Designing an Assessment Strategy

Course Objectives

- Provide a broad overview of assessment goals
- Outline current and emerging assessment options and models
- Identify steps and variables to consider when developing an assessment strategy
- Discuss implementation issues and considerations

Agenda

- Background and Context
- Assessment Models and Options
- Building an Assessment Strategy
- Implementation Considerations
- Summary and Conclusion

Background & Context

Assessment: Defining the Terms

- 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 Tool: any test or procedure (for example, ability test, structured interview, work sample) used to measure an individual's employment or career-related qualifications and interests

U.S. Department of Labor, *Testing and Assessment: An Employer's Guide to Good Practices*, 2000

Assessment: Defining the Terms

Assessment Strategy: an established plan for designing and implementing one or more assessment tools for an organization, occupation, or a specific situation.

Barriers to Effective Assessment

- Lack of teamwork among key players in the Federal hiring process
- Lack of assessment expertise
- Narrow perception of assessment
- Information technology systems may not easily support a range of assessment options
- Lack of meaningful data to evaluate effectiveness of assessments

The Importance of Effective Assessment

- Increases the likelihood of hiring employees who possess the right competencies and will contribute to agency success
- Results in hiring, placing, and promoting greater numbers of superior performers
- Results in reduced turnover

The Importance of Effective Assessment

- Results in cost savings to the organization
  - “Bad” hire estimated to cost 2-3 times salary in year one
  - Lower training and performance management costs
- Decreases the likelihood of a “bad” hire and associated consequences
  - Poor work quality
  - Dissatisfied customers
  - Lower morale among fellow employees

Assessment Models & Options

Topics Covered

- Broad assessment considerations
- Assessment options
- Emerging Assessment Options
- Multiple hurdles approach
- Case studies

Assessment Considerations

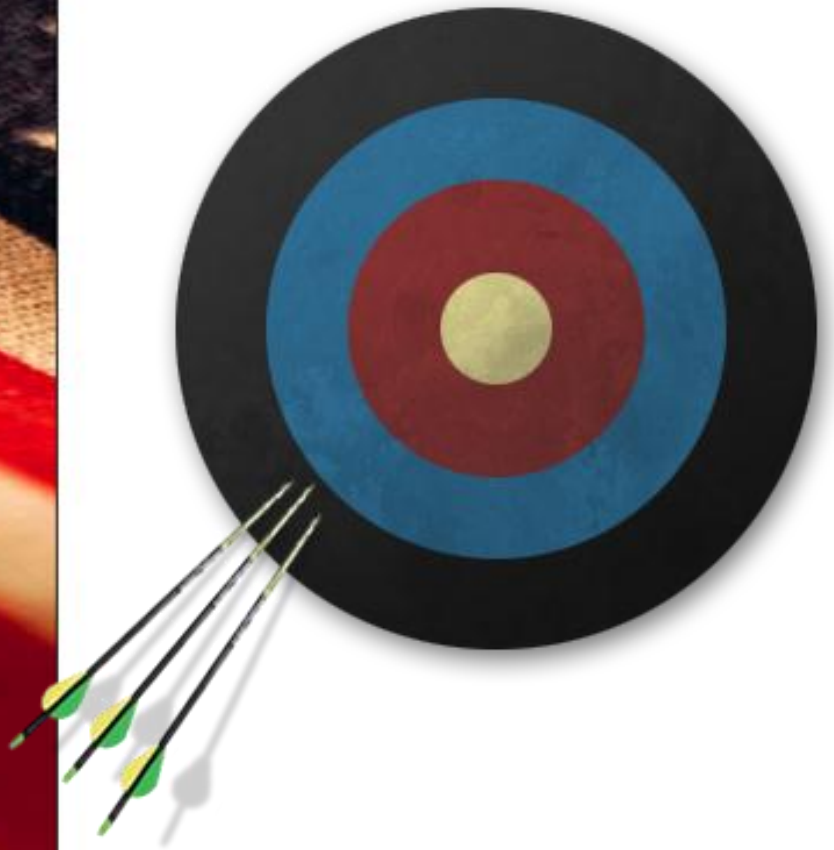
- Development and implementation costs
- Administration methods and costs
- Time and expertise required
- Applicant acceptance/face validity
- Potential for adverse impact
- Reliability and validity evidence
- Security of test materials

For more information about assessment considerations, please visit the Assessment Decision Tool: http://apps.opm.gov/ADT

Reliability and Validity: An Example

High reliability is a necessary condition for high validity, but high reliability does not ensure validity.

