

Job Analysis and Item Development for Automated Recruiting—A Consultant's Perspective

**IPMAAC Conference
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Government Solutions

The Message

- Automated Assessment And Selection Systems Present New Challenges As Well As Old Ones
- Technology Has Driven New Problems As Well As New Solutions
- Subject Matter Experts Still Vital To Determining Best Qualified Job Candidates, But Their Role Has Changed
- Systematic Analysis Of Work And Worker Requirements Involving Multiple Experts Is Frequently The Consultant's Only Control Over Error And Bias

Agenda

- Basics of an Automated Recruiting System
- Process of Job Analysis and Item Development in 4 Cases
- Lessons Learned
- Summary & Review of Message

QuickHire
Basics

- QuickHire enables job listings on the web
 - Interfaces with OPM's egov initiative Recruitment One-Stop/USAJOBS
- Built on a J2EE Platform (Section 508 compliant)
- Collects Race and National Origin (RNO) Information
- Can be interfaced with other systems and vendors (i.e. Assessments, Background checks, ERP, IVR, Job Boards)
- Eliminates paper
- Applicants to apply anytime from anywhere
- Security is paramount

Other Features

- Build Vacancy Announcements including Multi-Grade/Multiple Locations
- Supports multiple hurdles
- Supports agency crediting plans and automated rating and ranking
- Automatically notifies candidates of new positions
- Correspond with applicants
- Sends vacancies to designated outreach organizations
- Perform Full Applicant Tracking
- Survey Applicants
- Generate Job Certificates
- Reporting and Ad Hoc Reporting capability
- Can gauge metrics like Cost/Hire and Time/Hire

BUT: Automated
Recruiting Does not
Mean Recruiting is
Automatic!!!

Automated Systems are...

- **tools** to assist in the staffing, classification, workforce management processes
- **only as good** as the content entered into the systems
- **data-driven, content delivery systems** where the client is free to create and retain full control over agency specific content
- **permission driven** systems where access to the various modules and functionality is controlled by the permissions granted to the user
- Automated Systems are *NOT*...
 - **Replacement** for Personnelists, Staffers and Classifiers

- QuickHire supports a variety of Question Types.
- Questions are archived in a library organized by Categories / Sub Categories for ease of use.
- Answer Choices can be weighted and weights applied to a particular vacancy or standardized.
- Typically, libraries are made available to HR Specialists and managers to select the KSAOC's and questions they propose for use in their vacancy notices.

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VACANCY DETAIL: Step 4 - Assign Questions

Asterisk (*) indicates a required field.

R2-N-2005-0178, Human Resources Specialist GS-0201-9/11 (0201 HUMAN RESOURCES SPECIALIST)

Created By: SYSDBA Jun 17, 2005 Last Updated By: SYSDBA

Available Questions to Assign

Assigned Questions

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All Grades | 09 | 11

Current Grade: All Grades

-  00-0318 - Secretary Series
-  0132 - Intelligence Analyst
-  0201 - Personnel Mgmt Specialist/Officer
-  0203 - Personnel Assistant
-  0212 - Personnel Staffing Specialist
-  0230 - Employee Relations Specialist
-  0260 - Equal Employment Specialist

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Certs Listing

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[Ineligible Applicant Report](#)
[Generate Job Certificate](#)
[DEU Count](#)
14 |

Current Grade: 14

 Sort by:

Status	Name	Score
BQ BQ ICTAP TP	HOGAN, HULK	97.27/ 100.00
BQ BO NV	ANDERSON, PAM	95.71/ 100.00
BQ BQ ICTAP SPCL CPS	MAN, BAT	94.55/ 100.00
WO NEW CTAP SPCL CPS	HILL, FAITH	92.21/ 100.00
WO NEW ICTAP SPCL TP	DIESEL, VIN	89.09/ 100.00
WO NEW CTAP NV	MOORE, ROGER	89.09/ 100.00

Staging Area Applications Listing

Staging Area Details

Staging Area #: SA-QDS-0004

Create Date and Time: May 2, 2005 5:27:37 PM

Created By: TB

Status: Open

- Types of questions:
 - **AA** -Applicant Assessment - Any user with System Administration permissions can customize the answer choices for Applicant Assessment type questions. For example, the applicant can be asked to rate his or her skills regarding a specific task on a scale of 1 to 5(e.g. Low, Below Average, Average, Above Average, High).
 - **LA** -Long Answer - Requires the applicant to enter a written (text) response.
 - **MAMC** - Multiple Answer, Multiple Choice - Provides the applicant with a list of possible responses, one or more of which can be selected (e.g. Check All That Apply).

