

# Competency-Based In-Basket Development: Getting What You Need

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# Overview of Presentation

- Context of the in-basket in our assessment program
- Overall in-basket development process
- In-depth discussion of working with others to get what you need for in-basket development
- Practical guidance for developing valid, fair, and reliable tests

# The Promotional Assessment System for Border Patrol Agents

<i>Competency Area</i>	<i>Decision Making</i>	<i>In-Basket</i>	<i>Writing</i>	<i>Job Experience Measure</i>
Thinking Skills	X			
Administrative Skills		X		
Writing Skills			X	
Technical Skills				X

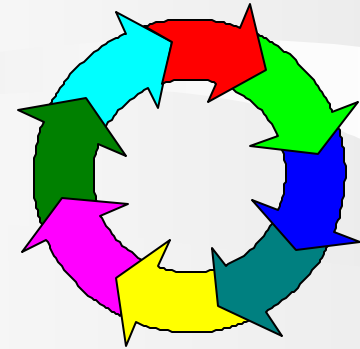
# The In-Basket Job Simulation

- The in-basket assesses four competencies:
  - planning and evaluating
  - problem solving and decision making
  - managing and organizing information
  - self-management
- Applicants are given:
  - 40 minutes to review documents
  - 50 minutes to answer 50 multiple choice items

# Competency Definitions

- Planning and Evaluating - Organizes work, sets priorities, determines resource requirements; determines objectives and strategies to achieve them; monitors and evaluates progress against goals.
- Problem Solving and Decision Making - Identifies problems; gathers, interprets, and evaluates information to determine its accuracy and relevance; generates and evaluates alternatives; makes sound and well-informed decisions; commits to action to accomplish organizational goals.
- Managing and Organizing Information - Identifies need for information; determines its importance, accuracy, and communicates it by a variety of methods.
- Self-management- Shows initiative; sets well-defined and realistic personal goals; monitors progress and is motivated to achieve; manages own time and deals with stress effectively.

# In-Basket Development Process



## 15-Step Protocol for In-Basket Development:

1. identify critical tasks and competencies
- 2. collect source material**
3. write the scenario
4. develop the document pool
- 5. SME review**
6. select documents
7. prepare item development plan
8. write multiple choice items
9. conduct internal technical review
- 10. final SME review**
11. assemble alternate forms
12. conduct final review
13. proofread in-basket materials
14. print the in-basket
15. prepare the test documentation file

# Focus of This Presentation

- Our assessment is only as good as the information we get...
- So how do we make sure we get good information?
  - **A**: Collect source material
  - **B**: Subject Matter Expert Panel for scenario and document review
  - **C**: Subject Matter Expert Panel for item review

# Collect Source Material

- This is Step 2 in the Protocol - we've already identified the competencies
- Collecting Source Material consists of:
  - Opening the file drawer
  - Conducting site visits
  - Collecting documents from the field



# File Drawer

- Look for material related to the competencies of interest:
  - Previous in-basket: notes from site visits, test materials, sample documents previously collected
  - Previous job analyses for the position
  - Development materials from any other tests for the position
  - Position descriptions, organizational charts, performance standards, etc.



# Site Visit Guidelines

- Where to go: multiple locations across geographic areas
- What to do: talk to as many incumbents as possible, tours facilities and work areas
- Materials:
  - Site Visit One-Page Summary: contact information, purpose of visits, general agenda, issues to discuss
  - In-Basket Fact Sheet: purpose of project, method of development, site visits, time frame, R&D points of contact
  - SME Attribute Questionnaire: position, tenure, age, race, gender, location
  - Interview Protocol: see next slide

# Site Visit Interview Protocol

- Conduct interviews with incumbents at the supervisory and managerial levels
- Questions at all levels are targeted toward the competencies
- Topics on interview protocol:
  - information about the work location and environment
  - information about the specific job
  - issues on the job: personnel, operational, budget, public relations, administrative, other
  - issues specific to supervisory levels
- Other topics:
  - collecting documents
  - critical incidents (war stories)

