The Guide to Better Occupational Questionnaires

The U.S. Office of Personnel Management

The Guide to Better Occupational Questionnaires

Employee Services
Classification and Assessment Policy
Talent Acquisition, Classification, and
Veterans Programs
U.S. Office of Personnel Management
May 18, 2022

FEDCLASS@OPM.GOV
202-606-3600

Table of Contents

What is an Occupational Questionnaire?

Occupational questionnaires (aka, online or assessment questionnaires, training & experience ratings) are an assessment tool used to assess applicants' qualifications and experience.

***

An occupational questionnaire is a systematic method used to make accurate distinctions among candidates based on their qualifications, training, and experience.

***

Occupational questionnaires generally ask candidates to self-report their level of training and experience in carrying out critical tasks and demonstrating critical competencies identified through job analysis.

Introduction

Overview

Innovations in artificial intelligence are enabling more and more public and private sector organizations to utilize automation to generate job opportunity announcements, receive applications, assess applicants, produce certificates, and manage applicant records. Automated staffing systems improve the speed of service; foster consistency, standardization, and objectivity; and drastically reduce manual processes. One of the most commonly used methods of assessment within these automated staffing systems is a self-report, closed-ended (e.g., multiple-choice) occupational questionnaire.[1]

Purpose of this Guide

This guide is designed to assist Federal human resources (HR) professionals responsible for developing self-report occupational questionnaires administered through automated staffing systems. The results of a fictitious job analysis will serve as the running example for all illustrated steps in order to better assist users.

This guide also can be used as a resource for agency managers responsible for implementing automated staffing systems and for upholding the quality of assessments being administered through these systems.

You will find information on the benefits and limitations of occupational questionnaires, how to develop occupational questionnaire items, use of rating scales, and steps to implement an occupational questionnaire as part of your assessment process. You may not find every step to be relevant to your situation (e.g., agencies may have internal policies to follow). For additional information regarding occupational questionnaires, please visit the Occupational Questionnaires section of OPM's Assessment & Selection website, or contact us at Assessment_Information@opm.gov.

---

[1] Merit Systems Protection Board's (MSPB) "Evaluating Job Applicants: The Role of Training and Experience in Hiring," presents additional useful information concerning the use of occupational questionnaires in Federal hiring.

Role of Automated Staffing Systems

Automation has drastically changed how agencies recruit, receive applications from, assess, and select candidates, with occupational questionnaires being one of the mostly commonly automated assessment methods. The purpose of this guide is to provide general guidance on developing occupational questionnaires. This guide will not cover how occupational questionnaires are scored[2] or how they function within specific staffing systems.

Role of Subject Matter Experts (SMEs)

A SME is a person with expert knowledge about what it takes to do a particular job. Many people can serve as SMEs (e.g., first-level supervisors, high-performing incumbents in the same or similar position) as long as they have current and thorough knowledge of the job's requirements.

Generally, your SMEs will be most knowledgeable about what is performed in the job and which behaviors make their high-performing employees successful. Be sure to involve your SMEs in the questionnaire development process as much as possible.

SMEs are vital to the creation of an occupational questionnaire for many steps throughout the process, such as:

- Reviewing job analysis data to verify it is current
- Choosing which competencies to measure with the questionnaire
- Reviewing items and rating scales for content validity (or job relatedness) [3]
- Evaluating the effectiveness of the questionnaire for selecting the best candidates

No matter which phase of the assessment process you are working on, it is very important to involve SMEs throughout (assuming, of course, the SMEs will not be applying for any of the positions).

---

[2] To learn more about setting and implementing passing scores for an Occupational Questionnaire, please see the DEOH Chapters 2 and 5.
[3] To learn more about validity, please visit OPM's Assessment & Selection website.

Benefits and Challenges of Using Occupational Questionnaires

While there are a number of benefits to using occupational questionnaires in assessing applicants, there are some challenges as well. The lists below outline various benefits and challenges typically associated with occupational questionnaires. See Appendix B for additional discussion of common benefits and challenges.

Benefits

- ❑ Positions can be filled quickly
- ❑ Relatively inexpensive to develop & implement
- ❑ Low burden for applicants
- ❑ Viewed as fair by applicants
- ❑ Assess a wide variety of competencies
- ❑ Test security is not an issue
- ❑ Small learning curve
  (less assessment experience needed when using generic rating scales)

Challenges

- ❑ Possible response distortion/applicant inflation
- ❑ Lower validity than other assessment tools
- ❑ May not meaningfully distinguish among candidates
- ❑ May not be ideal for entry-level positions
- ❑ Require up-front time to develop

Steps to Developing an Occupational Questionnaire

For this guide, we will be covering 9 key steps to developing an occupational questionnaire. Appendix C provides a checklist based on these steps:

1 - Conduct a Job Analysis	6 - Review the Occupational Questionnaire	7 - Design a Verification Process
2 - Develop an Assessment Plan	5 - Select Rating Scale(s)	8 - Document the Development Process
3 - Identify Minimum Qualifications	4 - Develop Questions and Responses	9 - Evaluate the Assessment Process

From a planning perspective, it is important to note that conducting a job analysis, developing an assessment plan, and developing an occupational questionnaire are completed prior to the start of the hiring process. Particularly in cases in which positions are filled often or large numbers of positions are filled, it is considered a best practice to carry out job analysis and assessment development steps well in advance of a specific opening as part of an agency's overall hiring strategy and workforce planning efforts.

Additional resources regarding workforce/succession planning can be found here:

- OPM's Agency Services – Workforce and Succession Planning

- OPM's Workforce Planning Model

1. Conduct a Job Analysis

The purpose of a job analysis is to identify the required tasks and competencies necessary to perform a job. In many instances, when there are no substantial changes a job analysis update is not needed; rather, the critical tasks and competencies may be re-confirmed by subject matter experts as needed. A thorough job analysis will identify the:

- Job tasks and responsibilities;
- Competencies critical to successful performance on the job;
- Competencies required upon entry to the job; and
- Linkages between critical job tasks and competencies.

To gather this information about a job, consider sources such as:

- Position descriptions
- Previously-performed job analysis results
- Interviews or focus groups with SMEs
- Classification standards
- Qualification standards
- Training materials or job aids
- Previous assessment tools
- Performance appraisal critical elements

Did you know …?

There are resources available at no cost that provide competency and/or task information that may assist you with your job analysis.

Some of these resources include:

- OPM MOSAIC Competencies (OPM Assessment & Selection website)

- O*Net Online

- Occupational Outlook Handbook

Where do I find more information about conducting a job analysis?

- Chapter 2 and Appendix D of the **Delegated Examining Operations Handbook**

- The Job Analysis section of the Assessment & Selection website

Sample Job Analysis Data

The fictitious data below will be used throughout the rest of this guide to serve as a step-by-step example of how job analysis results are used to develop occupational questionnaire items. For purposes of this example, assume the job analysis (and resulting data) is for an Information Technology (IT) Specialist, GS-11. (As a note, this is a very abbreviated job analysis example; a true job analysis would include more competencies and tasks than will be presented here).

List the **Tasks** and **Competencies**	SMEs provide ratings for **Tasks** and **Competencies**	SMEs link T**asks** and **Competencies**	Analyze SME ratings to identify critical **Tasks** and **Competencies**
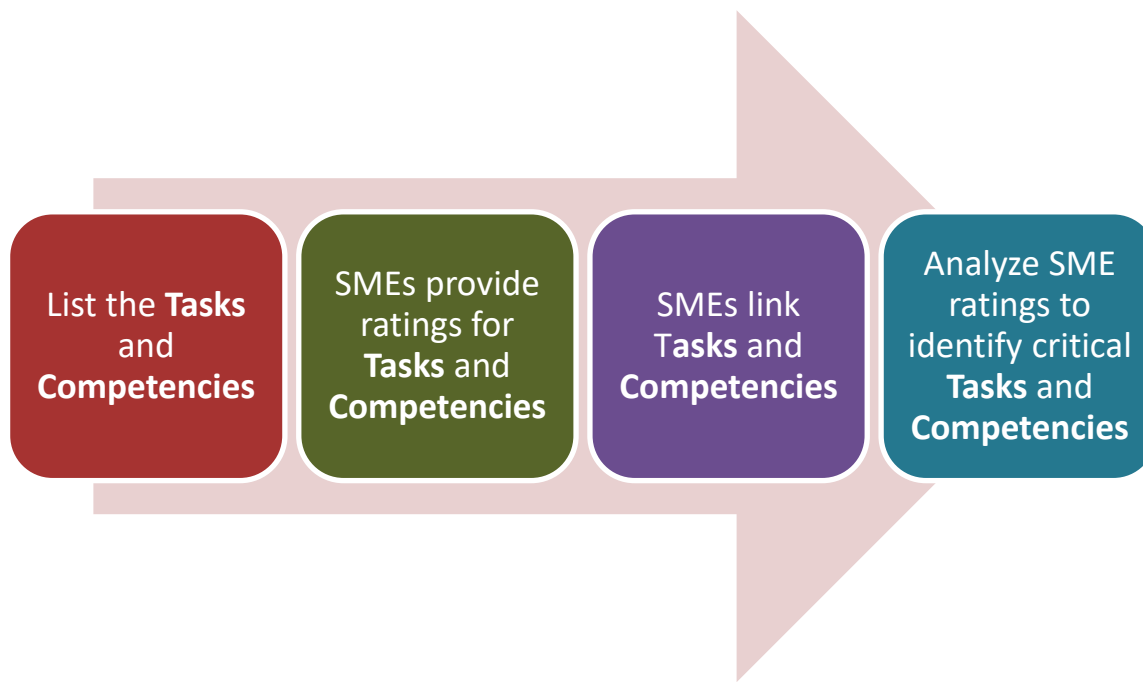
Resources:

- All examples of job analysis worksheets, rating scales, and instructions (with suggested cutoffs) can be found in **Appendix D** of the **Delegated Examining Operations Handbook**. (Tasks used as examples were pulled from OPM's MOSAIC competency studies.) [4]

- OPM's Multipurpose Occupational Systems Analysis Inventory – Closed-Ended (MOSAIC) competencies are available for your use at no cost. All MOSAIC competencies (and competency studies) are available on the Competencies page of the Assessment & Selection website.

---

[4] Because MOSAIC tasks and competencies are written fairly broadly to cover a range of occupational series within a given occupational family, it is recommended that MOSAIC studies be used as a starting point for conducting job analysis and that the MOSAIC tasks and/or competencies be tailored to make them more specific to the target position as needed.

The following tables illustrate the example Tasks and Competencies for the Information Technology (IT) Specialist, GS-11 job analysis. The SMEs provided ratings for both Tasks and Competencies.

SMEs rate each Task on its **Importance** and **Frequency**.[5] In order for a Task to be considered critical, the recommended (average) cut-off for both Importance and Frequency is "3" or above. Tasks that do not meet both these cut-offs are stricken out in the table below. **Note:** All ratings in this document are fictitious and designed to reflect the averages from a panel of SMEs (i.e., the ratings are collected from more than one person).

Tasks for Information Technology (IT) Specialist, GS-11 Job Analysis			
Tasks	Source	Importance	Frequency
Conducts return on investment analyses of key purchases related to IT programs.	SME input; job description	4.33	3.24
~~Determines resource requirements (for example, staffing, equipment) based on program or project objectives or operational needs.~~	~~SME input; position description~~	~~3.12~~	~~2.09~~
Collects, compiles, and organizes information.	Desk audit	4.04	4.45
Designs or conducts analytical studies, cost-benefit analyses, or other research.	Position description; SME input	4.34	3.33
Enters data or other information into a computer.	Internet search	4.15	4.21
~~Defines network system or software standards and requirements.~~	~~SME input; job description~~	~~3.12~~	~~1.48~~
Uses computer systems or applications to access, create, edit, print, send, retrieve, or manipulate data, files, or other information.	SME input; classification standards	4.32	4.02
~~Recommends new or revised policies or procedures.~~	~~Desk audit~~	~~2.22~~	~~2.00~~
Processes or analyzes data using computer systems or applications	SME input; job description	4.49	4.47
Identifies risk/functionality tradeoffs, and works with stakeholders to ensure that risk management implementation is consistent with acceptable organizational risk posture.	SME input; classification standards	3.32	3.44

---

[5] Please see Appendix D in the Delegated Examining Operations Handbook (DEOH) for more information regarding job analysis scales and cut-offs.