- **MC** - Multiple Choice - Asks the applicant to choose one of the possible answers provided.
- **NA** - No Answer - Allows the user to add comments to the questions list that require no answer from the applicant.
- **SA** - Short Answer - Requires a written response with a maximum length of 250 characters (approximately 40 words).
- **TF** - True or False - Applicant selects whether the statement is True or False.
- **YN** - Yes or No - Requires the applicant to answer the question with Yes or No.
- Questions can support a variety of actions: **Branching**, **Scoring**, **Screenouts**

Which of the following best describes your experience in receiving and escorting visitors?

- I have not had experience or training in performing this task.
- I have had education or training in performing this task but have not yet performed this task on the job.
- I have performed this task on the job with close supervision from supervisor or senior employee.
- I have performed this task as a regular part of the job, independently and usually without review by supervisor or senior employee.
- I have supervised performance of this task, and/or I have trained others in performance and/or am normally consulted as an expert for assistance in performing this task.
- None of the above

My skill in using word processing software is:

- Basic (e.g., write and format documents, add headers and footers, cut and paste text, and add charts and pictures to documents)
- Intermediate (e.g., write merge documents and link them to databases for large mailing projects; to insert graphs, charts and tables that are linked to other documents or spreadsheets)
- Advanced (e.g., write and work with macros).
- None of the above.

Indicate the activities below which you have successfully performed in prior positions: (Check all the apply)

- I have received and escorted visitors
- I have made domestic and/or international travel arrangements
- I have received and referred phone calls to staff members
- I have resolved communication problems resulting from language and cultural differences
- None of the above.

The Challenge

How to populate question/item libraries with content valid items for a whole job series (e.g., series 110 Economist, series 570 Bank Examiner, etc.), given time and resources constraints of the client.

Typical Scenario

- Agency requires content valid questions for rating and ranking candidates.
- Questions are needed at various grade levels within one or more job series.
- SMEs may or may not be available to meet in a consecutive day workshop.
- T & E questions difficult to create without SME interaction.

Case Descriptions and Lessons Learned

Case #1:
3 –Day Job
Analysis
Workshop

Case #2:
3 –Day Job
Analysis &
Item
Development
Workshop

Case#3:
1-Day Job
Analysis &
Item Planning
w/SMEs; 2-
Day Item
Development
w/out SMEs;
.5 Day Item
Review
w/SMEs

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Case #1:
3 –Day Job
Analysis
Workshop

Setting:

- 4 SMEs from four different regions
- 3-Day question development workshop
- IT Specialist grades 11, 12 and 13
- Question library required within one week

Case #1:
3 –Day Job
Analysis
Workshop

Method:

- Brief SMEs on job analysis and content validity
- Build Task and KSA lists from selected PDs
- Rate Tasks & KSAs
- Select critical Tasks & KSAs
- Psychologist develops items (interest of time)
- SMEs validate items from other agencies (ditto)

Case #1:
3 –Day Job
Analysis
Workshop

Process: Building Task and KSA lists

- Assemble representative PDs, job analyses and crediting plans
- For each task, ask: “Still being done? Being done as worded? Being done in more than one position/location?”
- For each KSA, ask: “Still needed? Still needed as worded? Still needed in more than one position/location?”

Case #1:
3 –Day Job
Analysis
Workshop

Task Scales:

Importance: *How important is this task/activity to performing the job successfully [for the typical job incumbent in this grade level]? 0 = This activity is not a part of the job; 1 = Not Important; 2 = Minimally Important; 3 = Important; 4 = Very Important; 5 = Extremely Important*

Time Spent: *Consider the amount of time actually spent on this task/activity relative to the amount of time spent on the other activities [for the typical job incumbent in this grade level]. 0 = No time spent on this activity; 1 = Much less time spent on this activity than on other activities; 2 = Less time spent on this activity than on other activities; 3 = As much time spent on this activity as on other activities; 4 = More time spent on this activity than on other activities; 5 = Much more time spent on this activity than on other activities*

Perform on Day 1: *Should a newly hired employee be able to perform this task/activity immediately on Day 1 [or in a reasonably short orientation period thereafter] without formal training? Yes = 1 No = 0*

Case #1:
3 –Day Job
Analysis
Workshop

KSA Scales:

Importance: *How important is this competency/KSA for successful performance in this job?* 1 = Not Important; 2 = Somewhat Important; 3 = Important; 4 = Very Important; 5 = Extremely Important