# Sample Competency-Driven SME Interview Questions

- What specific steps did you take in response to this issue? (Planning & Evaluating)
- What was the most critical issue to address in this situation? (Decision Making)
- Where or to whom did you go for more information? (Managing & Organizing Info.)
- Who else was involved in handling this issue? (Self-Management)

# Document Collection

- Variety of documents from all levels
- Related to competencies: decisions made, flow of information, planning, evaluation, delegation of issues, etc.
- Kinds of documents to collect:
  - reports
  - memoranda
  - e-mail
  - forms used on the job
  - policies and regulations
  - plans
  - messages
  - phone logs
  - calendars
  - organizational charts
  - news articles
  - announcements

# Example of Document Collected



**U.S. Department of Justice**  
Immigration and Naturalization Service

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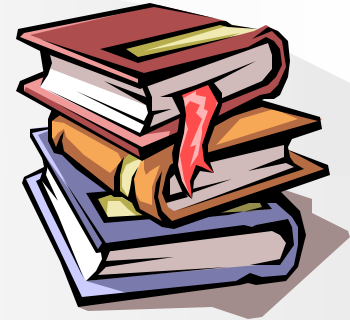
*425 I Street NW  
Washington, DC 20536*

MEMORANDUM FOR: Freddie Firstline  
FROM: Sam Sample  
SUBJECT: Detail Extension

As you know, BP Agent Malik and I are currently on detail in Swanton, VT to assist with border traffic for the influx of citizens traveling to Quebec, CAN for the seven-day festival. We are to report back to our permanent duty station in Del Rio, TX on January 20, 2002. However, we are requesting an extension to our detail here in Swanton, VT until January 22, 2002 so we can assist with an undercover operation resulting from the festival in Quebec, CAN.

Please call me with your decision ASAP so we can begin this operation, if approved.

# Results of Collecting Source Material



- At the end of this step we have:
  - information from multiple sources
  - representative sample of the issues dealt with across locations
  - ideas about what is the same, what is different across the occupation (by level, by geography)
  - actual documents that demonstrate the competencies and show us what the in-basket documents should look like
  - participation from the field - builds ownership of the assessment

# From Collecting Source Material to the First SME Panel

- From Step 2 (Collect Source Material) to Step 5 (SME Review)....
  - Step 3: Develop the Scenario
    - information about position, issues, timeframe, location, etc.
    - organizational chart
    - calendar
  - Step 4: Develop the Document Pool
    - reports, e-mail, memoranda, phone messages
    - chronological order starting with most recent



# Example of the In-Basket Scenario

## Your Role

You are **Pat Eckert**, Patrol Agent in Charge (PAIC) of the Axton Border Patrol Station. It is now 8:00 a.m. on Wednesday, July 17<sup>th</sup>, and this is your first day on the job as PAIC. **Michael Smith**, Field Operations Supervisor at the Meyersville station, has been the acting PAIC since July 1<sup>st</sup>. You must leave at 8:40 this morning to attend an all day meeting at Sector Headquarters. You will have the opportunity to check phone messages and return brief calls at lunchtime and during a short break in the afternoon.

## About the Axton Border Patrol Station

The Axton Border Patrol station is one of five stations in your sector. The five stations in the Lockwood sector are responsible for monitoring about 220 miles of international border. You report to Assistant Chief Patrol Agent **Kenneth Cole**, who new to his position.

# Example of a Document Created for the Document Pool

**Date:** 7/16 3:42 PM

**Sender:** Border Patrol Agent John Davis

**To:** Supervisor Michael Smith

**cc:** Patrol Agent in Charge Pat Eckert

**Subject:** Detail to Northern Border

BPA Lou Green and I are requesting a three-day extension to a detail assignment. As you know, we were detailed to Washington State to assist with a recent international sporting event in Victoria, Alberta, Canada. The event took place from July 14 - 16 involved athletes and spectators from all over the world and required cooperation among the Border Patrol, Customs, and DEA. All accounts have shown the conference to be a success with respect to security concerns. No threats to security were reported.