Reliable, but not Valid



Both Reliable and Valid

Validity of Various Assessment Tools

Validity coefficients quantify the relationship between scores on a selection device and job performance. The higher the coefficient, the better we can predict job performance.

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Validity Coefficients

Schmidt, F., & Hunter, J. (1998). The Validity and Utility of Selection Methods in Personnel Psychology: Practical and Theoretical Implications of 85 Years of Research Findings. *Psychological Bulletin, 124,* 262-274.

Assessment Options

Occupational Questionnaire

Task- and competency-based self-report questionnaires used to screen and rank applicants based on their job-related training and experience

Strengths	Considerations
Can be administered and scored electronically in a non-proctored setting	Requires subject matter expert (SME) involvement to develop
High face validity and convenience for applicants	Applicant response inflation must be addressed
Wide variety of competencies can be assessed	Less suitable for entry-level and unspecialized positions
Low adverse impact	

Occupational Questionnaire: Example #1

Indicate the extent to which you have communicated orally with various levels of employees to obtain and provide information.

A. I have had no experience in performing this task.

B. I have communicated orally with others to obtain or verify information or to provide routine information.

C. I have communicated orally with supervisors, managers, or office personnel to notify them of decisions, problems, or further actions needed, or to explain the organization's programs or services.

D. I have given short oral presentations at departmental or organizational briefings and meetings to convey information on program activities or to describe the impact of new organizational policies on operational responsibilities.

E. I have led briefings or taught courses on highly technical or complex material to audiences such as high-level managers or executives.

Occupational Questionnaire: Example #2

Manage a financial management information system that supports accounting, budgeting, procurement, disbursing, and/or statistical reporting.

A....
B....
C....
D....
E.....

If you rated yourself D or E, in the text box below, please write in the name of the financial management system you managed and the relevant position(s) you held.

Biographical Data Questionnaire (Biodata)

- Items about past events and behaviors that predict overall performance for a given occupation
- Items scored using a research-based scoring key

Strengths	Considerations
Can be administered and scored electronically in a non-proctored setting	Requires SME involvement and measurement expertise to develop
High validity	Somewhat low face validity for applicants
Low adverse impact	

Biodata: Example

This questionnaire asks you to describe your educational, work, and other experiences in specific areas which relate to successful job performance...

My peers would probably describe me as being:

A. much more confident than most
B. somewhat more confident than most
C. about as confident as anyone else
D. somewhat less confident than most
E. much less confident than most

During high school (grades 9-12) I made the semester honor roll:

A. never
B. once or twice
C. three or four times
D. five or six times
E. seven or eight times

Cognitive Ability Test

Applicants are asked to solve questions to estimate their potential to use mental processes to solve job-related problems or acquire job knowledge; can also measure aptitude for job-related skills

Strengths	Considerations
Can be administered and scored electronically	Security of test materials
High validity	Can adversely impact minority groups
	Requires measurement expertise to develop

Cognitive Ability Test: Example

The bus fare is increasing by 10%. The old bus fare was $20. What will the new fare be?

A. $20
B. $21
C. $22
D. $23

Personality Test

Multiple choice questions used to generate a profile of traits which can predict job performance or satisfaction with certain aspects of work

Strengths	Considerations
High validity	Must be linked to job-relevant information
Can be administered and scored electronically in a non-proctored setting	Requires measurement expertise to develop and interpret results

Personality Test: Example

I find it easy to see things from someone else's point of view.

A. Strongly agree
B. Somewhat agree
C. Neither agree or disagree
D. Somewhat disagree
E. Strongly disagree

Situational Judgment Test

Presents applicants with a description of a work problem or critical situation, and asks them to identify how they would deal with it (can be paper, computerized, or video-based format)

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement and measurement expertise to develop
Can be administered and scored electronically	Security of test materials

Situational Judgment Test: Example

No special training or experience is required to answer these questions. Identify from the response options the one that best represents *how you would handle the situation*.

You are a member of a project team. Another member of the team gives you a task that you do not feel qualified or trained to handle. What would you do?