Distinguishing Value: *How valuable is this competency/KSA for distinguishing superior from barely acceptable employees?*
1 = Not Valuable; 2 = Somewhat Valuable; 3 = Valuable; 4 = Very Valuable; 5 = Extremely Valuable

Need at Entry: *To what extent is it necessary that the employee possess this competency/KSA when entering the job?*
1 = Essential at Entry (because those who do not possess it will not acquire it through training or experience);
2 = Desirable at Entry (because those who possess it develop competence more readily);
3 = Not Need at Entry (because it is acquired through training or experience);

Case #1:
3 –Day Job
Analysis
Workshop

Process: Item Development

- Items developed by KSA
- Item content focus on experience, education/training, accomplishment as sources of “evidence”
- KSAs and Tasks converted to AA, MC and LA/SA questions

Case #1:
3 –Day Job
Analysis
Workshop

Process: Validate Items From Other Agencies

- Email survey of items to SMEs
- SMEs determine the following for each item:
 - Grade level for which item is relevant
 - Primary Task or KSA assessed by item
 - Level of Relevance on a 5-point scale
 - Appropriateness for all candidate groups: Yes/No

Case #1: Summary

- Job Series: IT Specialist
- Grade Levels: 11, 12, 13
- Number of SMEs: 5 (including a very experienced HR Specialist)
- Format:
 - ✓ 3-day workshop for job analysis and initial question development by psychologist
 - ✓ Follow-up by email for any unfinished job analysis activity
 - ✓ Follow-up by email for validation of existing items from other agency

Case #1: Summary

Lessons Learned:

- +Questions from other agencies *can be* validated for use with new agency
- +SMEs enjoyed meeting other SMEs
- +Presence of HR Specialist invaluable
- +Being at client site/quickly obtain additional materials, etc.
- +Questions available for use in relatively short time period
- Changes task lists, etc.require printing and copying on-site in order to keep entire group updated with materials
- Old PDs can require much editing
- Job analysis can take 2.5 days (2210)
- MAMC items difficult to write without SME input

Case #2:
3 –Day Job
Analysis &
Item
Development
Workshop

Setting:

- 4 SMEs for 3-day question development workshop
- Bank Examiner grades 5/7, 13/14 (3 varieties)
- Question library to be finalized within 8 weeks

Case #2:
3 –Day Job
Analysis &
Item
Development
Workshop

Method:

- Brief SMEs on job analysis and content validity
- Build Task and KSA lists from selected PDs
- Rate Tasks & KSAs
- Select critical Tasks & KSAs
- SMEs develop items; group review and edit
- Email validation with second panel

Case #2:
3 –Day Job
Analysis &
Item
Development
Workshop

Process: Item Development

- Items developed by KSA
- Focus on experience, education/training, accomplishments as “evidence”
- SMEs address full range of item types/formats
- Full group review and edit during workshop
- Goal: at least three items per KSA, only one of which is AA type

Case #2:
3 –Day Job
Analysis &
Item
Development
Workshop

Process: Second Panel Validation

- Email survey distributed by HR

Scales:

Relevance: *Indicate the extent to which the question reflects a relevant job activity/KSAOC.*

- Level of Relevance on a 5-point scale

Appropriateness: *Is the content of the question appropriate for all candidate groups (including minorities, women, and persons with disabilities)? Y/N*

Case #2: Summary

- Job Series: Bank Examiner
- Grade Levels: 5, 7, 13/14
- Number of SMEs: 4 (plus an experienced HR Specialist)
- Format:
 - ✓ 3-day workshop for job analysis and initial question development by SMEs
 - ✓ Follow-up by email for final edits of draft items
 - ✓ Follow-up by email for validation of draft items with second panel
 - ✓ Final item selection per content validation

Case #2: Summary

Lessons Learned:

- +Job analysis can take 1 day (Bank Examiner)
- +SMEs can develop good questions, especially MAMC
- +HR can ensure validation of items with second panel
- +Being at client site/quickly obtain additional materials, etc.
- +Questions available for use in relatively short time period
- Changes made to task lists and other materials requires printing and copying on-site in order to keep entire group updated with materials
- +/-Second panel may provide comments; changes require time consuming reconciliation

Case#3:

1-Day Job Analysis & Item Planning w/SMEs; 2-Day Item Development w/out SMEs; .5 Day Item Review w/SMEs

Setting:

- Face to face meeting with SMEs only 1-Day
- 6 SMEs for 1 day; Email follow-ups
- Editor/Writer grade level 13, 14

