

# **MODULAR TESTING**

*Cheaper, Faster, and Smarter  
Assessment*

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## *In a Nutshell*

- Rather than assembling test components first, according to validated selection criteria for a particular job, then administering the test for a particular vacancy...
- with modular testing you administer the various test components first, to candidates for a wide variety of similar jobs, then assemble scores after the fact, based on validated selection criteria for each job, to form a valid test for a particular vacancy.

# Where Most of Us Are Now

- Developing, validating, and administering multiple tests that measure the same things
- Applicants take a new test for every classification they are interested in
- Applicants are retested for similar and nearly identical positions

# Where Most of Us Are Now (con't)

- Weeks pass between requisition and list
- Recruiting and testing are tied to specific vacancies
- Recruiting and testing are reactive rather than strategic
- A large number of applicants may be a liability: inadequate staff and tools to screen them

# Where Modular Testing Can Take Us

- Year-around continual testing; candidates from large demographic groups targeted; testing for large groupings of jobs
- Same-Day certified lists: when a department has a vacancy, enter information into the applicant tracker and obtain a rank-ordered certified list.
- Manager self-serve on the certified ranked lists.
- Improve the overall quality of your eligible lists and new hires.
- And it's all valid.

# Today's Agenda

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## Tools Presented

- Modular Testing
- KSA Profile

## Questions Addressed

- *What are they?*
- *How do you use them?*
- *How will they add value?*

# So Just What Is Modular Testing?

- **The use of discrete, independent test modules.**
- **Each module measures a single knowledge, skill, ability, or competency.**
  - E.g. Reading Comp, Reasoning, Problem Solving
- ***Most* modules measure a knowledge, skill, or ability essential for a wide range of jobs.**
  - E.g Reasoning applies to all analyst jobs

# What Is a KSA Profile?

- A database of potential job candidates containing scores for each candidate for a wide range of knowledge, skills, abilities, and competencies; the composite information on each candidate comprises that candidate's "KSA Profile."
- Database is developed through modular testing.
- Scores can be mixed and matched according to validated selection "recipes" for numerous classifications to produce valid ranked lists.



**CANDIDATE PROFILES**

APPLICANT	READING COMP		REASONING		BASIC MATH		STATISTICS		WRITTEN EXPRESSION		ACCOUNTING PRINCIPLES AND PRACTICES		URBAN PLANNING	
	%	T-SCORE	%	T-SCORE	%	T-SCORE	%	T-SCORE	%	T-SCORE	%	T-SCORE	%	T-SCORE
Antilley	66.7%	44	60.0%	42	83.3%	54	63.3%	48	73.3%	53	NA	NA	60.0%	46
Boyko	96.7%	68	93.3%	63	63.3%	41	50.0%	40	93.3%	63	53.3%	44	NA	NA
Bradburn	50.0%	30	40.0%	30	73.3%	48	43.3%	36	33.3%	33	56.7%	45	NA	NA
Brewer	73.3%	49	70.0%	48	70.0%	45	63.3%	48	76.7%	55	NA	NA	66.7%	48
Cook	70.0%	46	66.7%	46	73.3%	48	66.7%	51	63.3%	48	NA	NA	73.3%	50
Davidson	80.0%	54	90.0%	61	100.0%	64	80.0%	59	70.0%	51	86.7%	53	NA	NA
Fejes	73.3%	49	80.0%	54	100.0%	64	90.0%	65	66.7%	50	90.0%	54	NA	NA
Gantt	76.7%	52	80.0%	54	70.0%	45	56.7%	44	66.7%	50	73.3%	49	NA	NA
Inan	70.0%	46	76.7%	52	36.7%	25	26.7%	26	26.7%	30	NA	NA	70.0%	49
Johnston	63.3%	41	50.0%	36	70.0%	45	66.7%	51	53.3%	43	NA	NA	NA	NA
Jones	90.0%	62	90.0%	61	96.7%	62	86.7%	63	86.7%	59	100.0%	56	NA	NA
Kjelsen	76.7%	52	66.7%	46	63.3%	41	66.7%	51	63.3%	48	NA	NA	70.0%	49
Macedo	86.7%	60	76.7%	52	66.7%	43	73.3%	55	70.0%	51	NA	NA	NA	NA
Mandel	76.7%	52	56.7%	40	73.3%	48	90.0%	65	80.0%	56	NA	NA	NA	NA
Phan	86.7%	60	90.0%	61	60.0%	39	56.7%	44	90.0%	61	NA	NA	NA	NA
Drewry	50.0%	30	76.7%	52	73.3%	48	76.7%	57	26.7%	30	NA	NA	86.7%	54
Rodriguez	96.7%	68	100.0%	67	93.3%	60	66.7%	51	53.3%	43	63.3%	47	NA	NA
Stevenson	66.7%	44	76.7%	52	96.7%	62	40.0%	34	86.7%	59	NA	NA	90.0%	55
Taylor	66.7%	44	40.0%	30	100.0%	64	76.7%	57	100.0%	66	NA	NA	66.7%	47
Russell	76.7%	52	73.3%	50	83.3%	54	76.7%	57	70.0%	51	80.0%	51	NA	NA