A. Complete the task as best you can.

B. Consult with your supervisor.

C. Ask someone in the office who knows how to do the task to help you.

D. Ask the staff member to reassign the task to a more qualified team member.

Job Knowledge Test

Comprised of specific questions developed to determine how much the candidate knows about particular job tasks or responsibilities

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement and measurement expertise to develop
Can be administered and scored electronically	Security of test materials
Low adverse impact	Most appropriate for specialized or technical jobs

Job Knowledge Test: Example

A corporation repurchased some of their own stock purchase warrants. The price that they paid exceeded the amount that was assigned to the warrants at issuance. How should the excess paid be treated?

A. expensed
B. charged to capital stock
C. charged to additional paid-in capital
D. charged to retained earnings
E. capitalized and amortized

Writing Assessment

- Presents applicants with exercises similar to the writing that they would be required to perform on the job
- Scored by raters using professionally-developed benchmarks or by complex automated protocols

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement and measurement expertise to develop
Multiple ratings/consensus leads to increased reliability	Resource intensive rating process
Can be administered electronically	Security of test materials

Writing Assessment: Example

You are the supervisor in charge. You have been provided a list of information gathered by one of your team members during an investigation; this list of facts is in no particular order. You will need to prepare an Incident Report to document the situation. When generating your Incident Report, use the information provided as the basis for your document. Additional analysis of the facts provided is not required.

- suspect: male
- occurred 3:30pm
- Sergeant Smith on scene saw everything
- found near east entrance - white powder
- ….

Work Sample/Simulation

- Requires applicants to perform tasks/ activities that are identical or highly similar to tasks/activities performed on the job
- Generally rated by assessors using professionally-developed benchmarks

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement and measurement expertise to develop
Multiple ratings/consensus leads to increased reliability	Resource intensive rating process
Can be administered electronically	Security of test materials

Work Sample/Simulation: Example

- For the purposes of this exercise, you are to assume the role of a new analyst with OA Consultants (OAC). OAC is a small consulting firm that evaluates various organizational processes for public and private sector clients. Your supervisor, Chris Carpenter, has asked you to review the attached materials and respond, in writing, to the request found in the memo from the customer.
- The purpose of this exercise is to evaluate your Reasoning, Customer Service, and Writing skills. Please be sure to state the request and discuss your findings and conclusions in your report. You will have one hour to review the materials and write your report.

Accomplishment Record

- Applicants provide a written description of a situation to illustrate their proficiency in critical job-related competencies
- Evaluated by a panel of trained raters against competency-based benchmarks

Strengths	Considerations
High face validity for applicants	Somewhat burdensome for applicants as a prescreen
Multiple ratings/consensus leads to increased reliability	Resource intensive rating process
Can be administered electronically in a non-proctored setting	Results should be verified at a later stage in the assessment process

Accomplishment Record: Example

Analytical Reasoning is critical for the Program Analyst position. Analytical Reasoning is defined as…

Using the text box below, please describe **one specific instance** from your training and/or experience in which you demonstrated experience in Analytical Reasoning. In your response, please follow these important guidelines as you write your accomplishment:

- Describe the **situation** -- i.e., the challenge faced, the problem to be solved...
- Describe the specific **actions** you took…
- State the **outcome**, results, or long-term impact of your accomplishment…

Provide the name and a telephone number or email address or other method of contacting someone who can verify this information...

Structured Interview

- Panel interview where all candidates are asked the same job-related questions (often competency-and behavioral-based)
- Interviewers use detailed rating scales, evaluating all candidates according to the same standards

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement to develop
Multiple ratings/consensus leads to increased reliability	Resource intensive administration and rating process
Legally defensible compared to unstructured, conventional interviews	Assessors must be trained in conducting and rating the interviews

Structured Interview: Example Question

Competency: Interpersonal Skills - Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations; is sensitive to cultural diversity, race, gender, disabilities, and other individual differences.

Lead Question: Describe a situation in which you dealt with individuals who were difficult, hostile, or distressed.

Probing Questions: Who was involved? What specific actions did you take? What was the outcome?

Structured Interview: Example Rating Scale

Proficiency Level	1- Low	2	3-Average	4	5- Outstanding
Benchmark Definition	Handles interpersonal situations involving little or no tension or discomfort ...		Handles interpersonal situations involving a moderate degree of tension or discomfort ...		Handles interpersonal situations involving a high degree of tension or discomfort ...
	Example 1	**Example 2**	**Example 3**	**Example 4**	**Example 5**
Behavioral Example	Refers employees to the appropriate staff member ...	Works with others on a cross-functional team …	Establishes cooperative working relationships with managers ...	Facilitates an open forum to discuss employee concerns …	Diffuses an emotionally charged meeting with external stakeholders ...