SMEs rate each Competency on its **Importance**, whether it is **Needed at Entry**, and how well it differentiates between successful and unsuccessful employees (**Distinguishing Value**).

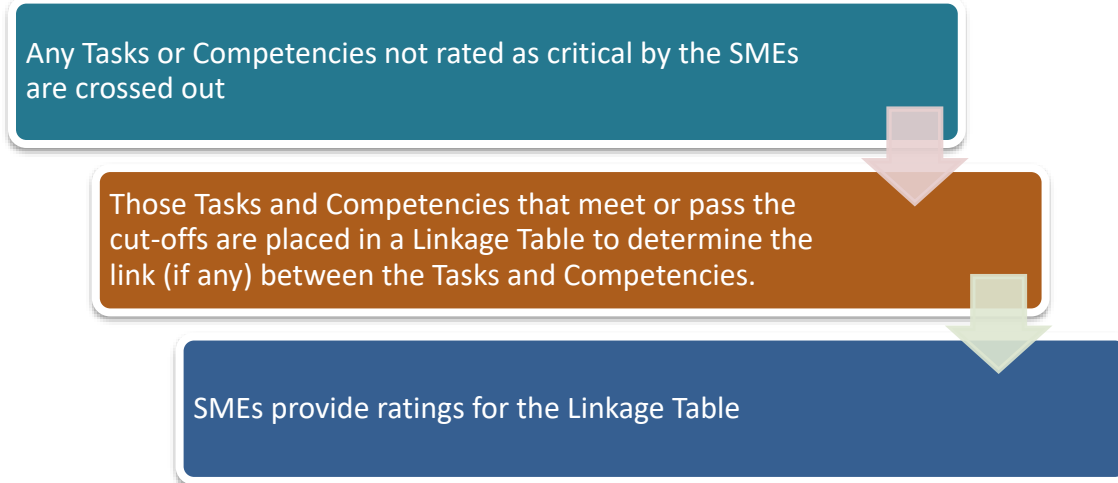In order for a Competency to be considered critical, the recommended cut-offs are:

- 3.0 or above for Importance, and
- 2.0 or below for Need at Entry.
  - In general, there is no recommended cut-off for Distinguishing Value; rather, these ratings may be used to further guide your decision on which of the critical competencies to include in the assessment process.

Any competencies that do not meet both the Importance and Need at Entry cut-offs are stricken in the table below.

Competencies for Information Technology (IT) Specialist, GS-11 Job Analysis				
Competency & Definition	Source	Importance	Need at Entry	*Distinguishing Value*
~~**Leadership** - Influences, motivates, and challenges others; adapts leadership styles to a variety of situations.~~	~~MOSAIC~~	~~2.11~~	~~4.37~~	*~~4.01~~*
Cost-Benefit Analysis - Knowledge of the principles and methods of cost-benefit analysis, including the time value of money, present value concepts, and quantifying tangible and intangible benefits.	MOSAIC	3.25	2.47	*3.29*
Data Management – Knowledge of the principles, procedures, and tools of data management, such as modeling techniques, data backup, data recovery, data dictionaries, data warehousing, data mining, data archiving, data disposal, and data standardization processes.	MOSAIC	4.14	1.26	*4.09*
~~**Organizational Development** – Knowledge of the principles of organizational development and change management theories, and their applications.~~	~~MOSAIC~~	~~3.21~~	~~3.01~~	*~~3.41~~*
Technology Application - Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.	MOSAIC	4.25	1.39	*4.46*

The process for selecting and linking Tasks and Competencies is as follows:

Any Tasks or Competencies not rated as critical by the SMEs are crossed out

Those Tasks and Competencies that meet or pass the cut-offs are placed in a Linkage Table to determine the link (if any) between the Tasks and Competencies.
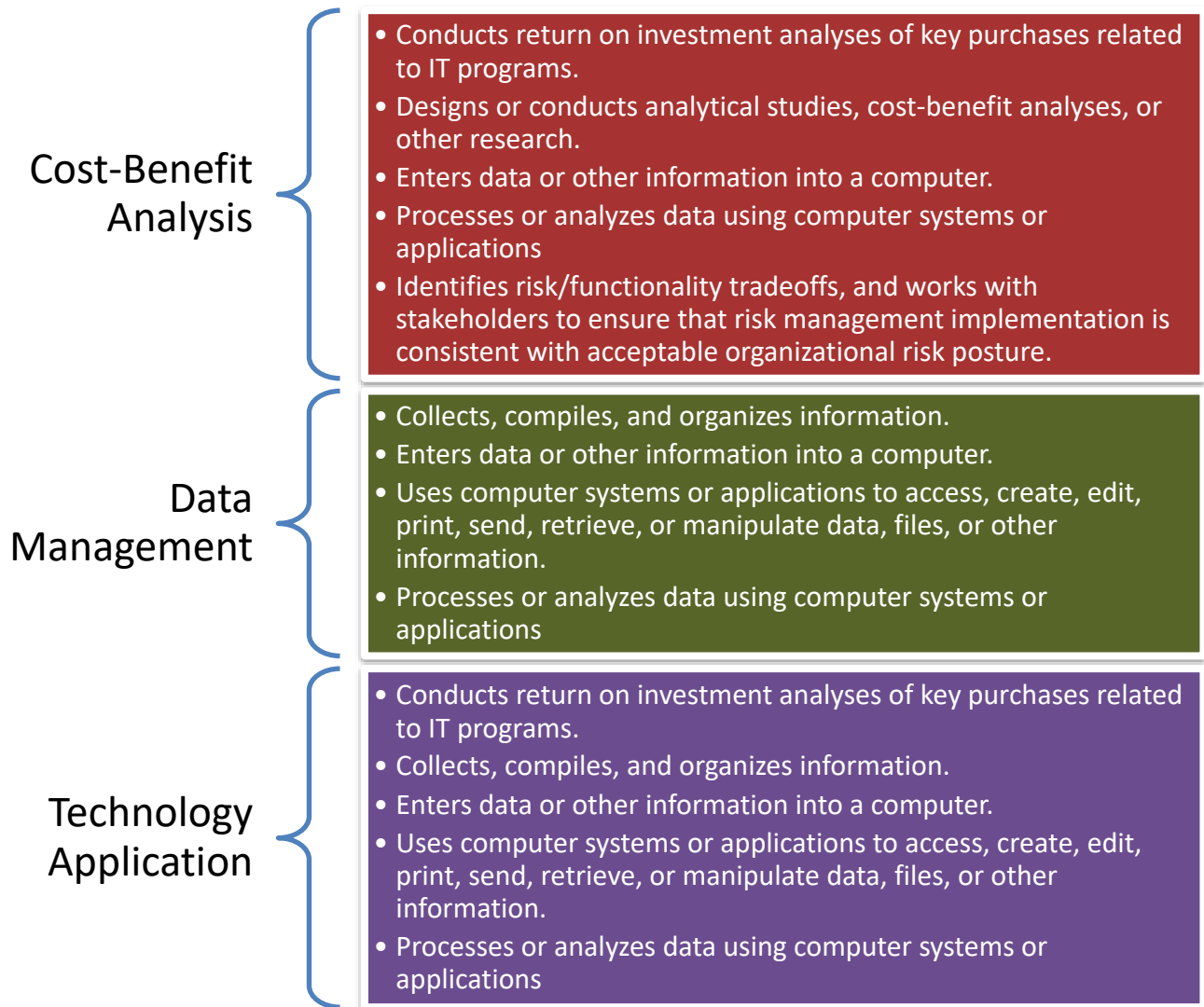
SMEs provide ratings for the Linkage Table

The table below suggests a way to group the final listing of Competencies and corresponding Tasks.

Linkage Table			
	Competencies		
Tasks	**Cost-Benefit Analysis**	**Data Management**	**Technology Application**
Conducts return on investment analyses of key purchases related to IT programs.	**4.26**	1.32	**3.49**
Collects, compiles, and organizes information.	2.44	**4.27**	**3.36**
Designs or conducts analytical studies, cost-benefit analyses, or other research.	**4.69**	1.25	2.64
Enters data or other information into a computer.	**3.44**	**4.02**	**4.47**
Uses computer systems or applications to access, create, edit, print, send, retrieve, or manipulate data, files, or other information.	1.37	**4.89**	**4.77**
Processes or analyzes data using computer systems or applications	**4.11**	**4.47**	**5.00**
Identifies risk/functionality tradeoffs, and works with stakeholders to ensure that risk management implementation is consistent with acceptable organizational risk posture.	**4.47**	2.16	2.47

Note: You can use the scale provided in Appendix D of the DEOH for rating the link between a Task and a Competency or you can use a "Yes/No" scale whereby a link is determined by the percentage (generally, 67% or above) of "Yes" ratings a task-competency pair receives.

Based on the Linkage Table, the Competencies and Tasks can be grouped as such:

Cost-Benefit Analysis

- Conducts return on investment analyses of key purchases related to IT programs.
- Designs or conducts analytical studies, cost-benefit analyses, or other research.
- Enters data or other information into a computer.
- Processes or analyzes data using computer systems or applications
- Identifies risk/functionality tradeoffs, and works with stakeholders to ensure that risk management implementation is consistent with acceptable organizational risk posture.

Data Management

- Collects, compiles, and organizes information.
- Enters data or other information into a computer.
- Uses computer systems or applications to access, create, edit, print, send, retrieve, or manipulate data, files, or other information.
- Processes or analyzes data using computer systems or applications

Technology Application

- Conducts return on investment analyses of key purchases related to IT programs.
- Collects, compiles, and organizes information.
- Enters data or other information into a computer.
- Uses computer systems or applications to access, create, edit, print, send, retrieve, or manipulate data, files, or other information.
- Processes or analyzes data using computer systems or applications

The final selection of Tasks and Competencies will be used as examples throughout this guide to illustrate how to use job analysis data when creating an Occupational Questionnaire.

2. Develop an Assessment Plan

Once you have up-to-date job analysis data, it is important to plan out how you will assess applicants. An assessment plan is a document that lists what an assessment – in this case, an occupational questionnaire – is intended to measure and how the assessment will measure it.[6] The assessment plan entails identifying:

The content areas to be measured (i.e., competencies, knowledge, skills, and abilities (KSAs), knowledge areas, etc.)