Case#3:
1-Day Job
Analysis &
Item Planning
w/SMEs; 2-
Day Item
Development
w/out SMEs;
.5 Day Item
Review
w/SMEs

Method:

- Brief SMEs on job analysis and content validity
- Build Task and KSA lists from selected PDs
- Rate Tasks & KSAs
- Select critical Tasks & KSAs
- Do question “planning” with SMEs
- Psychologist drafts items
- Assemble sub-group original SMEs for item review and editing
- Validate items with second SME panel via Email

Case #3: Summary

- Job Series: Editor/Writer
- Grade Levels: 13,14
- Number of SMEs: 6 (plus HR Specialist)
- Format:
 - ✓ 1 day workshop for job analysis and item planning
 - ✓ Psychologist drafts initial items
 - ✓ Edits conducted with 3 person sub-group
 - ✓ Final draft items reviewed by psychologist
 - ✓ Content validity survey goes to HR POC for distribution to second panel

Case #3: Summary

Lessons Learned:

- +Job analysis can take 1 day
- +Easier for SMEs to provide "ideas" for items than to develop items, especially for MAMC items
- +Psychologist can develop good draft questions by accessing all resources (classification standard, qual. standard, etc.)
- +Client appreciates shorter SME panel time investment
- +Being at client site/quickly obtain additional materials, etc.
- +Questions available for use in relatively short time period
- Follow-up content validation via survey difficult for some clients, especially small agencies with few SMEs
- Changes made to task lists and other materials requires printing and copying on-site in order to keep entire group updated with materials

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Setting:

- Face to face meeting with SMEs no longer than two days
- Previous question library found inadequate in job series; new items and revised old items needed
- SMEs available remotely for conference calls or emails
- Engineer grades 12, 13

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Method:

- Phase 1—Use meeting software (video) to conduct job analysis via conference calls (audio) with SME panel #1
- Phase 2—Conduct two-day face to face question development panel with SME panel #2
- Phase 3—Validate items with SME panel #1

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Method:

- Phase 1—Use meeting software (video) to conduct job analysis via conference calls (audio) with SME panel #1
 - Kick-off meeting/conference to brief SMEs on job analysis and content validity
 - Build Task and KSA lists from selected PDs “off-line” with subgroup of SMEs
 - Collect independent importance and time spent ratings on tasks and KSAs via email from total group of SMEs (see earlier scales)
 - Select critical tasks and KSAs as “targets” for T & E item development “off-line”

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Method:

- Phase 2—Conduct two-day face to face question development panel with SME panel #2
 - Do question “planning” with SMEs
 - Psychologist and SMEs draft items jointly
 - Psychologist and SMEs conduct for item review and editing

Case #4:
Remote Job
Analysis via
Meeting
Software;
2-Day
Workshop for
Item
Development

Method:

- Phase 3--Validate items with SME panel #1
 - Distribute draft items via survey to second panel via email to collect Relevance and Appropriateness ratings (see earlier scales)

Case #4: Summary

- Job Series: Engineer
- Grade Levels: 13,14
- Number of SMEs: 6 for Phase 1; 3 for Phase 2; 6 for Phase 3 (plus HR Specialist)
- Format:
 - ✓ Remote/virtual meetings and email for job analysis (Phase 1)
 - ✓ Psychologist and SMEs do question planning item development in 2-day workshop (Phase 2)
 - ✓ Edits conducted in 2-day workshop (Phase 2)
 - ✓ Final draft items reviewed by psychologist
 - ✓ Content validity survey goes directly to Phase 1 SME panel (Phase 3)

Case #4: Summary

Lessons Learned:

- +SMEs like convenience of remote process
- +Greater opportunity to obtain good SMEs
- +Less pressure to complete required tasks in a fixed time in face to face workshop.
- +Opportunity to use one SME panel for both job analysis and question validation
- +Changes made to task lists and other materials requires printing and copying on-site in order to keep entire group updated with materials
- More difficult to make adjustments to PDs, or to secure additional materials or resources
- Total time to develop usable items is stretched

Summary

- Automated Assessment And Selection Systems Present New Challenges As Well As Old Ones
- Technology Has Driven New Problems As Well As New Solutions
- Subject Matter Experts Still Vital To Determining Best Qualified Job Candidates, But Their Role Has Changed
- Systematic Analysis Of Work And Worker Requirements Involving Multiple Experts Is Frequently The Consultant's Only Control Over Error And Bias

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