Assessment Center

- Consists of multiple assessments to evaluate small groups of applicants on a variety of job-related competencies
- Designed to resemble actual challenges that will be found in the job
- Applicant performance is observed and evaluated by multiple trained assessors

Strengths	Considerations
High validity and face validity for applicants	Requires SME involvement and measurement expertise to develop
Multiple ratings/consensus across multiple assessments leads to increased reliability	Resource intensive administration and rating process
Low adverse impact	

Assessment Center: Example

You are to assume the role of a new manager in *XYZ Fictitious Agency*. Today is your first day… Your schedule today will include:

- Orientation
- Individual in-basket exercise
- Role-play exercise
- Group interaction
- Writing exercise

Emerging Assessment Options

Assess

- A Federal platform for online, un-proctored assessments
- Offers the flexibility to use assessment techniques not generally offered – or offered with less fidelity - in traditional staffing systems
- Can be supplemented by occupational questionnaires designed to measure technical competencies
- For more information, please send an email to *Assess@opm.gov*

Assess

Features of *Assess*:

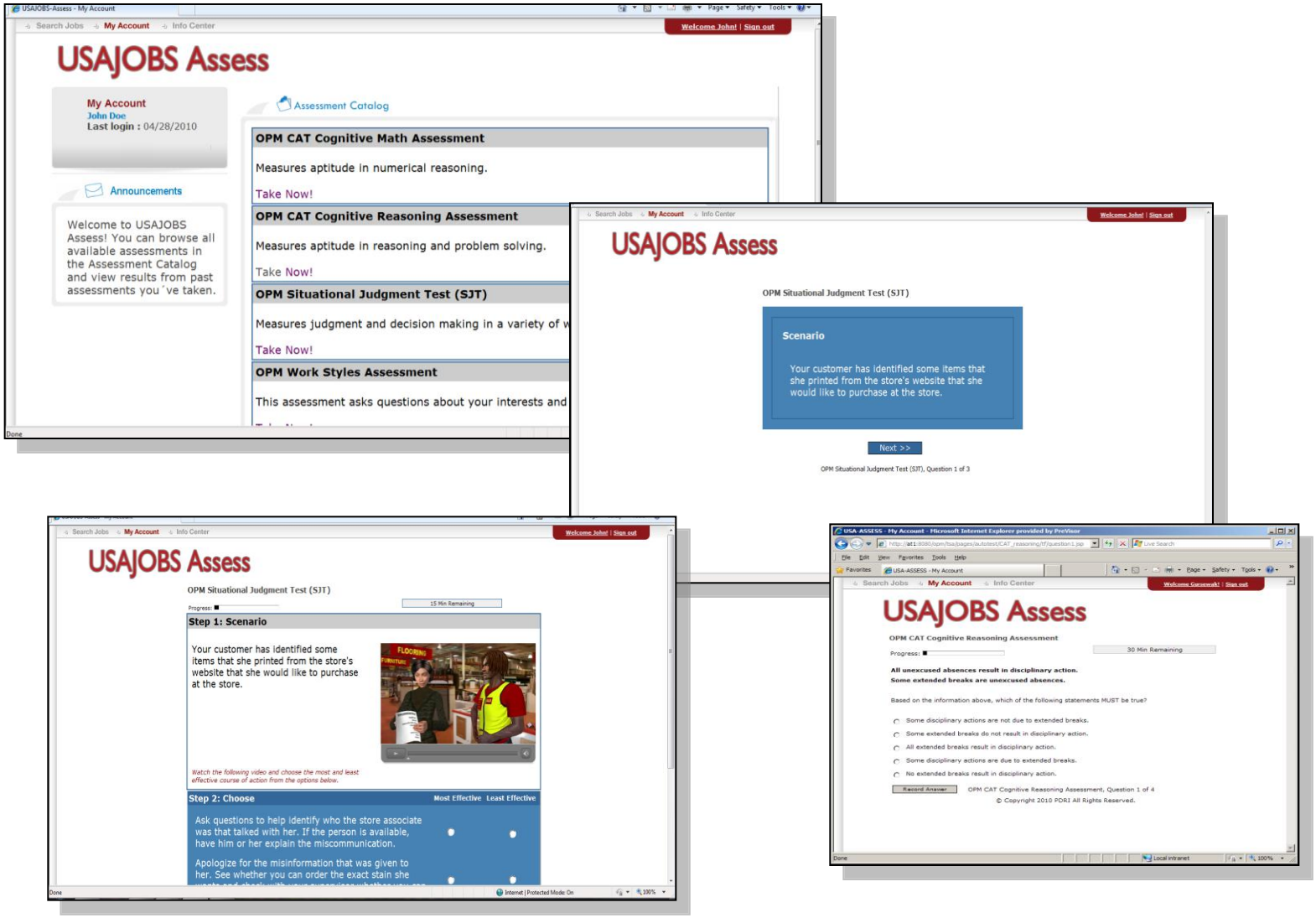
- Computer adaptive testing
- Innovative assessments (e.g., animation)
- Cognitive and non-cognitive competencies
- Lower applicant burden
- Same/greater prediction
- Less concern around “the test” being “gamed” by applicants