The target weight each content area should have in the assessment process

The target number of total items to be written and used for each content area

How to map the total number of items to each content area

How to select the tasks to use as the basis for items
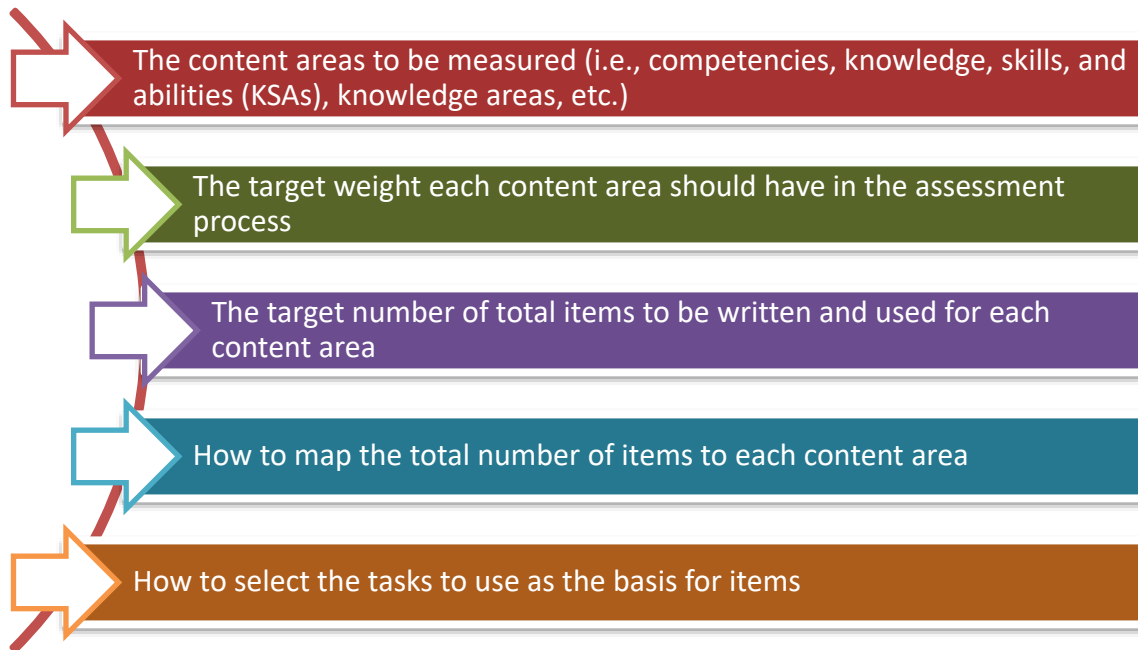
Developing an assessment plan helps to ensure that you are taking a strategic and methodical approach to identifying content areas (competencies) that will predict job performance, and including those in your occupational questionnaire.
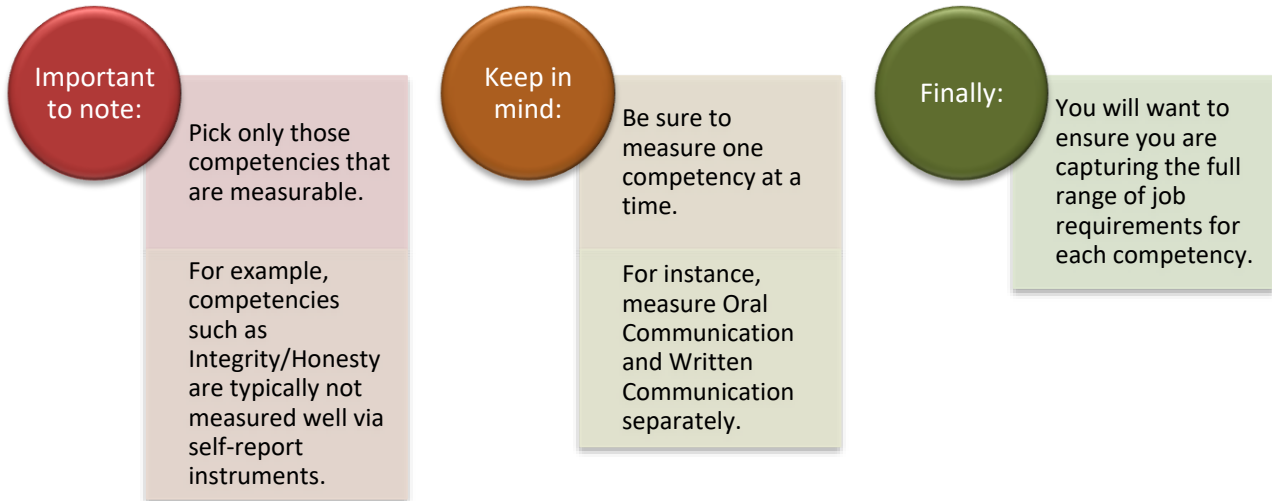
An assessment plan is especially useful for:
- guiding item selection or development,
- item review, and
- documenting the content coverage of the assessment.

---

[6] For purposes of this Guide, the assessment plan includes only the occupational questionnaire. However, agencies are directed to refrain from relying solely on candidate self-assessments of their qualifications (e.g., occupational questionnaires). Applicants are to clear other assessment hurdles in order to be considered qualified). Please visit our Assessment & Selection website and Interim Guidance - E.O. 13932; Modernizing and Reforming the Assessment and Hiring of Federal Job Candidates for more information. .

A. Identify Content Areas

The first step in developing your assessment plan is to identify the content areas you plan to assess.[7] Review your job analysis data to select competencies (and supporting tasks) by reviewing scores for importance and which competencies are required upon entry to the job.

Important to note: Pick only those competencies that are measurable.

For example, competencies such as Integrity/Honesty are typically not measured well via self-report instruments.

Keep in mind: Be sure to measure one competency at a time.

For instance, measure Oral Communication and Written Communication separately.

Finally: You will want to ensure you are capturing the full range of job requirements for each competency.

Using the job analysis data provided below as an example, the competencies **Cost-Benefit Analysis**, **Data Management**, and **Technology Application** were deemed "Needed at Entry."

Competencies Rated as Critical by SMEs				
Competency & Definition	Source	Importance	Need at Entry	*Distinguishing Value*
Cost-Benefit Analysis - Knowledge of the principles and methods of cost-benefit analysis, including the time value of money, present value concepts, and quantifying tangible and intangible benefits.	MOSAIC	3.25	2.47	*3.29*
Data Management – Knowledge of the principles, procedures, and tools of data management, such as modeling techniques, data backup, data recovery, data dictionaries, data warehousing, data mining, data archiving, data disposal, and data standardization processes.	MOSAIC	4.14	1.26	*4.09*
Technology Application - Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.	MOSAIC	4.25	1.39	*4.46*

---

[7] For this example, we are using three competencies or content areas; however, a general rule of thumb is for an occupational questionnaire to measure four to eight competencies.

B. Identify a Target Weight for Each Content Area

The next step in developing your assessment plan is to identify a target weight for each content area. It is recommended to use equal weights for each content area unless your job analysis data and subject matter experts support that some content areas are more important than others. Regardless, all content areas should add up to 100%.[8] The table below provides an example of equally weighted content areas.

IT Specialist, GS-11	
Content Area	**Target Weight**
Cost-Benefit Analysis	33.33%
Data Management	33.33%
Technology Application	33.33%
Total	**100%**
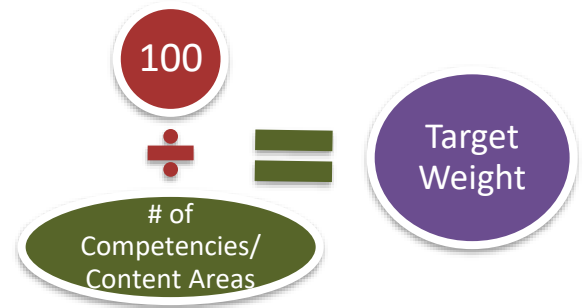
C. Set a Target for the Total Number of Items

Once you have identified a target weight for each content area, consider the total number of items you want in your occupational questionnaire. When deciding on how many items to include, it is important to consider the number of content areas that need to be covered, the complexity of these content areas, and applicant burden. Typically, OPM recommends including at least 10 items but no more than 40 items.[9]

IT Specialist, GS-11		
Content Area	**# of Items**	**Target Weight**
Cost-Benefit Analysis	5	33.33%
Data Management	5	33.33%
Technology Application	5	33.33%
Total	**15**	**100%**

---
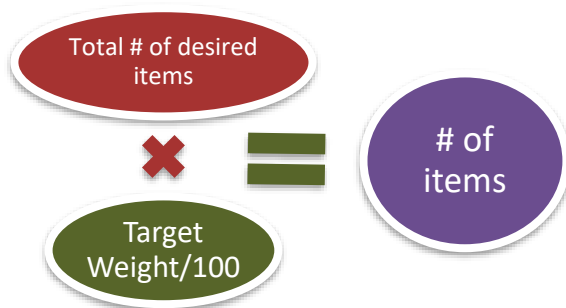
[8] Rounding to 100% as needed (realizing there may be an odd number of competencies/content areas selected).
[9] It will take applicants about 20 minutes to complete a 40-item occupational questionnaire; items beyond 40 may seem burdensome to applicants.

What to consider with items and weights?

It is important to consider how complex the content area is. More complex content areas may require more items than less complex content areas.

***

It is also important to consider the target weight for each content area, as content areas with larger target weights may call for more items than content areas with smaller target weights.

***

Some of the content areas in the second example were found to be more critical to performing the tasks of this position than other content areas; therefore, there are different target weights for these competencies.

***

It is important to remember that any differences in how content areas are weighted should be based on job analysis data. When in doubt, equal weights for each content area are suggested.

D. Map the Total Number of Items

After you have targeted how many items you want to include, the final step in developing your assessment plan is to map the total number of items. In other words, you will determine the total number of items per content area.[10]

The table below illustrates content areas with **equal** weights:

Content Area	# of Items	Target Weight
Cost-Benefit Analysis	5	33%
Data Management	5	33%
Technology Application	5	33%
Total	**15**	**100%**

This table below illustrates content areas with **unequal** weights:

Content Area	# of Items	Target Weight
Cost-Benefit Analysis	4	20%
Data Management	10	50%
Technology Application	6	30%
Total	**20**	**100%**

One question often asked is, "How many items should be written for each content area or competency?" The answer is there is no exact number. You will want to write as many as you need to adequately measure each content area or competency as it is used on the job. As a general rule of thumb, three to eight carefully constructed items are sufficient for measuring a given competency.

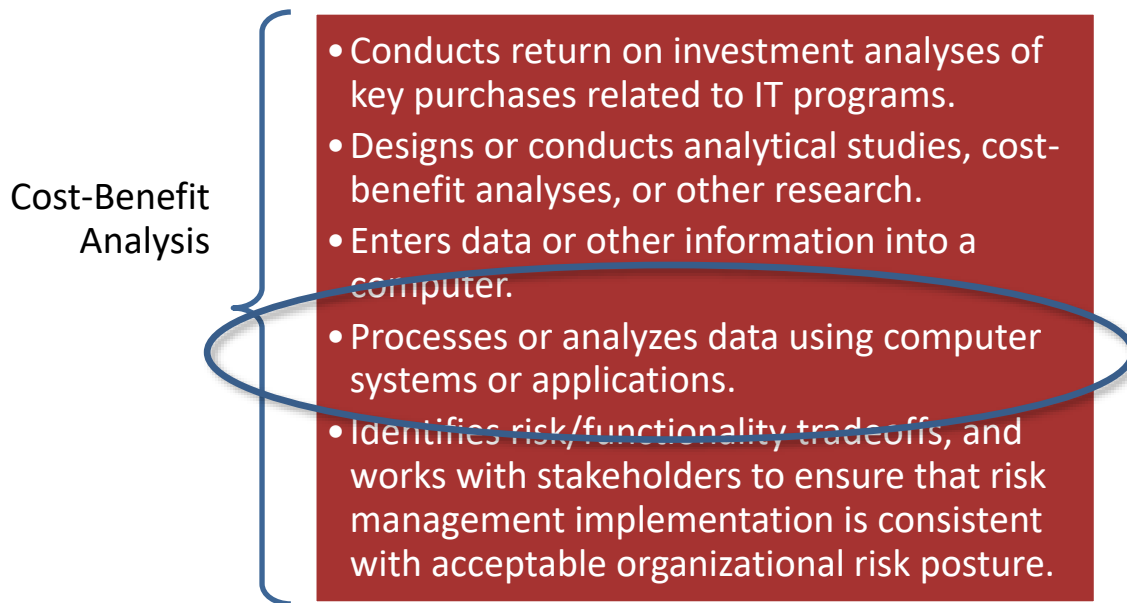All else being equal, fewer well-written items are likely to result in a better assessment tool than will a larger number of poorly-written items. Emphasize quality over quantity, generally targeting a final questionnaire with between 10 and 40 items.

