What Must They Know?
Developing a Test Content Outline to Promote Excellence in Licensure & Certification

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Topics

• Different methods to turn job analysis data into a TCO
• KSA vs Task centered test content outlines
• Ways to use TCOs beyond development of exam

Many Different Names:
• Job Analysis
• Role Delineation Study
• Practice Analysis

Same Goal
Establishing Content Validity

Knowledge, Skill, or Ability required to perform the responsibility → Test items

Tasks of the profession

What role have you had in a job analysis?

A. Solely responsible
B. Worked with team
C. Worked with consultant
D. Subject Matter Expert (SME)
E. I have not had a role

Many Different Methods:

- Qualitative
  - Logical analysis
  - Critical incidents
  - Direct Observation
- Quantitative
  - Survey
- Combination
If you have participated in a job analysis, did it include a survey?

A. Yes  
B. No

Potential Outcomes of a Job Analysis

• List of critical/important tasks  
• Lists of critical/important KSAs  
• Tasks and KSAs are linked together  
• When is a task required to be performed? Entry or effective  
• Accurate picture of current practice

Did the job analysis include linking of tasks to KSAs?

A. Yes  
B. No
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Sample Task Ratings

Knowledge and Skills for Administrative Assistant Job

I. Document Layout, Design, and Reproduction
   A. Formatting (e.g., field, alignment, styles)
   B. Designing spreadsheets (e.g., layout and formulas)
   C. Creating templates (e.g., forms)
   D. Methods of reproduction (e.g., duplicating, binding, and copying)

II. Office Equipment
   A. Usage
   B. Types (e.g., fax, computers, printers, copiers)
   C. Troubleshooting

III. Managing Physical Resources
   A. Equipment and supplies (e.g., storage and maintenance)
   B. Ergonomics

IV. Accounting Procedures and Analysis
   A. Departmental budget
   B. Expense reports
   C. Pricelisting

V. Communication
   A. Listening and writing skills
Sample Linking of KSAs to Tasks Survey

Determining KSA Weights

- Each KSA “takes on” the weight of the tasks to which it is linked.
- A KSA weight is influenced by:
  - Number of tasks linked
  - Weight of linked tasks (from task survey data)
- All KSA weights add to 100%.

Obtaining KSA Weights

<table>
<thead>
<tr>
<th>KSA</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug interactions</td>
<td>.65</td>
</tr>
</tbody>
</table>

Linked Tasks

- Contact prescriber/authorized representatives for clarification of prescription/medication orders
- Enter prescription/medication order information into patient
- Notify the pharmacist of any clinical alert

1.35 + 1.20 + .96 = 3.51/539.77 = .65
Link Tasks to KSAs Handout

<table>
<thead>
<tr>
<th>Task</th>
<th>KSAs</th>
<th>Materials</th>
<th>Resources</th>
<th>Strategies</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>Skill</td>
<td>Handout 1</td>
<td>Online Course</td>
<td>Workshop</td>
<td>Class Activity</td>
</tr>
<tr>
<td>Task 2</td>
<td>Ability</td>
<td>Workshop 2</td>
<td>Textbook</td>
<td>Case Study</td>
<td>Group Discussion</td>
</tr>
</tbody>
</table>

Two Types of TCOs

- Knowledge, skill and ability centered
- Task centered
- Example of each
- Advantages and disadvantages of each

Example of Task Centered TCO

- Gather information regarding factors that influence occupational performance (13%)
- Formulate conclusions regarding the clients needs and priorities to develop a client-centered intervention plan (28%)
- Select and implement evidence-based interventions that support participation in areas of occupation throughout the continuum of care (39%)
- Uphold professional standards and responsibilities to promote quality in practice (20%)
Advantages of Task Centered TCOs

- Direct link between job and test easy to show

Disadvantages of Task Centered TCOs

- Not Practical - Hard to test performance of task directly with large numbers of candidates and traditional testing techniques
- Items may be written only to test the most obvious knowledge required by the task
- Some areas of knowledge may be overlooked or underweighted

Disadvantages of Task Centered TCOs

“Therefore, to prepare to take the exam, we suggest that you study this Outline and especially consider what the underlying knowledge, skills, and abilities you need to be able to serve patients.”