Assess

Assessments for 12 occupational series:

- Accountant, GS-0510
- Budget Analyst, GS-0560
- Financial Management Specialist, GS-0501
- Contract Specialist, GS-1102
- Contact Representative, GS-0962
- Management and Program Analyst, GS-0343
- Human Resources Specialist, GS-0201
- Information Technology Specialist, GS-2210
- Security Specialist, GS-0080
- Secretary (Office Automation), GS-0318
- Miscellaneous Clerk and Assistant, GS-0303
- Human Resources Assistant, GS-0203

Assess Sample Screen Shots



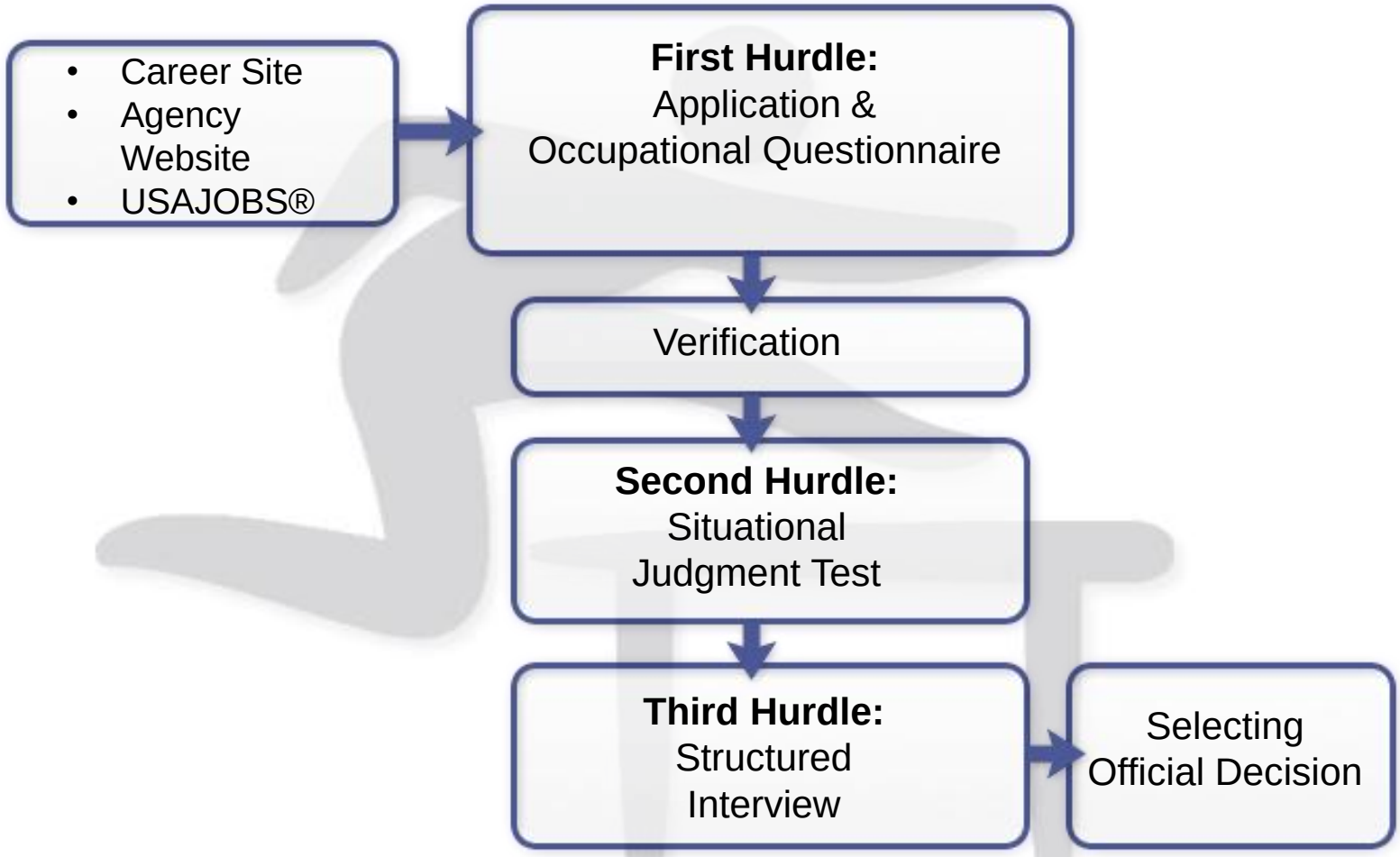
Multiple Hurdles Approach

Common Assessment Strategy

Multiple Hurdles Approach

- When using multiple assessment tools, a hurdled approach helps narrow down the applicant pool
- Maximizes the efficiency of resources by utilizing the most time and cost intensive resources on the best qualified individuals

Multiple Hurdles Approach: An Example



Assessment Order

- Common first hurdles
  - Application and résumé
  - Occupational questionnaire
  - Biodata
- Common second and/or third hurdles
  - Cognitive ability test
  - Personality test
  - Situational judgment test
  - Job knowledge test
  - Writing assessment
  - Work sample/ simulation
  - Accomplishment record
  - Structured interview
  - Assessment center

Case Studies

Case Study (2009): HR Assistant Shared Register

1st Hurdle: Applicants applied online, responded to minimum qualifications questions and uploaded required documentation

2nd Hurdle: Eligible applicants took an online un-proctored cognitive (clerical skills) test

- HR Specialist verifies minimum qualifications for applicants meeting the established cutoff

3rd Hurdle: Top applicants were referred to the agency for consideration

Case Study (2010): OPM Personnel Psychologist

1st Hurdle: Applicants completed an online prescreen occupational questionnaire

2nd Hurdle: Applicants in the top category were invited to a structured interview

3rd Hurdle: Top applicants were interviewed by the selecting official

Case Study (2010): Presidential Management Fellows (PMF)

1st Hurdle: Applicants completed a customized online application

2nd Hurdle: Eligible applicants completed computer-based proctored assessments: cognitive test, biodata test, and writing assessment