---

[10] The ability (and process) of weighing items may vary by staffing system. Please check with your staffing system representative for assistance.

E. Selecting Tasks to Use as the Basis for Occupational Questionnaire Items

After you have selected the competencies you want to assess and have mapped out the number of items you would like included in the occupational questionnaire, you can use the critical tasks to assist you in creating questionnaire items.

Assuming one of the content areas, or competencies, you want to assess is **Cost-Benefit Analysis**, you would go back to the example job analysis and see that the tasks linked most strongly with that competency were:

Cost-Benefit Analysis

- Conducts return on investment analyses of key purchases related to IT programs.
- Designs or conducts analytical studies, cost-benefit analyses, or other research.
- Enters data or other information into a computer.
- Processes or analyzes data using computer systems or applications.
- Identifies risk/functionality tradeoffs, and works with stakeholders to ensure that risk management implementation is consistent with acceptable organizational risk posture.

While any of these tasks could be assessed with an occupational questionnaire, we will use the fourth task ("Processes or analyzes data using computer systems or applications") as the basis for one of our occupational questionnaire items.

From this task, possible occupational questionnaire items could be:

- To what extent have you used computer systems or applications to process data?
- Which of the following computer systems or applications have you used to process or analyze data?
- What is your level of expertise in processing data using computer applications?

Because we may not use the task as it is currently worded, later sections discuss how to develop (write) items.

What are Minimum Qualifications?

Minimum qualifications are the amounts of education and/or experience, or other requirements (e.g., licensure) that an applicant must possess in order to be considered for a particular position or occupation.

***

In the Federal Government, minimum qualifications are defined in terms of qualification standards set forth by the U.S. Office of Personnel Management (OPM).

***

Qualification standards are intended to identify applicants who are likely to be able to perform successfully on the job, and to screen out those who are unlikely to do so. **They are not designed to rank applicants or identify the best qualified applicants for General Schedule positions.**

3. Identify Minimum Qualifications

Screening out applicants on minimum qualifications is often done within an occupational questionnaire.

> **Please Note:** Screening on minimum qualifications is **not** the same as assessing applicants on the competencies necessary to perform the job. Using minimum qualifications on an occupational questionnaire is fine, but a "deeper dive" needs to be taken in order to assess the actual competencies that have been rated as critical for the job. This deeper dive is achieved through the use of additional assessments.

Applicants are first screened for minimum qualifications to be admitted to an assessment process. It is critical that minimum qualification requirements are written clearly and accurately.

Minimum qualifications can also be used to ask (or inform) applicants about any specialized experience requirements, selective factors, and/or quality ranking factors in regards to the position.[11, 12]

Specialized Experience Requirements

Specialized experience requirements can be used as a screen-out and may be used for positions at any grade level where appropriate (although they are typically used for positions that are above entry level). Specialized experience requirements are those aspects of a position that are necessary in order for the job to be performed successfully. For example, a medical technician position might require specialized experience performing duties

---

[11] When screening applicants on minimum qualifications a more comprehensive or holistic evaluation must be made of the applicant's entire background, with full consideration given to both education and experience. More information can be found on OPM's Classification & Qualifications Policy website including the General Schedule Qualifications Operating Manual.

[12] You may also need to consider other factors when designing your occupational questionnaire. From the Delegated Examining Operations Handbook, Chapter 6, Section A: "…The criteria you identify, such as series, grade, whether the position is temporary or part-time, and duty location(s), inform applicants about the circumstances of employment and are part of the process of identifying who will be on the certificate."

such as preparing culture media and stains and performing certain laboratory tests.

Selective Factors

Selective factors are another screen-out option, and like specialized experience requirements, they come from competencies or KSAs that were rated as required upon entry and are essential for successful performance in a position.

The use of selective factors is especially helpful in situations where an agency needs candidates that meet additional, agency-specific requirement(s). Their use would also be helpful in situations in which an agency has a nationwide job opportunity announcement (JOA), but has a special requirement for positions in a particular location because a duty performed is not routinely associated with the occupation (e.g., a contact representative position that requires fluency in Spanish).[13]

Quality Ranking Factors

Sometimes, through the job analysis, one competency/KSA stands out from the others because it is expected to significantly enhance performance in a position. This competency/KSA is referred to as a quality ranking factor. Unlike specialized experience requirements and selective factors, quality ranking factors are **not used as a screen-out**. Applicants who have the quality ranking factors can be ranked above those who do not, but no one can be rated ineligible solely for not having a (or the) quality ranking factor(s).

Quality ranking factors are based on desired (but not required) competencies or KSAs and generally enhance a candidate's performance in a position (but are not essential for satisfactory performance).[14]

For example, skill in public speaking might be used as a quality ranking factor for a position in an organization where policy changes are communicated to the public in several ways, with oral communication being one of those ways.

Best Practices

When using an occupational questionnaire to screen applicants for minimum qualifications, there are a few best practices to keep in mind:

- Describe experience requirements at each grade level identified so that distinctions between grade levels are clear. Describe the educational requirements of the position, including references as appropriate, by grade level.

---

[13] If you wish to use a selective or quality ranking factor, it is suggested you complete a request form:
http://www.opm.gov/forms/pdf_fill/sf39a.pdf
[14] For more information about quality ranking factors (and their relationship to competencies), please see Chapter 5 in the Delegated Examining Operations Handbook.

- Provide a link to the Qualification Standard.[15]

4. Develop Questions and Responses

Developing new occupational questionnaire items requires time and effort. The goal is to define the content area or competency in terms of observable and verifiable behaviors using the item content you have identified.
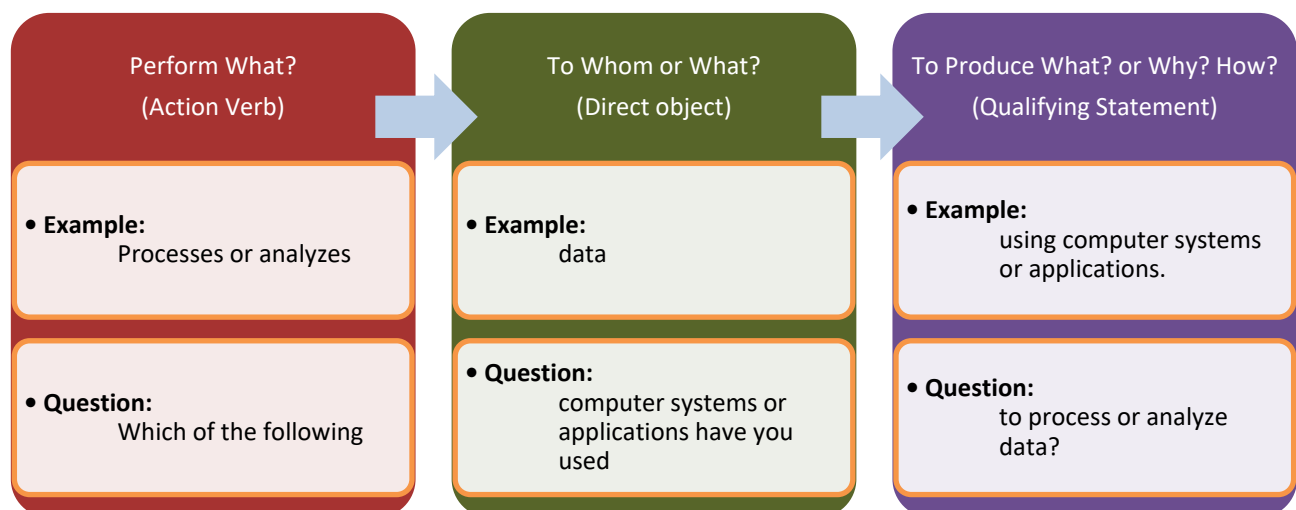
Developing new occupational questionnaire items happens in conjunction with selecting rating scale(s). It is important to make sure the item stem (or question) makes sense in regards to the rating scale that has been chosen.

Follow the Formula

When writing behavioral or task-based[16] occupational questionnaire items:

- The item should begin with an action verb in the present tense that describes a specific behavior (e.g., write, categorize, correct, delegate).
- The item can be singular (e.g., collect, analyze) or plural (e.g., reviews, leads); be sure to keep the tense consistent throughout the questionnaire.
- Keep the focus of the item on the applicant's experience in performing a certain behavior. Since the action verb defines the behavior, the action should be as specific and observable as possible to ensure the statement is interpreted the same by all applicants.

A helpful formula (along with an example from the job analysis) to remember when writing items is:

Perform What? (Action Verb)	To Whom or What? (Direct object)	To Produce What? or Why? How? (Qualifying Statement)
• Example: Processes or analyzes	• Example: data	• Example: using computer systems or applications.
• Question: Which of the following	• Question: computer systems or applications have you used	• Question: to process or analyze data?

---

[15] OPM Qualification Standards and/or Individual Occupational Requirements (IOR) as appropriate (IOR can be found by clicking on the individual position title).
[16] Meaning, items are written to reflect 1) a task (or tasks) identified as critical in the job analysis, and/or 2) behaviors or types of training or experience that serve as indicators of a competency.

The next section covers the various pitfalls – and fixes – that can occur when writing occupational questionnaire items.
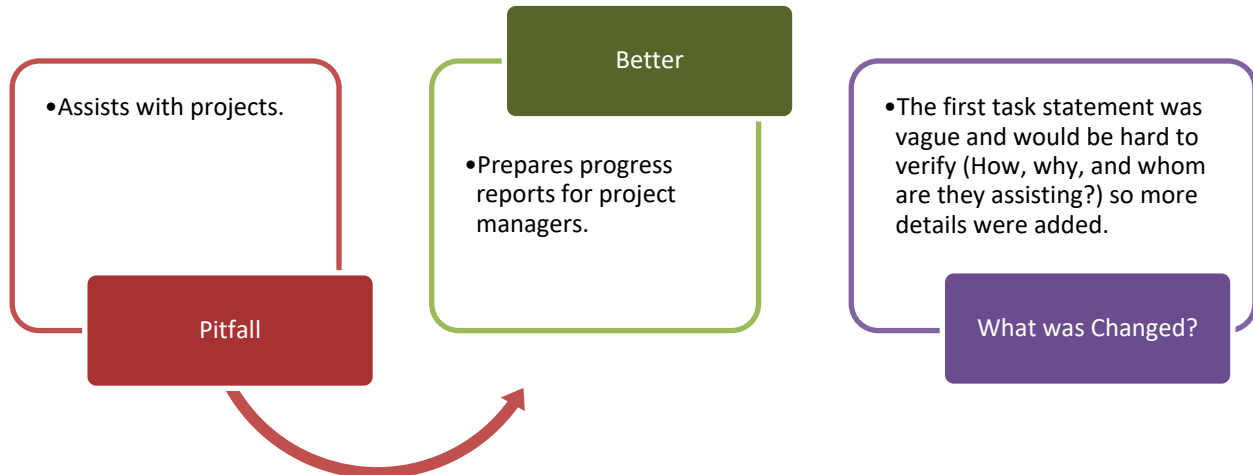
Item Writing: Pitfalls and Tips

Below is a list of item writing tips. Further discussion of these tips, including examples of pitfalls and fixes, are provided on the following pages.