# Agenda for First SME Panel Review



1. Introduction to the in-basket and the promotional assessment system
2. Competency review
3. Individual review of scenario and documents
4. Individual evaluation of scenario and documents
5. Group review and evaluation of documents
6. Solicitation of competency-based responses to documents

# First SME Panel Review Material

- Competency Definitions: for review as scenario and documents are evaluated
- Scenario: including organizational chart and calendar
- Documents: 38 for the SMEs; goal of a final pool of 25 documents
- Document Review Forms: evaluation criteria for each document

# Subject Matter Expert Selection for Panel One

- Who are the Subject Matter Experts (SMEs)?
  - High enough in the organization to not be eligible to take the in-basket job simulation
  - Breadth of experience in the field
  - Knowledgeable about current issues faced by the field
  - Demographically representative of applicant pool
  - Representation from various field locations

# First SME Panel Review Process

- Individual review of scenario and documents without evaluation criteria
- Allows for familiarity with entire set of in-basket materials before
  - evaluating documents
  - soliciting responses
  - discussing interrelationships among documents
- SMEs evaluate documents **AFTER** individual review period and brief discussion

# Evaluation of In-Basket Documents

- SMEs considered the following for each document:
  - What would you do?
  - Who would be involved?
  - Who else needs to know about this issue/problem?
  - When should action be taken?
  - Is it realistic?
- Evaluation Criteria:
  - job relatedness
  - technical accuracy
  - format
  - clarity
- Recommendation:
  - use as is
  - use with changes
  - do not use

# SME Panel One Evaluation Form

Name _____			<b>Relatedness</b>	<b>Job -</b>	<b>Technical Accuracy</b>	<b>Format</b>	<b>Clarity</b>	<b>Recommendation</b>		
Border Patrol In-Basket Individual Document Evaluation Form								<b>Use as is</b>	<b>Use with changes</b>	<b>Do not use</b>
			<b>Doc #</b>	<b>Format</b>	<b>Issue</b>	<b>Check if acceptable</b>				<b>Check one</b>
1	e-mail	Detail assignment								
2										
3										



# Group Evaluation and Review

- Start with scenario and review each document in order
- Solicit:
  - evaluation of document from each SME
  - suggestions for revisions to documents regarding job-relatedness, technical accuracy, format, and clarity
- Achieve consensus on document recommendation (use as is, use with changes, do not use)

# Example of SME Panel 1 Input: We Gave Them This...

**Date:** 7/16 3:42 PM

**Sender:** Border Patrol Agent John Davis

**To:** Supervisor Michael Smith

**cc:** Patrol Agent in Charge Pat Eckert

**Subject:** Detail to Northern Border

BPA Lou Green and I are requesting a three-day extension to a detail assignment. As you know, we were detailed to Washington State to assist with a recent international sporting event in Victoria, Alberta, Canada. The event took place from July 14 - 16 involved athletes and spectators from all over the world and required cooperation among the Border Patrol, Customs, and DEA. All accounts have shown the conference to be a success with respect to security concerns. No threats to security were reported.

# Example of SME Panel 1 Input: SMEs Suggested This...

***U.S. Department of Justice***

***July 16***

*Immigration and Naturalization Service*

MEMORANDUM FOR PAT ECKERT, PATROL AGENT IN CHARGE

THROUGH: Greg O'Neill, Supervisory Border Patrol Agent

Michael Smith, Field Operations Supervisor

FROM: John Davis, Border Patrol Agent

SUBJECT: Detail to Northern Border

BPA Lou Green and I are requesting a one-day extension to a detail assignment. We were detailed to Washington State to assist with a recent international sporting event in Victoria, Alberta, Canada. The event took place from July 14 - 16 involved athletes and spectators from all over the world and required cooperation among the Border Patrol, Customs, and the Royal Canadian Mounted Police (RCMP). All accounts have shown the conference to be a success with respect to security concerns. No threats to security were reported.