- Applicants ranked based on their combined score on the assessments

3rd Hurdle: Top applicants interviewed by interested agencies

Building an Assessment Strategy

Topics Covered

- Questions to consider
- Resources available

Questions to Consider

- How many job openings and applicants are expected?
  - If the ratio of job openings to applicants is high (e.g., few job openings and few applicants), you may not need an elaborate assessment strategy
  - If the ratio of job openings to applicants is low (e.g., few job openings and many applicants), a more elaborate assessment strategy will likely prove beneficial

Questions to Consider

- What is the nature and level of jobs to be filled?
  - If the job is more general in nature and/or the job level is lower, you may not need an elaborate assessment strategy
  - If the job is specialized in nature and/or the job level is higher, a more elaborate assessment strategy may prove beneficial

Questions to Consider

- What resources are available to **develop** and **implement** assessments?
  - Time
  - Budget
  - People

Questions to Consider

- What competencies need to be assessed?
  - Determined via job analysis
    - See OPM's Delegated Examining Operations Handbook (Chapter 2, Section B and Appendix G) *http://www.opm.gov/deu/Handbook_2007/DEO_Handbook.pdf*
  - Identified with input of job experts
  - Not all competencies can be assessed
  - Identify most important competencies that are linked to the job and are required at entry and focus on these

Questions to Consider

- Have you evaluated each assessment option?
  - Reliability and validity
  - Potential for subgroup differences (adverse impact)
  - Competencies assessed
  - How the assessments interrelate
  - Prior experience with assessments

Questions to Consider

- How will the assessments be scored?
  - Formula used to combine scores
  - Setting of passing/cut-off scores
  - Handling of veterans' preference

Questions to Consider

- In what order will the assessments be administered?
  - Is there a single hurdle or screen?
  - Is there more than one hurdle (i.e., multiple hurdles approach)?