Write Items in Behavioral, Observable, and Verifiable Terms

Write Clearly and Succinctly

Avoid Vague, Subjective, or Evaluative Wording

Do Not Use Double-Barreled Items

Avoid Government Jargon and Acronyms
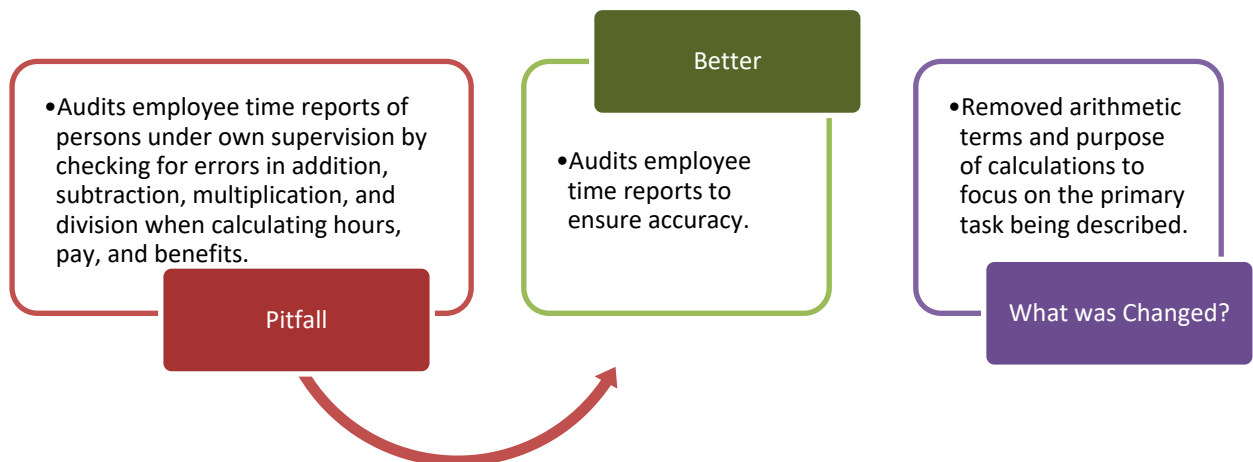
Avoid Overly Specialized Items

Write Items in Behavioral, Observable, and Verifiable Terms

Occupational questionnaire items should be written in terms of specific, observable, and verifiable behaviors, such that a colleague or supervisor could watch an applicant and verify that he or she performed each behavior. Using precise action verbs can help to ensure accountability and accuracy among applicants.
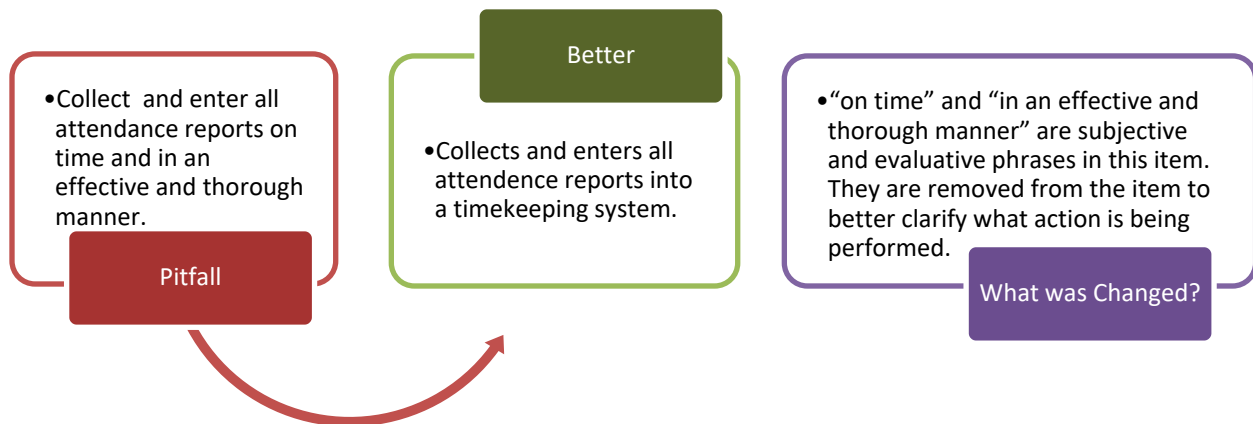
Pitfall
- Assists with projects.

Better
- Prepares progress reports for project managers.

What was Changed?
- The first task statement was vague and would be hard to verify (How, why, and whom are they assisting?) so more details were added.

Write Clearly and Succinctly

Write items clearly, but succinctly, so that an applicant has no trouble understanding the item on a single read.

Pitfall
- Audits employee time reports of persons under own supervision by checking for errors in addition, subtraction, multiplication, and division when calculating hours, pay, and benefits.

Better
- Audits employee time reports to ensure accuracy.

What was Changed?
- Removed arithmetic terms and purpose of calculations to focus on the primary task being described.

Avoid Vague, Subjective, or Evaluative Wording

Vague, subjective, or evaluative wording can also cause the applicant to incorrectly interpret items or statements. Removing ambiguous wording allows applicants to more accurately rate themselves.

Pitfall
- Collect and enter all attendance reports on time and in an effective and thorough manner.

Better
- Collects and enters all attendence reports into a timekeeping system.

What was Changed?
- "on time" and "in an effective and thorough manner" are subjective and evaluative phrases in this item. They are removed from the item to better clarify what action is being performed.
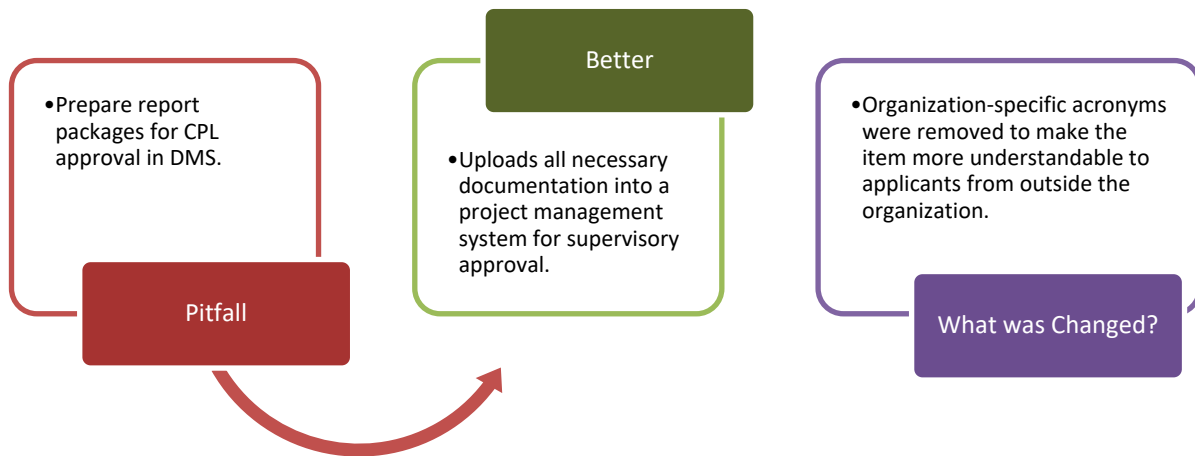
Do Not Use Double-Barreled Items

Double-barreled items include two or more tasks whereby applicants could have some but not all experience described. When items are double-barreled, it forces applicants to choose which part of the statement they will respond to, giving you incomplete or ambiguous information about the applicant's experience. In addition, different parts of the item may actually be measuring different competencies.

Pitfall
- Assemble quarterly performance data from internal office sources into a computer spreadsheet and prepare a written report.

Better
- Assembles performance data (e.g., quarterly, monthly) from multiple sources into a computer spreadsheet.
- Writes a report summarizing trends in performance data for internal decision making purposes.

What was Changed?
- The original item contains two separate tasks (and competencies) so this item is separated into two separate items.
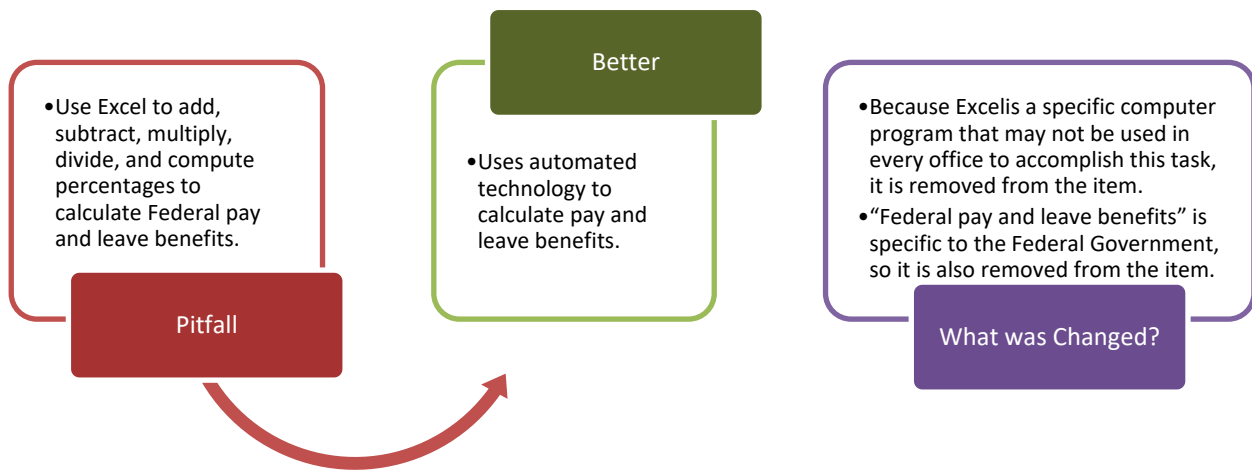
Avoid Government Jargon and Acronyms

Job-specific language may seem like a foreign language to applicants and could be misunderstood. Unless the position requires experience carrying out very specific job tasks as described in these documents, language should be revised so that all applicants can understand the items. Also, either avoid or define all acronyms.

Pitfall
- Prepare report packages for CPL approval in DMS.

Better
- Uploads all necessary documentation into a project management system for supervisory approval.

What was Changed?
- Organization-specific acronyms were removed to make the item more understandable to applicants from outside the organization.

Avoid Overly Specialized Items

While it may be necessary to assess for job-specific competencies, basing items on job-specific task statements can lead to items being overly specialized, which can inadvertently exclude qualified applicants. Although there may be certain specialized or technical expertise that is required, keep in mind that experience in other job settings may be equally as valuable, particularly when assessing general competencies.

Pitfall
- Use Excel to add, subtract, multiply, divide, and compute percentages to calculate Federal pay and leave benefits.

Better
- Uses automated technology to calculate pay and leave benefits.

What was Changed?
- Because Excel is a specific computer program that may not be used in every office to accomplish this task, it is removed from the item.
- "Federal pay and leave benefits" is specific to the Federal Government, so it is also removed from the item.