# Example of SME Panel 1 Input: What Did We Learn?

- Content of document was technically accurate, clear, and job-related
- The format was incorrect - this kind of information would NOT be communicated through e-mail, but rather through a formal memorandum
- Changing format made this document usable for generating questions and more realistic for our candidates

# Revisions of Documents Based on SME Panel 1

- All documents were revised based on SME consensus and group review discussion at the end of the first day of SME review
- Revisions were consistent with the evaluation criteria - designed to make documents more job-related, clearer, more accurate, and formatted correctly
- Copies of 32 revised documents provided to SMEs for day two

# Benefits of Just-in-Time Revisions

- SMEs see the results of their work and respond to a closer-to-final product
- Time is not wasted reiterating suggestions that have already been made
- Responses can move more toward competency-based issues rather than formatting issues
- SMEs have only most essential documents to consider further
- Minimizes confusion & misunderstandings about revisions



# SME Panel 1: Competency- Based Solicitation of Responses

- Competency-related questions are asked regarding the range of responses for each document
- Sample questions include:
  - What specific steps would you take in response to this document? (PE)
  - What is the most critical problem presented by this document? (DM)
  - Where or to whom do you go for more information? (MI)
  - To whom can you delegate this document? (SM)

# Example of SME Panel One Responses

Doc #	Format	Issue	From	Responses	Changes
1	e- mail	Detail request	BPA John Davis	<ul style="list-style-type: none"><li>● Recommend approval; have FOS send up through chain</li><li>● Have supervisor ensure staffing can be handled</li><li>● Reasons it makes sense: there are things to learn there, they are already there, learning can be readily applied</li><li>● Wrong answer: tell supervisor to handle it; contact BPAs with approval</li></ul>	<ul style="list-style-type: none"><li>● Put in formal memo format</li><li>● Through official channels</li></ul>



# Results of First SME Panel

- Smaller document pool - SMEs in Panel One narrowed the document pool from 38 to 28
- ‘Clean’ documents - formatted appropriately, technically accurate, job-related
- Competency-based reactions to each document - foundation for writing items, response options, and justification for each

## From SME Panel 1 to SME Panel 2

- What happens between Step 5 (SME Panel 1) and Step 10 (SME Panel 2)?
  - Step 6: select documents
  - Step 7: prepare item development plan
  - Step 8: write multiple choice items and rationales for each
  - Step 9: conduct internal technical review

# Aside: A Note on Item Writing

- Taxonomy for item-writing is competency-driven
- Multiple-choice questions with five response options
- Options taken from SME responses to documents
- Questions and response options are linked to competencies

## Aside continued: The Item Writing Process

- Write items for each document, specifying competency and rationale for each response
- More than one item per document
- Some items deal with multiple documents
- Equal number of items across competencies
- Enough items for two forms of test with no more than 50% overlap in items
- Ensure no redundancy in items

# Sample Item 1

- In Document 1, BPA John Davis requests permission to extend a detail assignment. With whom should you discuss this request?
  - A. Sector Headquarters
  - B. Chief Patrol Agent Russell Lopez
  - C. All supervisors during shift change/muster
  - D. Field Operations Supervisor Michael Smith
  - E. Office Automation Clerk Joanne Atkins

# Rationale for Sample Item 1

- Competency: Managing Information
- Correct Answer: D; as your second-in-command, FOS Smith should be the first person with whom you discuss this request
- Incorrect Answers:
  - A. Sector should be notified, but through FOS, not directly
  - B. The Chief would not handle this request; that would be skipping the chain of command
  - C. Only the relevant supervisors need to be made aware of this, and only after it's approved
  - E. Office Automation Assistant would not handle this - it's an operational issue

## Sample Item 2

- In Document 1, BPA John Davis requests permission to extend a detail assignment. What should you do first to determine whether to recommend or deny approval of this request?
  - A. Ask BPA Davis to provide you with specific knowledge to be gained during extended detail
  - B. Send a recommendation for approval to Sector - no additional research is needed
  - C. Ask FOS Michael Smith to prepare a recommendation for your consideration
  - D. Request information on previous detail assignments from Sector Headquarters
  - E. Contact the PAIC in the northern border station to discuss the detail assignment

# Rationale for Sample Item 2

- Competency: Decision Making
- Correct Answer: C, FOS Smith is in the best position to have all the information needed to prepare a recommendation
- Incorrect Answers:
  - A. Contacting BPA directly is not effective prioritizing; he does not have information about impact on operations
  - B. Need to have someone close to operations handle this - you're too new to do it yourself
  - D. You should go to Sector with a specific recommendation, not for more information
  - E. Your concern is what the extension will do for your agents and your station