Questions to Consider

- Are there any other factors we need to consider in filling this position?
  - Satisfaction with previous applicants and hires
  - Cost of a hiring error
  - Union involvement
  - Prior litigation
  - High turnover

Resources for Assistance

- OPM's Assessment Decision Tool (ADT):
  - An interactive system for developing customized assessment strategies
  - Presents assessment methods based on competencies targeted for assessment and situational factors relevant to the hiring situation
- OPM's Assessment Decision Guide:
  - Contains additional information on assessment options and considerations

http://apps.opm.gov/ADT

How Does the ADT Work?

- A user identifies his or her particular hiring situation, for example:
  - Projected number of applicants
  - Resources available (time, money, staff)
  - Competencies targeted for assessment
- The ADT presents the assessment methods most appropriate for the hiring situation

Sample ADT Output

Competency by Method Matrix

COMPETENCIES	Accomplishment Records	Assessment Centers	Biographical Data (Biodata) Tests	Job Knowledge Tests	Reference Checking
Human Capital Management	Preferred	Potential	Potential	Preferred	Preferred
Oral Communication	Preferred	Preferred	Potential	-	Potential
Partnering	Preferred	-	Preferred	-	Preferred
Strategic Thinking	Preferred	Preferred	Preferred	-	Preferred

Competency by Method Matrix (Cont.)

COMPETENCIES	Situational Judgment Tests	Structured Interviews	Training and Experience (T & E) Evaluations	Work Samples and Simulations
Human Capital Management	Potential	Preferred	Potential	Preferred
Oral Communication	-	Preferred	Potential	Preferred
Partnering	Potential	Preferred	Potential	-
Strategic Thinking	Potential	Preferred	Potential	Preferred

View description of Accomplishment Records Show

Implementation Considerations

Topics Covered

- How does a multiple hurdles strategy work with category rating?
- How is veterans' preference applied with a multiple hurdles strategy?
- What is a defensible process for establishing cut-off scores for use with a multiple hurdles strategy and/or category rating?
- What are some broad considerations when implementing a new assessment process?

Multiple Hurdles & Category Rating

- All assessments (e.g., occupational questionnaires, cognitive tests, hiring manager interviews) that will be used to evaluate applicants must be determined and specified on the Job Opportunity Announcement (JOA)
- Some of the assessments (e.g., hiring manager interviews) can be used once applicants are assigned to quality categories; however, scores are not computed and/or used to rank applicants further
- Examples of using category rating and assessment scores will be provided later in the presentation

Multiple Hurdles & Category Rating

Overview of the Assessment Process – Scenario A

Stage 1:
Minimum Qualifications
Occupational questionnaire (OQ) screens on minimum qualifications, conditions of employment, and selective factors

→ Qualified
→ Not Qualified

HR Office review and verification of qualifications

Stage 2:
Assessment of Critical Competencies
OQ rating of critical competencies

→ Meet initial criteria for Best Qualified
→ Meet initial criteria for Highly Qualified
→ Qualified

Stage 3:
Structured Interview
Structured interview of candidates who met initial criteria for Best Qualified

→ Best Qualified
→ Highly Qualified
→ Qualified

Stage 4:
Certification
Certificate of Best Qualified candidates delivered to hiring manager

Final Selection
Veterans are placed ahead of non-Veterans and must be considered first

- All qualified CP/CPS Veterans (within certain grades and occupations) are moved to the top group
- All qualified TP Veterans go to the top of the rated group

Multiple Hurdles & Category Rating

Overview of the Assessment Process – Scenario B

HR Office review and verification of qualifications

Stage 1:
Minimum Qualifications
Occupational questionnaire (OQ) screens on minimum qualifications, conditions of employment, and selective factors

- Qualified
- Not Qualified

Stage 2:
Assessment of Critical Competencies
OQ rating of critical competencies

- Best Qualified
- Highly Qualified
- Qualified

Stage 3:
Certification
Certificate of Best Qualified candidates delivered to hiring manager. Hiring manager has option to conduct structured interview with one or more candidates

Final Selection
Veterans are placed ahead of non-Veterans and must be considered first

- All qualified CP/CPS Veterans (within certain grades and occupations) are moved to the top group
- All qualified TP Veterans go to the top of the rated group

Cut-off Scores

Q: What is a cut-off score?