Other Item Writing Tips

Develop Items that Meaningfully Distinguish Among Applicants

A very important step in developing items is determining which critical behaviors differentiate those who are exceptional or highly successful in the position from mediocre performers. This is where you will use the data from the job analysis.
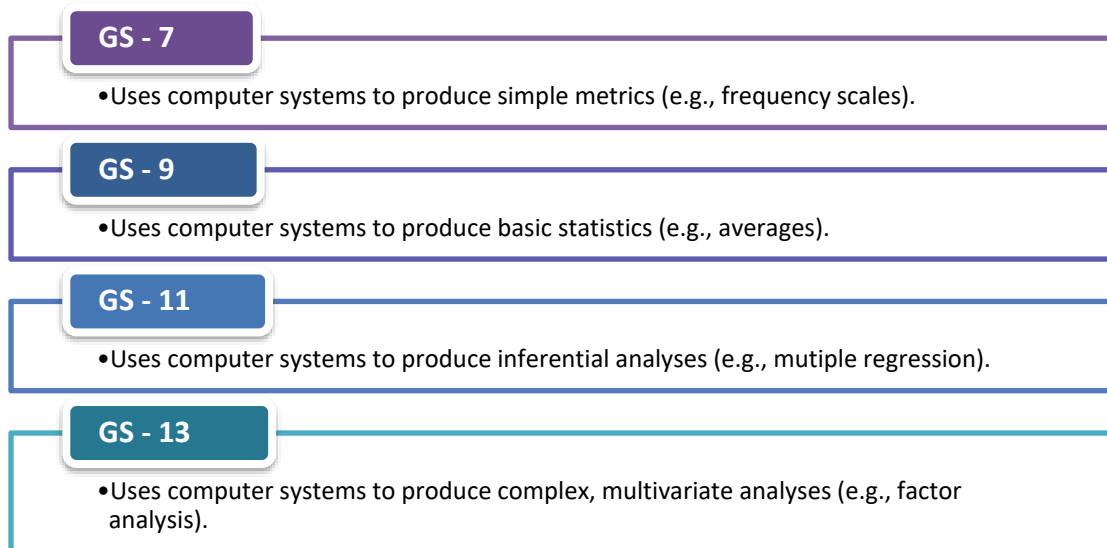
Think about those tasks/behaviors that were rated as highly critical for a given content area; those are the tasks/behaviors that are more likely to distinguish a highly successful employee from an average performer. The "Distinguishing Value" rating may come in handy here; those items rated as better differentiators among candidates may be the items you want to focus on.

Writing Items for Multiple Grade Levels

When developing a set of items to measure a given content area, particularly when assessing multiple grade levels,[17] also consider the range of behaviors that may differentiate among your applicants. Distinctions will be made among applicants as they rate their level of training and experience on items representing various levels of proficiency on the competency.[18]

The graphic below provides an example of how a critical job analysis task (e.g., Processes or analyzes data using computer systems or applications) can be made into different tasks based on the desired grade level:

GS - 7
•Uses computer systems to produce simple metrics (e.g., frequency scales).

GS - 9
•Uses computer systems to produce basic statistics (e.g., averages).

GS - 11
•Uses computer systems to produce inferential analyses (e.g., mutiple regression).

GS - 13
•Uses computer systems to produce complex, multivariate analyses (e.g., factor analysis).

---

[17] Appendix E provides additional information regarding the assessment of multiple grade levels.
[18] Please see MSPB's "Evaluating Job Applicants: The Role of Training and Experience in Hiring," for more information regarding challenges to applicant ratings.

5. Select Rating Scale(s)

When choosing a rating scale, the goal is to allow applicants to be as accurate as possible while completing the questionnaire. The response options should be clearly worded and describe observable, verifiable behaviors. And, as mentioned before, make sure the rating scale matches the type of item (or question) being asked.

It is important to make sure the item stem (or question) makes sense in regards to the rating scale that has been chosen. While this step may seem obvious, it is good practice to read through the items and check that the rating scale allows the applicant to accurately answer the item.

Types of Rating Scales

There are two commonly-used types of scales to choose from:

- Generic (can be used across items that have a similar item stem), and
- Customized (are created specifically for a certain item, content area, occupational series, etc.).

The table below illustrates the pros and cons of using both scales:

	Generic:	Customized:
Pros	• Relatively inexpensive and less time consuming to develop items using generic scales • Significant measurement expertise is not required for questionnaire development • Can be used for various questionnaires (not tied to a specific occupation)	• SME involvement generally leads to greater validity • May provide greater differentiation among candidates • Can be specifically tailored to a particular occupation, grade level, or content area
Cons	• Generally less SME involvement • May not provide as much differentiation among candidates • May not be as engaging for candidates (e.g., candidates may not read the items as closely if using the same scale throughout the questionnaire) • "Best answer" may be fairly transparent	• More challenging and time-consuming to develop • Require a greater level of measurement expertise • Require significantly more SME involvement • Generally cannot be used for other (specific) occupations

The decision to use a generic or customized rating scale will likely depend on your specific assessment scenario and your agency's resources. For example, if a position's tasks and duties are fairly static (do not change) and the position is filled often, you may opt for a customized scale. If the position you are looking to fill is constantly evolving or requires very specific skills, you may use a generic or customized scale to further drill down on the experience and skills of applicants.

Regardless of which type of rating scale you use,[19] it is important to write your scale clearly using specific, unambiguous language and clearly define your response options and anchor them in verifiable and behaviorally-based descriptions.

The table on the next page illustrates four commonly-used formats for rating scales with different example items.[20] (Note: Multiple rating scale formats can be mixed within an occupational questionnaire.)

---

[19] Scale choice may be dictated by other factors (e.g., agency practices, automated staffing system formats or limitations).
[20] Some rating scales take more time and expertise to create. Please consult with your SMEs and measurement specialists regarding any questions in the creation of more specialized rating scales.

Rating Scale with Example Items

Rating Scale Format	Explanation	Example Item
Yes/No	Response to the item requires a yes or no answer.	**Have you used a computer system or application to analyze data?** A. Yes B. No
Multiple Choice – Generic Scale	Applicants choose one option from a series of options to indicate their level of experience.	**To what extent have you used a computer system or application to analyze data?** ○ I have not had training or experience in performing this task. ○ I have had training in performing the task, but have not yet performed it on the job. ○ I have performed this task on the job. My work on this task was monitored closely by a supervisor or senior employee to ensure compliance with proper procedures. ○ I have performed this task as a regular part of a job. I have performed it independently and normally without review by a supervisor or senior employee. ○ I am considered an expert in performing this task. I have supervised performance of this task or am normally the person who is consulted by other workers to assist them in doing this task because of my expertise."
Multiple Choice – Customized Scale (Created specifically for this item)	Applicants choose one option from a series of options to indicate their level of experience.	**To what extent have you used a computer system or application to analyze data?** ○ I have not had training or experience in performing this task. ○ I have used a computer system or application to report the results of statistical analyses, to include generating graphs, charts, and tables. ○ I have used a computer system or application to analyze and interpret statistical data to identify significance of statistical tests. ○ I have used a computer system or application to adapt current statistical models to solve specific problems within my field. ○ I have used a computer system or application to develop software applications or programming for use in statistical modeling.
Select All That Apply	Applicants are presented a series of options and are asked to select each option that applies to their experience.	**Indicate which of the following computer systems or applications you have used to analyze data. (Select all that apply.)** ❑ Excel ❑ SAS ❑ SPSS ❑ STRATA ❑ Other (e.g., R Project, GNU) ❑ None of the above

6. Review the Occupational Questionnaire

Conducting a careful review of the occupational questionnaire is essential to ensuring its validity for hiring purposes. A review process, conducted by a hiring manager, incumbent to the position, or other SMEs, is recommended.

> **When conducting a review of the questionnaire, it is important to ensure that:**
>
> ✓ Items are tied to the job analysis
>
> ✓ Items are easily understandable
>
> ✓ There are no errors (e.g., grammar, punctuation)
>
> ✓ Items correctly represent the competency
>
> ✓ There is a clear connection between the item and the work that will be performed
>
> ✓ Items make sense in regard to the rating scale being used

Review Process

A two-tiered review is a recommended good practice. A two-tiered review includes an internal review (e.g., HR Specialist peers, first-line supervisor) and an external review (e.g., hiring manager, appropriate SMEs).

Internal Review – The resulting questionnaire is reviewed to ensure the:
❍ Qualifications are properly assessed
❍ Competencies and tasks are job-relevant
❍ Items and rating scales are appropriate
❍ Questionnaire is user-friendly and contains no grammatical errors or omissions

External Review – The goal of an external review is to have the SMEs:
❍ Verify the competencies are critical and needed at entry
❍ Verify the items reflect tasks performed on the job
❍ Review the items for accuracy, clarity, and importance; edit, add, and/or delete items, as needed
❍ Verify the items are likely to make meaningful distinctions among applicants

7. Design a Verification Process

Agencies should take reasonable steps to ensure the integrity of
their applicant screening, assessment, and referral procedures.
Particular care is needed when using applicant self-report ratings
(e.g., occupational questionnaire responses) to make employment
decisions. Research suggests even honest applicants are not
always accurate when rating their qualifications for a job (perhaps
they did not understand the question or had trouble answering a
poorly written item). Because of this, agencies are advised to
verify the applicant-provided ratings used in their hiring systems.

> Be sure to check your
> agency's policies and
> procedures regarding
> how possible score
> changes are to be
> handled.

Having a verification process in place helps to verify that applicants are responding accurately
and that quality candidates move to the next step in your assessment process. There are
numerous ways to verify applicants' responses. The following table depicts examples of how to
verify applicants' responses through various parts of the assessment process.

Step in the Assessment Process	Type of Verification	Example/Explanation
Pre-Application & Application	Warnings & Verification Statements	Applicants are notified in advance (before completing the questionnaire) of the agency's verification policy, and are cautioned that any inaccuracies in their responses could disqualify them from consideration for the position. This is often done within the job opportunity announcement (JOA) and may be repeated in the instructions section of the questionnaire.[21]
Post- Application	Manual Verification	Trained human resources personnel manually check that an applicant's questionnaire responses are supported by independent sources, such as the applicant's résumé, transcript(s), or application.
Post- Application and/or Post-Certificate	Follow-Up Assessments	Other types of assessments, such as structured interviews or work samples, are used to verify competencies of top applicants.

---

[21] Verification statements generally appear within the **how you will be evaluated** or **what to expect next** sections of
a job opportunity announcement. An example verification statement could be: "The [occupational] questionnaire
will assess your qualifications for the job and will be used to identify the best qualified applicants to be referred to
the hiring manager for further consideration and possible interviews. Your ratings in this [occupational]
questionnaire are subject to evaluation and verification based on the documents and references you submit. Later
steps in the selection process are specifically designed to verify your ratings. Deliberate attempts to falsify
information may be grounds for not selecting you or for dismissing you from the position/agency during the
probationary period."

Step in the Assessment Process	Type of Verification	Example/Explanation
Post-Certificate	Reference Checks	Trained human resources personnel or the hiring official verify a candidate's work experience by interviewing their past employers and/or professional contacts.

Verification Blocks

When performing manual verification of applicants' responses, it may be helpful to ask applicants where in their resume or transcripts they gained the experience or performed the skill in question. This practice can save time during the verification process, and it may also help determine whether applicants are responding to the item accurately.

Limits for Verification Blocks

The 2010 Presidential Memorandum on Improving the Federal Recruitment and Hiring Process directed agencies to eliminate the practice of requiring applicants to respond to essay-style questions during the initial application process, unless they obtain an exception from OPM. Therefore, single line (as opposed to paragraph length) text boxes may be used to verify applicants' responses. We also do not recommend including these text boxes with every item, as that would add undue burden to the applicant.

Keep it Practical

Use text boxes to verify responses when it makes sense to do so, such as for competencies that are rated as very important to the position, competencies that are useful for distinguishing between ability levels of applicants, or for competencies that would otherwise be difficult to verify.