# Expanded View

APPLICANT	READING COMP		REASONING	
	%	T-SCORE	%	T-SCORE
Antilley	66.7%	44	60.0%	42
Boyko	96.7%	68	93.3%	63
Bradburn	50.0%	30	40.0%	30
Brewer	73.3%	49	70.0%	48
Cook	70.0%	46	66.7%	46
Davidson	80.0%	54	90.0%	61
Feies	73.3%	49	80.0%	51

# Steps in the Development Process

1. Identify a broad job group
2. Identify common KSAs for job group
3. Identify job-specific KSAs for selected classifications in job group
4. Develop exam modules for each KSA, beginning with common KSAs
5. validate the selection criteria (“recipe”) for each classification.

# Step 1: Identifying The Job Group

- **PROFESSIONAL – ENTRY LEVEL**
  - **Human Resources Analyst**
  - **Management Analyst**
  - **Accountant**
  - **Urban Planner**
  - **Crime Analyst**

# Steps 2 & 3:

## Identifying the Essential KSAs

### Common KSAs

- Reading Comp
- Reasoning
- Basic Math
- Statistics
- Written Expression

### Job Specific KSAs

- Accounting
- Urban Planning

# Step 4:

## Develop Exam Modules for Each KSA

### Examples:

- Reading Comp – 20 questions
- Reasoning – 21 questions
- Basic Math – 25 questions
- Statistics – 22 questions
- Written expression – written exercise
- Accounting – 30 questions
- Land Use Planning – 26 questions

# Step 4:

## Develop Exam Modules for Each KSA (con't)

- Note that the number of questions on each exam may vary.
- Because you are combining T-Scores, and combining them by validated weight, rather than combining raw scores, the number of questions is irrelevant.
- There should be enough questions for good reliability data, but not so many as to be burdensome.

**Step 5:**  
**VALIDATED SELECTION CRITERIA**  
**Ex: HR Analyst**

**SUBJECT AREA**

**PERCENT OF OVERALL  
SELECTION CRITERIA**

**WRITTEN EXPRESSION**

**30**

**REASONING**

**30**

**READING COMP**

**20**

**STATISTICS**

**20**



# Recap

- Developed the exam modules
- Administered a battery of exams to as many candidates as possible
- Entered candidate data and exam results to build the KSA profile
- Conducted job analyses and developed valid selection criteria (subject areas and weights)
- What next??

# Implementation: A Sample Timeline

**Day 1** – Department submits requisition

**Day 10** – Requisition approved

**Day 11** – HR (or customer department)  
enters vacancy info into KSA Profile

**Day 11** – Department has certified list

**Days 18-20** – implement interviews,  
simulations, and assessments of top  
candidates



# Certified Lists

25 January, 2006

<b>List Name</b>	HR Analyst
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<b>Pass/Fail</b>	NA	NA
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## Final Score Criteria

<b>KSA</b>	Written Expression	Reasoning	Reading Comp	Statistics
<b>WEIGHT</b>	30	30	20	20

## List Results

<b>Rank</b>	<b>Candidate</b>	<b>Score</b>
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**Certified Lists**  
**25 January, 2006**

<b>List Name</b>	HR Analyst																		
<b>Pass/Fail</b>	NA	NA																	

<b>Final Score Criteria</b>				
<b>KSA</b>	Written Expression	Reasoning	Reading Comp	Statistics
<b>WEIGHT</b>	30	30	20	20