A: A minimum score used to make decisions regarding an applicant's next steps in the assessment or hiring process.

How Are Cut-Off Scores Used?

- Minimum qualifications requirements – to determine eligibility only when the occupation has a written test requirement or competency-based minimum qualification standards
- Multiple hurdles – to determine which applicants move to the next assessment hurdle
- Category rating – to determine the quality category into which applicant is placed

Establishing Cut-Off Scores

- Legal and professional standards
  - Uniform Guidelines on Employee Selection Procedures http://www.uniformguidelines.com
  - The Standards for Educational and Psychological Testing http://www.apa.org/science/programs/testing/standards.aspx
  - The Principles for the Validation and Use of Personnel Selection Procedures http://www.siop.org/_Principles/principlesdefault.aspx
  - Court cases

Establishing Cut-Off Scores

- Various methodologies can be used depending on assessment goals, tools and strategies
- A systematic process and sound professional judgment is required; in some cases, assessment experts and an agency's legal office are needed
- Documentation of how cut-off scores are established is critical

Establishing Cut-Off Scores

- Potential sources of information used to develop cut-off scores include:
  - Judgments of level of proficiency required
  - Number of vacancies relative to anticipated number of applicants
  - Statistical evidence

One Possible Method for Use with Category Rating

- Identify group of subject matter experts (SMEs)
- Establish frame of reference by discussing the quality category definitions, as well as what a minimally proficient employee and candidate would look like with regard to each quality category and competency being assessed
- For each assessment item or competency, instruct SMEs to independently identify minimum rating or response needed to be placed into each quality category
- Average ratings across SMEs; discuss and come to consensus where there are differences among ratings
- Sum average ratings (across items) as appropriate to determine overall cut-off score (if needed)
- Document rationale and process used

Sample: Category Rating

Sample Scoring #1

Category	Cut-off Scores
Best Qualified	Applicant must receive a total score of 95 or higher.
Highly Qualified	Applicant must receive a total score of 88 or higher.
Qualified	Applicants whose ratings do not meet the criteria to be placed in the Best Qualified or Highly Qualified categories.

Sample: Category Rating

Sample Scoring #2

Category	Cut-off Scores
Best Qualified	Applicant must receive an average final rating of *at least* 4.0 for Statistics, Research Methods, and Written Communication AND *at least* 3.0 for each of the other competencies.
Highly Qualified	Applicant must receive an average final rating of *at least* 3.0 for each of the competencies.
Qualified	Applicants whose ratings do not meet the criteria to be placed in the Best Qualified or Highly Qualified categories.

Sample: Category Rating

Sample Scoring #3

Category	Cut-off Scores
Best Qualified	Applicant must receive a total score of 95 or higher on the occupational questionnaire; AND applicant must receive an average final rating of *at least* 4.0 for Statistics, Research Methods, and Written Communication AND *at least* 3.0 for each of the other competencies on the structured interview (SI).
Highly Qualified	Applicant must receive a total score of 88 or higher on the occupational questionnaire; AND applicant must receive an average final rating of *at least* 3.0 for each of the competencies on the SI.
Qualified	Applicants whose ratings do not meet the criteria to be placed in the Best Qualified or Highly Qualified categories.

Implementing New Assessments

- Ensure ongoing coordination and collaboration among key stakeholders (HR, hiring managers)
- Develop implementation plan
  - Costs, timeline, resource needs
  - Logistics
  - Training
- Develop communication plan
- Develop operation and maintenance plan

Implementing New Assessments

- Develop evaluation plan
  - Define success and key metrics
  - Collect data on continuous basis
  - Determine effectiveness of assessments
  - Evaluate impact and return on investment
- Make it last
  - Ensure alignment of systems and infrastructure
  - Build in continuous mechanisms for improvement
  - Celebrate successes

Getting Technical Help

If your agency lacks assessment expertise, consider bringing in :

- Peer agencies with assessment expertise
- OPM
  - Employee Services (policy assistance and interpretation)
  - HR Solutions (fee-for-service)
    - Government consultants with assessment expertise
    - Access to vendors with assessment expertise
- Private consulting organizations specializing in assessment
- Hire your own assessment experts

Contact Information:

Assessment_Information@opm.gov