Examples

> Indicate the position(s) and dates you performed this work and ensure your submitted resume reflects these types of experience. (Maximum length of 250 characters.)
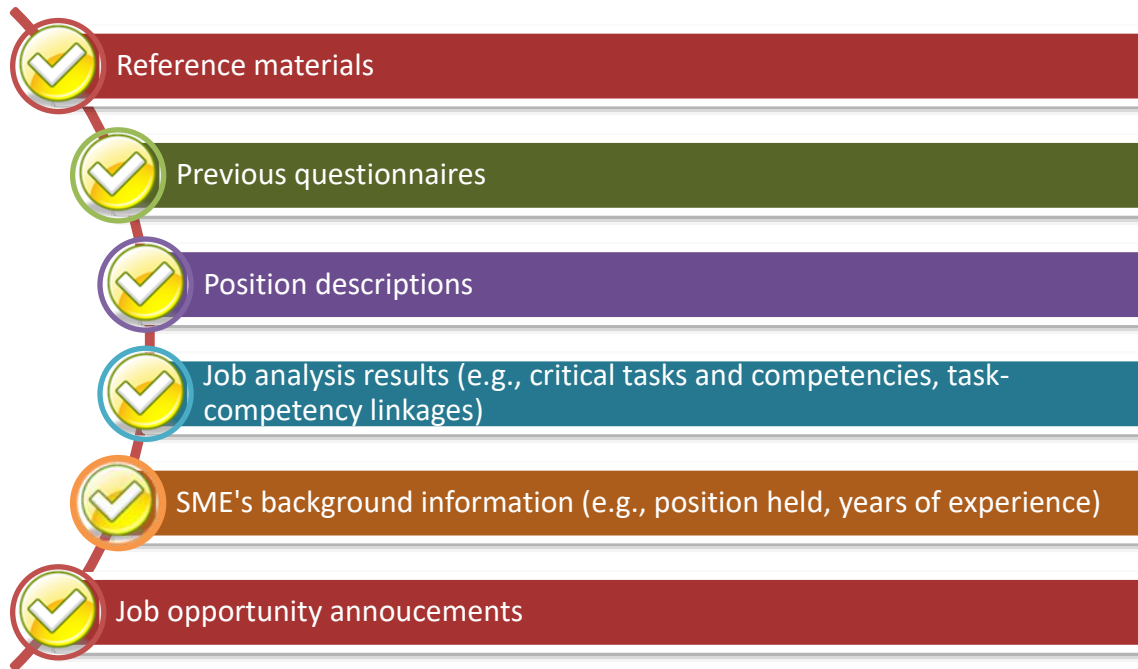
- When using a generic rating scale where "E" denotes an expert-level rating:

> For each response of "E" above, please indicate what position(s) on your resume supports this response (such as title, organization & date).

8. Document the Process

Maintaining records of the entire occupational questionnaire development process is an important part of the assessment process (**Delegated Examining Operations Handbook**).

The documentation should include any materials that were used in developing the questionnaire, including, but not limited to:

- Reference materials
- Previous questionnaires
- Position descriptions
- Job analysis results (e.g., critical tasks and competencies, task-competency linkages)
- SME's background information (e.g., position held, years of experience)
- Job opportunity annoucements

Additionally, any revisions made to the questionnaire as well as the revision process should be documented. This includes the specific revisions that were made, why the revisions were made, and the level of subject matter expertise involved in making the revisions.

9. Evaluate the Assessment Process

After implementing an occupational questionnaire, it is important to monitor the assessment process in the event adjustments are needed over time to make the questionnaire more useful. After using an occupational questionnaire as part of an assessment process, it is good practice to evaluate the questionnaire. The table below lists considerations to keep in mind during this evaluation.

	Steps to Evaluating the Assessment Process	
Step	**Question to Ask Yourself**	**How to Collect the Data**
1	**Were the items on the occupational questionnaire clear and easily understood and/or interpreted by all applicants?**	Record and evaluate any questions you received from applicants during the JOA open period. For example, were applicants confused by any of the questionnaire items, rating scales, or response options? Tracking these data in a systematic and routine way can help to determine types of questions that may be interpreted differently by applicants.
2	**Did the screen-out items identify those applicants that meet the minimum requirements for the position?**	The HR Specialist can identify the number of applicants whose self-ratings for qualifications were overridden (i.e., manual review of applicant supporting documentation indicated the applicant did not meet minimum requirements) during the review process.
3	**Did the occupational questionnaire items help to make meaningful distinctions among applicants?[22]**	Determine if there is sufficient variability in the occupational questionnaire scores. For cases in which scores are clustered together at the high or low end of the distribution, the questionnaire is not effectively differentiating among applicants.
4	**Did scores on the occupational questionnaire help to identify the most highly qualified applicants to move to the next step of your assessment process?**	The Hiring Official and/or the HR Specialist would be the best person to ask about the quality of the candidate(s).
5	**Is there a high return on investment associated with use of the occupational questionnaire?**	Compare the benefits of using the assessment for hiring to the costs of developing and implementing the assessment (e.g., time, money, staff resources). One way to estimate the return on investment associated with a given assessment process is through utility analysis.[23]

---

[22] Note: The number of applicants should be considered when making any conclusions regarding the distribution. Caution is advised in interpreting distributions of scores for small applicant pools.
[23] Please see Appendix F for further discussion regarding Steps 4 and 5.

A common question is: "If we find that a given item is 'bad' (poorly written, applicants had a hard time understanding it, miskeyed, etc.), when and how can we fix it?" The table below illustrates example actions that can be taken against a "bad" occupational questionnaire item during various steps in the assessment process. All examples are to be considered on an "and/or" basis; meaning, not all actions should be taken at the same time. Be sure to document adjustments made to any occupational questionnaire item and the rationale for that action.

Before the JOA is posted	• Remove or rewrite item • Adjust scoring as needed
During the application process	• Leave item on questionnaire, but remove item from consideration when scoring questionnaire • Give all applicants the same score on the item
After the applicant pool has been narrowed down	• Make note of item • Remove or rewrite item for future use in the questionnaire • Make note of scoring adjustments needed for future use
After the position has been filled	• Remove item from future use in the questionnaire and adjust item weighting as necessary • Rewrite item for future use

Appendices

Appendix A: Glossary

Key terms used throughout this guide are listed below.

Assessment – A systematic approach to gathering information about individuals; this information is used to make employment or career-related decisions about applicants and employees.

Assessment Plan – An established plan for designing and implementing one or more assessment tools for an organization, occupation, or a specific situation (may also be referred to as an assessment strategy).

Assessment Tool – A device or method used to measure the degree to which an applicant possesses the competencies/KSAs necessary for successful job performance. Examples of assessment tools include occupational questionnaires, rating schedules, written tests, work samples, and structured interviews.

Competency – A measurable pattern of knowledge, skills, abilities, behaviors, and other characteristics that an individual needs to perform work roles or occupational functions successfully. Competencies specify the "how" of performing job tasks, or what the person needs to do the job successfully. The terms competencies and KSAs are sometimes used interchangeably and serve the same function in the job analysis process.

DEOH – Delegated Examining Operations Handbook (may also be referred to as the DEO or DEU Handbook)

Job Analysis – – A systematic method for gathering, documenting, and analyzing information about the content, context, and requirements of a job. It demonstrates that there is a clear relationship between the tasks performed on the job and the competencies/KSAs required to perform the tasks. Job analysis information is used to develop employee selection procedures, identify training needs, define performance standards, and other uses.

JOA – Job opportunity announcement, also referred to as a vacancy announcement.

Minimum Qualifications – This may be (1) education, (2) experience, or (3) training, all of which are valid means of qualifying for employment. (Note: The requirements included in a qualification standard are only those essential for performing job duties. In other words, it is unlikely an employee would be able to perform satisfactorily in a position if the applicant did not possess at least these qualifications.)

Occupational Questionnaire Items – Assessment items are used to measure whether an applicant possesses the competency for each factor on the questionnaire.

Quality Ranking Factors – are knowledge, skills, and abilities/competencies that could be expected to enhance significantly performance in a position, but are not essential for satisfactory performance. Applicants who possess such KSA's/competencies may be ranked above those who

do not, but no one may be rated ineligible solely for failure to possess such KSA's. (See DEOH Chapter 5, Section B)

Return on Investment (ROI)/Utility – The extent to which the benefits gained from using the assessment method outweigh the costs of development and administration.

Selective Factors – A competency/KSA or special qualification without which a candidate could not perform the duties of a position in a satisfactory manner. Selective factors are applied in addition to minimum qualifications. Applicants who do not meet a selective factor are ineligible for further consideration. (See DEOH Chapter 4, Section B)

Specialized Experience – Experience that has equipped the applicant with the particular competencies, knowledge, skills, and abilities to successfully perform the duties of the position and is typically in or related to the work of the position to be filled.

Subject Matter Expert (SME) – A person with bona fide expert knowledge about what it takes to do a particular job. First-level supervisors are normally good SMEs. Superior incumbents in the same or very similar positions and other individuals can also be used as SMEs if they have current and thorough knowledge of the job's requirements.

Task – Activities an employee performs on a regular basis to carry out the functions of a job. Tasks typically begin with an action verb (e.g., analyze, build, develop) and should specify an observable action.

Validity – The extent to which assessment scores are related to current or future job performance (or some other work-related outcome such as training success, productivity, absenteeism, turnover).

Appendix B: Benefits and Challenges of Occupational Questionnaires

Benefits	Challenges
They allow for positions to be filled quickly. They can be scored immediately by an automated staffing system, which improves the efficiency of processing applicants. **They are relatively inexpensive to develop and implement.** This is especially the case when they are compared to more involved selection tools, such as assessment centers or work sample tests. **There is a fairly low burden for applicants.** Occupational questionnaires are yes/no and/or multiple choice, so when compared to written narrative essays, they take much less time and effort to complete. **Applicants can complete these assessments online in the location and time of their choosing.** Because occupational questionnaires typically ask about educational background or work experience of candidates, **they are viewed by job applicants as being fair because the link between assessment and the job is more apparent to them.** **They add face validity to the assessment process.** That is, since the questions reflect tasks the applicant would actually be performing on the job, applicants are more likely to be accepting of this type of assessment.	**Response distortion/applicant inflation**. When it is clear to candidates which response will give them the best chance to be considered for the position, they may choose that response even if it does not accurately describe their level of experience. **Ratings of training and experience tend to have lower validity than other selection tools**. It is important to ensure the occupational questionnaire is behaviorally-based, which has a higher validity.[24] **They may not offer meaningful distinctions among candidates**. If the items are not clear and the response options do not address distinct levels of experience, there may not be much difference in scores between eligible applicants. **They may not be ideal for assessing candidates for entry-level positions**. Occupational questionnaire items assess candidates based on their previous work experience, and applicants to entry-level positions often will have very little experience to report. While they can be scored quickly, **occupational questionnaires require time to initially develop** quality items and response options to ensure the assessment is effective.

---

[24] For more information about validity, face validity, and other assessment-related topics, please see the **Assessment Decision Guide**.

Benefits	Challenges
They allow for a wide variety of competencies to be assessed. Items can be developed which cover a wide range of general competencies as well as technical competencies that are more specific to a particular position. **Test security is not an issue.** Because items on occupational questionnaires simply ask candidates about their previous experience, knowing about the items in advance does not aid the candidate in scoring higher on the assessment. **Less assessment expertise is necessary to develop occupational questionnaires** relative to other types of assessments, so it is often quick and easy to learn how to develop and implement them.	

Appendix C: Occupational Questionnaire Development Checklist

❑ **Conduct a Job Analysis:** The first step in developing any assessment method is to conduct a job analysis or review a previous job analysis to ensure it is up-to-date. The job analysis should identify the tasks, responsibilities, and competencies of a job and which of those competencies are required upon entry to the job.

❑ **Develop an Assessment Plan:** Plan out how you will assess applicants. This plan should include a list of competencies to be measured, the weight each competency should have in the assessment process, and the number of items to be written and used to measure each competency.

❑ **Screen for Minimum Qualifications:** Describe the minimum qualification requirements at each grade level clearly and accurately. Ensure applicants have a "not qualified" option.

❑ **Develop Items:** Define the competencies in terms of observable and verifiable behaviors. Items should include an action verb that describes a specific behavior (e.g., writes, categorizes, analyzes).