<b>List Results</b>		
<b>Rank</b>	<b>Candidate</b>	<b>Score</b>
<b>1</b>	<b>Jones</b>	<b>61</b>
<b>2</b>	<b>Boyko</b>	<b>59</b>
<b>4</b>	<b>Phan</b>	<b>57</b>
<b>4</b>	<b>Rodriguez</b>	<b>57</b>
<b>5</b>	<b>Davidson</b>	<b>56</b>
<b>7</b>	<b>Fejes</b>	<b>54</b>
<b>7</b>	<b>Macedo</b>	<b>54</b>
<b>9</b>	<b>Russell</b>	<b>52</b>
<b>9</b>	<b>Mandel</b>	<b>52</b>
<b>11</b>	<b>Gantt</b>	<b>50</b>

**Certified Lists**  
**25 January, 2006**

<b>List Name</b>	Urban Planner
<b>Pass/Fail Criteria</b>	NA

**Final Score Criteria**

<b>KSA</b>	Written Expression	Reasoning	Reading Comp	Basic Math	Urban Planning
<b>WEIGHT</b>	25	20	20	15	20

**List Results**

<b>Rank</b>	<b>Candidate</b>	<b>Score</b>
<b>1</b>	<b>Stevenson</b>	<b>54</b>
<b>3</b>	<b>Brewer</b>	<b>50</b>
<b>3</b>	<b>Taylor</b>	<b>50</b>
<b>6</b>	<b>Antilley</b>	<b>48</b>
<b>6</b>	<b>Cook</b>	<b>48</b>
<b>6</b>	<b>Kjelsen</b>	<b>48</b>
<b>7</b>	<b>Drewry</b>	<b>42</b>
<b>8</b>	<b>Inan</b>	<b>41</b>

# Certified Lists

25 January, 2006

**List Name**

Accountant

**Pass/Fail**

**Criteria**

Accounting

70%

## Final Score Criteria

**KSA**

Accounting

Reasoning

Reading  
Comp

Basic  
Math

Stats

Written  
Exoression

**WEIGHT**

15

20

15

15

15

20

## List Results

**Rank**

**Candidate**

**Score**

1

Jones

61

2

Davidson

57

3

Feies

56

4

Gantt

49

# Back to the Question: How Does This Add Value?

<b>CHEAPER</b>	<b>FASTER</b>	<b>SMARTER</b>
<b>Address redundancies in test development &amp; Admin</b>	<b>Provide ranked lists upon receipt of requisition</b>	<b>Improve size and quality of applicant pool; improve identification of top candidates</b>
	<b>Potential for management self- serve with ranked lists</b>	<b>Make recruiting and testing more strategic</b>



# How Does This Add Value?

- **Recruiting and testing are more efficient**
- **Recruiting and testing are more strategic**
  - *This is where real value can be added*

# Making Recruiting And Testing More *Efficient*

- Instead of hundreds of exams that all need to be developed, validated, and administered, you have about a dozen or two.
- One day turnaround from approval of requisition to list.
- Able to test applicants for multiple potential vacancies all at one time.
- Exam screens applicants based on essential KSAs
  - Screening by employment standards is time consuming, inefficient, and questionably valid.

# Making Recruiting & Testing More *Strategic*

As long as recruiting and testing are in the business of placing a body into a particular vacancy, recruiting and testing cannot help but be tactical and reactive.

Disconnecting recruiting and testing from specific vacancies enables them to be more strategic.

# Strategic Goals of Recruiting

- Sell the agency as an employer of choice
- Target audiences are large demographics (e.g. degreed non-licensed, clerical)
- Maximize the applicant pool

# Strategic Goals of Recruiting (con't)

- Sell your agency as an *Employer of Choice*
  - Market the agency brand to large swaths of the applicant pool *and future applicant pool*
  - Recruit aggressively; drive the applicant pool to your testing!
  - *Recruiting becomes a tool for workforce development and succession planning*

# Strategic Goals of Recruiting (con't)

- **Maximize applicant pool**
  - **Drive the applicant pool to your testing!**
  - **More applicants => improved quality of eligible lists**
  - **improved quality of eligible lists => improved chance of hiring high performers**
  - **A long term strategy of hiring high performers => improved productivity and innovation**
  - **improved productivity and innovation => \$\$\$\$**

# Strategic Goals of Testing

- **Develop the deepest, broadest possible KSA profile**
- **Maximize the quality of your eligible lists through rigorous testing of the *correct and validated* knowledge, skills, and abilities**
- **Hire high performing candidates to build a high performing organization**
- **Ensure that potential high performers are not screened out**

# POTENTIALS

- Broad Band Classes based on essential KSAs
- Web-based testing and screening for KSAs
- KSA profile as a tool for planning employee development
- Management self-serve lists



**Thank You**