- The candidate has to figure out what KSAs they should study.
Example of KSA Centered TCO

- Knowledge and skill in application of: 16%
  - code requirements, laws, standards & regulations
  - sustainable design practices
- Knowledge of and skill in integration with: 18%
  - building systems
  - building construction
- Knowledge of and skill in the development and use of: 20%
  - construction documents
  - Schedules
  - Specifications
  - Architectural woodworking
- Knowledge and skill in: 10%
  - measuring
  - drafting and technical drawing conventions

Partial TCO

Advantages of KSA Centered TCO

- Item writers will be able to develop test items directly from the KSAs instead of extrapolating them from tasks
- Less duplication - Same KSA may be required for many tasks
- Students can study directly from KSAs and they usually link better to courses

Disadvantages of KSA Centered TCO

- Doesn’t appear to be as direct of a link to job
Can you think of additional advantages or disadvantages of task or KSA centered TCOs?

Link Tasks to KSAs Handout

Preliminary Task Centered TCO

<table>
<thead>
<tr>
<th>Task Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Communication</td>
<td>11%</td>
</tr>
<tr>
<td>B. Office Operations</td>
<td>15%</td>
</tr>
<tr>
<td>C. Scheduling</td>
<td>26%</td>
</tr>
<tr>
<td>D. Document Preparation</td>
<td>22%</td>
</tr>
<tr>
<td>E. Budgeting</td>
<td>14%</td>
</tr>
<tr>
<td>F. Equipment Operation</td>
<td>12%</td>
</tr>
</tbody>
</table>
Preliminary KSA Centered TCO

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Document Layout, Design and Reproduction</td>
<td>19%</td>
</tr>
<tr>
<td>B. Managing &amp; Operating Office Equipment</td>
<td>12%</td>
</tr>
<tr>
<td>C. Managing Physical Resources</td>
<td>1%</td>
</tr>
<tr>
<td>D. Bookkeeping Procedures &amp; Analysis</td>
<td>9%</td>
</tr>
<tr>
<td>E. Communication</td>
<td>16%</td>
</tr>
<tr>
<td>F. Records Management</td>
<td>5%</td>
</tr>
<tr>
<td>G. Locating Information</td>
<td>24%</td>
</tr>
<tr>
<td>H. Scheduling &amp; Coordinating</td>
<td>14%</td>
</tr>
</tbody>
</table>

Modifications?
Additional Ways to Use TCOs

- Guidance for item writers
- Study resources for candidates
- Guidance for educators
- Interpretation of test scores/results

Using Results to Study

- Students can read through TCO and identify areas that are least familiar to target their study time.
- Create a color-coded system - one color for the areas you know the least, a second color for the areas that you have some familiarity with and a third color for the areas with which you are the most comfortable.

Using Results to Study

- Study groups can use the TCO to divide up the content. Someone who is strong in one area can “teach” the others in the group.
- They can also divide up the areas where no one in the group is strong. This will allow them to make research assignments.
Assist Item Writers

- Item Writers can have a better understanding for the KSAs if they can see the tasks that were associated with them (i.e., contextualized content)

  Write a test item on Scheduling and Coordination.

Assist Item Writers

**Scheduling and Coordination:**
- meetings
- copier/fax machine repair
- printing of materials
- conference calls
- shipment of packages
- conference rooms
- off-site facilities
- travel

Assist Training Developers

- Training Developers can do a better job capturing/enhancing the understanding of a KSA if the tasks that link to it are available for review
Techniques to Maintain Link

- Test Item
- Job/Practice
- Test Content Outline
- Content Validation for a Test

Link Test Items Back to TCO

- New Group of SMEs
- Link each test item to TCO
- Is their link same as item writer’s link?

Best Way to Maintain Link

- Make the link during TCO development
- Have the KSAs and Tasks linked by SMEs
- Two Ways
  - Identify KSAs required to perform each task
  - Identify the tasks that require each KSA
Clear 2012 Annual Educational Conference

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