❑ **Select Rating Scale(s):** Whether using generic or customized rating scales, yes/no, multiple choice, or "select all that apply" rating formats, the goal is to allow applicants to be as accurate as possible when completing the questionnaire.

❑ **Review the Occupational Questionnaire:** Review the questionnaire to make sure that items are clear, there are no errors, and that there is a clear connection between the items and both the competencies being assessed and the work that will be performed.

❑ **Design a Verification Process:** Take steps to ensure that applicants are responding truthfully to the questionnaire. Warnings, verification statements, manually verifying responses, using follow-up assessments, and reference checks are all examples of ways to confirm that responses are accurate.

❑ **Document the Development Process:** Maintain records of the entire occupational questionnaire development process, including any materials used to develop the questionnaire and SMEs involved in the development process.

❑ **Evaluate the Assessment Process:** Monitor the assessment process and make adjustments to the questionnaire as necessary. Ensure items are clear, make meaningful distinctions among applicants, help identify top applicants, and provide a quality return on investment.

Appendix D: The ABCs of Writing Occupational Questionnaire Items

Assessing applicants with an occupational questionnaire? Here are some helpful hints on writing quality questionnaire items.

Identify *What* to Assess

Identify the competencies you plan to measure based on your job analysis. The competencies you identify should relate to tasks and activities that can be seen and measured.

Generally, you will want to select a range of 4 to 8 competencies as the focus of the occupational questionnaire.

Write Behavioally-Based Items

The rule of thumb is to ask about 3 to 8 quality items for each competency.

- **Clearly distinguish competencies** (e.g., be sure an item does not measure both technical AND general content)

- **Consider level of experience required** (e.g., should the item cover very job-specific knowledge or general job-related behavior?)

- **Items should distinguish among candidates** (i.e., break items into different levels of proficiency)

- **Use observable (verifiable) terms** (e.g., "write a report" vs. "develop a report" as a measure for Written Communication)

- **Write clearly and succinctly** (e.g., "Audits employee time reports to verify accuracy" vs. "Audits employee time reports of persons under own supervision by checking for errors in addition and hours claimed")

Build Consistency into Your Process

- Establish clear standards of quality

- HR professionals should be trained in item-writing best practices

- Consider designating certain individuals to develop occupational questionnaires

- Evaluate your results to determine the effectiveness of your items

Appendix E: Creating an Occupational Questionnaire for Multiple Grades

Have a position to fill with multiple grades of the same occupational series? You may be able to save time by creating a single occupational questionnaire to be used across multiple grades. You should begin by ensuring you have valid, up-to-date job analysis data for the position at each grade.

You can refer to our job analysis checklist for basic instructions on conducting a job analysis. For OPM's job analysis methodology and other information – such as job analysis template worksheets, tips on writing tasks and competencies, and rating scales – please refer to Appendix D of the **Delegated Examining Operations Handbook (DEOH)**.

Step 1: List the Competencies You Want to Assess

Once you have performed a job analysis or confirmed that the existing data for the position is valid and current, use that data to choose the competencies you want to assess.

Step 2: List Each Item in the Questionnaire

Prepare a list of items in your questionnaire, and have subject matter experts (SMEs) review the items to ensure each item is based on a single competency. For a refresher on creating occupational questionnaire items, view Appendix D in this guide.

Step 3: List the Prodiciency Levels Needed at Each Grade

List the minimum proficiency level candidates will need to demonstrate for each competency at each grade. For example, let us say you are assessing oral communication, and the candidates are asked the highest level at which they have demonstrated their speaking skills:

    1 – Participated in discussions in team meetings
    2 – Delivered presentations to colleagues in team meetings
    3 – Orally briefed management on technical subject matter
    4 – Delivered presentations to external stakeholders on technical subject matter

For a GS-09, you might set the minimum oral communication proficiency level at:
"2 – Delivered presentations to colleagues in team meetings."

Whereas for a GS-11 or 12, you might expect their minimum proficiency level to be:
"3 - Orally briefed management on technical subject matter."

It is important to note that any decision to require a higher score for a particular grade must be supported by your job analysis data.

Step 4: Create a Key for Your Questionnaire

Create a key containing each of the questionnaire items and competencies they assess, as well as each grade level and corresponding proficiency levels. A brief example is below:

Questionnaire Item	Competency	Prof. Level – GS-09	Prof. Level – GS-11	Prof. Level – GS-12
1	Oral Communication	2	3	3
2	Oral Communication	2	3	3
3	Written Communication	3	3	4
4	Attention to Detail	2	3	4

Step 5: Verification Process

As you would with any occupational questionnaire, make sure you have a process in place to verify the accuracy of applicants' responses. Potential methods for verifying responses include:

- Comparing questionnaire responses to the applicant's résumé
- Using follow-up assessments such as structured interviews, work samples, or reference checks to confirm the competencies and level of experience of top applicants.

Appendix F: Evaluating the Assessment Process: Further Explanations

(Further discussion of ROI, continued from page 31 of this guide)

Step 4: Did the scores on the occupational questionnaire help to identify the most highly qualified applicants to move to the next step in your assessment process?

The HR specialist responsible for developing the occupational questionnaire and filling the position may be in a good position to make suggestions in regards to any improvements that may be needed. They also may be able to gauge how applicants perceived the burden of the application and assessment process and if any changes are needed. Finally, the HR specialist may be able to make an initial determination of the quality of the referrals identified through use of the occupational questionnaire. That is, the HR specialist may ask themselves, "Do the top applicants look better than the other applicants in terms of their qualifications for the position?" If not, it is important to go back through the various steps of the development process to determine what in the occupational questionnaire can be improved.

The hiring manager is perhaps in the best position to evaluate the quality of the applicants. The hiring manager serves as an important resource to help you understand the critical aspects of the job, define minimum qualifications that must be established in order to be considered for assessment and what will constitute a passing grade in your process, and determine appropriate assessment methods. Involving the hiring manager throughout the process will help to build a highly qualified applicant pool for consideration.

Relevant questions for the hiring manager may include:

> **Were you able to make a selection from the certficiate?**
>
> • If not, why not?

> **Were you satisfied with the quality of the referrals?**
>
> • If not, why not?

> **Were you able to make a quality hire?**
>
> • If not, why not?

Ongoing communication with the hiring manager is critical. For example, a hiring manager might say, "I expected them to have more research experience." It is important at that point to document this feedback, and then revisit the occupational questionnaire development process, starting with the job analysis. For example, were "research skills" identified as critical in the job

analysis? If not, why not? How was that skill missed? Was this content area assessed in the occupational questionnaire? Were the items assessing this content area appropriately targeted at the type of research skills required? Continue the dialogue with the hiring manager until recommended improvements are identified, implemented, and documented.
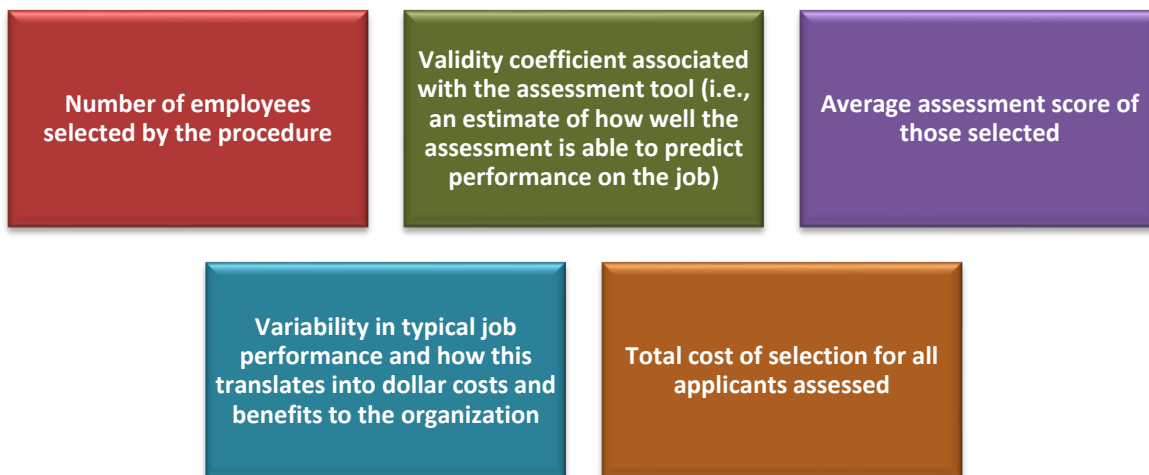
It is important to use assessments that are valid measures of the competencies so that you have useful, appropriate assessments that permit not only distinctions in relative levels of competencies but also to establish what score or quality indicators should be considered to constitute a passing grade, thereby permitting the agency to screen-out any applicants who could not successfully perform the duties of the position prior to developing the final list of eligible candidates. More information on how to set passing and cut scores can be found in Chapter 2 of the DEOH. Chapter 5 of the DEOH contains information on how to implement passing and cut scores while using single or multiple assessments.

The use of effective assessments can improve the validity of the selection process and improve the quality of hires. Agencies must evaluate applicants on all required competencies/KSAs including selective factors and quality ranking factors determined by the agency. Agencies are responsible for developing an appropriate assessment method for evaluating applicants on job related competencies/KSAs. In the past, many agencies determined qualifications using occupational questionnaires that applicants complete when first applying for a position. However, agencies are now required to use a competency-based approach which goes beyond minimum qualifications and provides agencies the flexibility to assess applicants using other methods. Using effective assessment tools is one of the most critical parts of examining candidates. For more information on assessments and designing an assessment strategy, please refer to OPM's **Assessment Decision Guide,** the **Assessment and Selection** website **and, the Delegating Examination Operations Handbook, Chapter 5**.

Step 5: Is there a high return on investment (ROI) associated with use of the occupational questionnaire?

The utility associated with a given assessment procedure is important to understand how the assessment process affects productivity at the organizational level. The monetary benefit associated with use of an assessment with higher vs. lower validity can be in the millions depending on the nature of the position, the number of positions filled, and the anticipated tenure of employees in the organization.

The usefulness of a given assessment process can be determined by comparing the benefits of using the assessment to the costs of developing and implementing the assessment. One way to estimate the return on investment associated with a given assessment process is through utility analysis. Utility analysis equations compute the monetary payoff associated with use of an assessment (in this case, an occupational questionnaire) versus, for example, another assessment tool (e.g., a written test). A basic utility analysis equation will take into account the following:

Number of employees selected by the procedure	**Validity coefficient associated with the assessment tool (i.e., an estimate of how well the assessment is able to predict performance on the job)**	**Average assessment score of those selected**

Variability in typical job performance and how this translates into dollar costs and benefits to the organization	**Total cost of selection for all applicants assessed**

Other return-on-investment considerations include investment costs, monetary returns, and non-monetary returns.

Investment costs can include:

- Time spent in the development of the occupational questionnaire, including training
- Time spent in the administration of the occupational questionnaire, including use of the automated staffing system, project management, and oversight
- Evaluation of the occupational questionnaire, including validity estimation, documentation, estimation of utility, and reports

Monetary returns can include:

- More recruitment actions accomplished with existing resources
- Utility/quality of applicants
- Lower number of Freedom of Information Act requests
- Lower number of grievances and appeals

Non-monetary returns can include:

- Applicant satisfaction with the assessment process
- Management satisfaction with applicants and procedures
- Perceptions of professionalism
- Perceptions of organizational effectiveness

Return-on-investment can be expressed by a number of different ways, both monetary and non-monetary. While conducting a return on investment analysis may be outside of the responsibility of an HR specialist, it is useful to be able to illustrate the outcomes of using a particular assessment method to justify the use of that assessment or create management buy-in.

U.S. Office of Personnel Management

Employee Services

1900 E Street, NW, Washington, DC 20415

OPM.GOV