit qualified applicants. Although there may be certain specialized or technical expertise that is required, experience in other job settings may be equally as valuable, particularly when assessing general competencies.

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

### 3. Writing Items: Pitfalls

**Vague, subjective, or evaluative wording** can cause the applicant to incorrectly interpret the tasks or statements. Statements that are clear and specific allow applicants to more accurately rate themselves.

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

### 3. Writing Items: Pitfalls

**Abbreviations/Acronyms** may not be understood or hold the same meaning for all applicants. It's better to spell out all abbreviations and acronyms to ensure the item is interpreted the same way by all applicants.

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

## 4. Selecting a Rating Scale

- Types of Scales
  - Generic vs. Customized
    - Pros and Cons
- Various Formats
- Additional Tips

## 4. Selecting a Rating Scale

### Generic Rating Scales

- Can be used across items regardless of the content area being assessed or the position being filled.

### Customized Rating Scales

- Are specific to each occupation, grade level, and/or item.

# 4. Selecting a Rating Scale

## Generic Rating Scales



### Pros

- Relatively inexpensive and efficient
- Measurement expertise is not required
- Positions can be filled quickly
- Can be used across items  
(regardless of content area or position)

# 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

## Various Formats

- Yes/No
- Multiple Choice
- Forced Choice (Ranking)
- Select All That Apply

## 4. Selecting a Rating Scale

### Additional Tips:

- 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

# 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
  - For example: *'If, after reviewing your resume and/or supporting documentation, a determination is made that you have overstated your qualifications and/or experience, you will be removed from consideration or your score will be lowered.'*

# Sample Verification Statement


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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


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- A vertical strip on the left side of the slide shows a close-up, slightly blurred view of the American flag, focusing on the stars and stripes.
1. Were the items on the occupational questionnaire clear and easily understood by all applicants?
    - Were applicants confused by any of the items, rating scales, or response options? Can you improve the questionnaire based on the questions you received?
  2. Did the occupational questionnaire items help to make meaningful distinctions among applicants?
    - Are the scores spread out or clumped together? Are too many scores in the high or low range?



# Evaluating the Process, Continued

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- A vertical strip on the left side of the slide shows a close-up, slightly blurred view of the stars and stripes of the United States flag.
3. Did scores on the occupational questionnaire help to identify the most highly qualified applicants?
    - Obtain feedback from the HR Specialist who reviewed the applications and from the hiring manager.
  4. Is there a high return-on-investment associated with use of the occupational questionnaire?
    - Do the benefits of using the questionnaire (e.g., better-quality applicants) outweigh the cost of developing and implementing it?

# Infrastructure

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- A vertical strip on the left side of the slide shows a close-up, slightly blurred view of the American flag, focusing on the stars and stripes.
- 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
  - Indicates applicants are answering the question the same, negating the purpose of the questionnaire
- Returned certifications
  - No selection is made
- Hiring manager dissatisfaction
- High volume of applicant inquiries



# 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.



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