# Agenda for Second SME Review



- Overview and introduction to the in-basket
- Review of in-basket scenario and documents
- Individual responses to in-basket questions
- Group review of questions, response options, and justifications

# Second SME Panel Review Material

- Competency and subcompetency definitions
- Scenario
- Documents
- Multiple choice questions
- Justification for each question, including
  - justification for each response option
  - competency and subcompetency assessed by the question
  - points assigned for correct answer(s)

# Subject Matter Expert Selection for Panel Two

- Same selection criteria as SME Panel One
- Some of the same SMEs from Panel One, some different
- Pros and Cons:
  - Pros: bring additional expertise to the in-basket, wider representation from the occupation, familiar with process and issues raised in first panel
  - Cons: starting from square one with some SMEs, not with others

# Second SME Panel Review Process

- Review competencies and definitions
- Review scenario and documents
- Evaluate each multiple-choice item
- Determine or verify key(s) for each item
- Suggest revisions to items/documents as needed
- Review assessment materials (e.g., applicant instructions)

# SME Panel 2 Item Review

## Criteria

- To what degree does the item measure the competency indicated on the item?
  - Directly measures, indirectly measures, does not measure
- Is the item clear? If not, can it be fixed?
- Is the item technically credible? If not, can it be fixed?
- How job-related is the item?
  - Highly, somewhat, not at all
- What is your overall evaluation of the item?
  - Usable as is, usable with changes, do not use

# Example of SME 2 Input: We Gave Them This...

- In Document 1, BPA John Davis requests permission to extend a detail assignment. With whom should you discuss this request?
  - A. Sector Headquarters
  - B. Chief Patrol Agent Russell Lopez
  - C. All supervisors during shift change/muster
  - D. Field Operations Supervisor Michael Smith
  - E. Office Automation Clerk Joanne Atkins

# Example of SME 2 Input: They Suggested This...

- In Document 1, BPA John Davis requests permission to extend a detail assignment. With whom should you discuss this request **first**?
  - A. Sector Headquarters
  - B. Chief Patrol Agent Russell Lopez
  - C. All supervisors during shift change/muster
  - D. Field Operations Supervisor Michael Smith
  - E. **BPA John Davis**



# Example of SME 2 Input: AND

## They Suggested This...

- Adding the word, “first” to the end of the item clarifies what action should be taken next
- Replacing response option E, “Office Automation Clerk Joanne Atkins” with “BPA John Davis” made the item more realistic



# Results of Second SME Panel

- Clear linkage between each item and the competencies
- Revised pool of multiple choice items
- Consensus on rationales for each item and response option
- Final revisions to scenario and documents

# From Second SME Panel to Implementation

- From Step 10 (Second SME Panel) to the end:
  - Step 11: assemble alternate forms
  - Step 12: conduct final review
  - Step 13: proofread in-basket materials
  - Step 14: print the in-basket
  - Step 15: prepare the test documentation file

**DONE!**



# Did it Work?

- **Reliability = .67 (coefficient alpha, n=485)**
- **Relationship with other tests in the assessment battery**
  - **Correlations (p<.01, n=3,485)**
    - Decision Making: .47
    - Managerial Writing: .39
    - Total Score: .61
- **Validity evidence**
  - **Content**
    - Replicates important components of the job
    - Based on job-specific situations identified by a job analysis
  - **Construct**
    - Based on a competency model developed for this occupation
    - Correlations with other assessments
  - **Criterion**
    - Highly predictive of future job performance (Meyer, 1970; Kesselman, Lopez, and Lopez, 1982; Schippmann, Prien, & Katz, 1990)

# Lessons Learned

- Competencies are crucial:
  - must be demonstrably critical to job performance
  - able to be assessed in in-basket format
  - present throughout the development process
- Buy-in from the occupation and/or organization is very important
- Document everything!
- SME selection & representation

# Applications to Other (All) Test Development

- Begin and end test development with competencies to be measured by the test
- Build on prior success, learn from past mistakes
- Explore all sources of information and materials
- Maximize efficiency with SMEs - get everything you can from them in as short a time as possible
- Include multiple reality checks in the development process

# Questions?



# Thanks!