Training & Experience Evaluations: Predicting Performance and Practical Application

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Covered in this presentation:

- What are T&Es?

- Making assumptions

- Common uses

- Legal considerations

Covered in this presentation:

- Six T&E methods

- Using each method

- Advantages / disadvantages

- Reliability and validity

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What are T&Es?

- Tests based on a candidate's self report
- Information collected through the use of supplemental applications
- A candidate describes previous work experience, training, and education
- Candidate's fit and chance of success for/in a position is determined by reviewing past occurrences

(McGonigle and Curnow, 2007)

T&Es are based on various assumptions:

- Past behavior predicts future behavior
- More experience equates to a higher level of engagement
- Engagement leads to continued learning, leads to better performance
- More job experience provides additional opportunities to learn

(Schmidt & Hunter, 2004, Schneider, 1994)

T&Es are based on various assumptions:

- Equal amounts of experience means a faster learner will perform better
- Recent is more valuable
- Progressive levels of responsibility are more valuable
- A maximum amount of training and experience

(Schmidt & Hunter, 2004, Schneider, 1994)

Common Uses of T&Es

- As the first hurdle in a selection process to identify qualified candidates
- As the sole means of selecting the most qualified candidate(s) when there is a relatively small applicant pool
- As a way to screen a large group of applicants, to reduce the applicant pool, prior to an assembled exam
- As a way to allow Subject Matter Experts (SMEs) to screen all applicants for minimum qualifications

(California State Personnel Board, 2001)

Legal Considerations:

- T&Es are considered selection examinations under the Uniform Guidelines

- T&E content and the rating criteria must be job related; determined by job analysis

- How the T&E will be used in the selection process

(California State Personnel Board, 2001, Schneider, 1994)

Methods for conducting T&Es

1) Holistic

2) Point

3) Grouping

4) Task-Based

5) KSA

6) Behavioral Consistency

(Schneider, 1994, Ash and Levine, 1981)

T&E methods

Holistic Method

- Involves making a decision about which candidates move forward based on professional judgment
- Usually by reviewing applications and resumes
- No formal method of scoring is used

Point Method

- Point values are assigned to job-related training, education, and experience

- Points are multiplied by the length of time a candidate has engaged in job-related experience, educational or training

- Points added together to determine a composite score

Using this method

- Where points are easily assigned to training, education, and experience

- Low complexity jobs

(Schmidt & Hunter, 2004, McGonigle, Curnow, 2007, California State Personnel Board, 2001)

Grouping Method

- Candidates are grouped into categories based on global assessment

- General criteria are used to rate candidates

- Point values are assigned to categories

- Can result in a large numbers of tied scores

- Larger groups are referred to the hiring authority

Using this method:

- Managerial, professional, technical positions
- When writing skills are important
- With smaller applicant pools
- When quality of job experience is important
- When BARS and/or Bench Marks can be developed
- Higher complexity jobs

(Schmidt & Hunter, 2004, McGonigle, Curnow, 2007, California State Personnel Board, 2001)

Tasked-Based Method

- SMEs determine task importance

- SMEs determine number of times each task must be performed at each competency level

- Candidates check off tasks performed and list the number of times they have performed a task

- Points are assigned to performance levels

- Points added together to determine a composite score

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Using this method:

- Skilled and semi-skilled jobs
- Candidates have experience performing job related tasks
- Job tasks are static, distinct
- Minimal education requirement
- Lower complexity jobs

(Schmidt & Hunter, 2004, McGonigle, Curnow, 2007, California State Personnel Board, 2001)

KSA-Based Method

- Important KSAs are identified through job analysis

- Candidates rate the level at which they possess each KSA on a five point scale

- Candidates verify KSA attainment by providing experience, training, and education information

- Points added together to determine a composite score

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Using this method:

- Entry level jobs
- KSAs are more important than experience level
- Need to know candidate's level of KSA attainment
- Lower Complexity jobs

(Schmidt & Hunter, 2004, McGonigle, Curnow, 2007, California State Personnel Board, 2001)

Behavioral Consistency Method

- Important KSAs are linked to 5 to 7 job dimensions

- Candidates respond to questions in writing; may describe achievements

- Responses demonstrate the candidate's level of competence in the dimension

- Candidates provide percent of input if others participated

- SMEs rate responses based on a Behaviorally Anchored Rating Scale

Using this method:

- Managerial, professional, technical positions
- When writing skills are important
- With smaller applicant pools
- When quality of job experience is important
- When BARS and/or Bench Marks can be developed
- Higher complexity jobs

(Schmidt & Hunter, 2004, McGonigle, Curnow, 2007, California State Personnel Board, 2001)

Point method process:

Advantages

- Developed quickly
- Relatively easy to answer
- Have a high return rate
- Scoring can be automated
- Completed on a candidate's own time
- Scored without using SMEs

Disadvantages

- Information refers only to the quantity of experience, training, and education
- Validity tends to be low
- Candidates may exaggerate qualifications
- Self-ratings are difficult to verify

(California State Personnel Board, 2001, Schneider, 1994)

Narrative process:

Advantages

- Focus on quality of a experience, training, and education
- Good for positions that require writing skills
- Scoring subjectivity reduced
- Completed on own time

Disadvantages

- Assumes good writing skills
- BARs require time to develop
- Response rates are lower
- Require rating by SMEs
- Global rating used on some methods
- Scoring methods may confuse raters

(California State Personnel Board, 2001, Schneider, 1994)

Reliability & validity of T&E ratings

T&E Method	Reliability	Validity	Validity Coefficients
Point	Generally high	Low predictive validity; support with content validation	.11 to .15
Grouping	Varies with candidate group size; improves with bench marking over global rating	Considered a variation of the point method; support with content validation; low predictive validity	Validity coefficients not reported

(Schmidt and Hunter, 1998, Schneider, 1994, McDaniel, Schmidt & Hunter, 1988)

Reliability & validity of T&E ratings

T&E Method	Reliability	Validity	Validity Coefficients
Task-Based	Generally high	Low to moderate	.15 to .28 .43 Number of times task performed & job performance (Quinones, Ford, Teachout, 1995)
KSA-Based	Generally moderate	Moderate; support with content validation; KSA linkage	.20
Behavioral Consistency	Generally moderate	Relatively high; highest of T&E methods	.45 to .49

(Schmidt and Hunter, 1998, Schneider, 1994, McDaniel, Schmidt & Hunter, 1988)

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Training & Experience Evaluations

A Couple of Practical Applications

2 T&Es - Columbus

- Task-Based

- Weighted Test Components

- 25% - 100% of Total Score

Classic Task Based

Skilled/Semi-Skilled/Lower Complexity Jobs

Take Home Exam

(Applied Measurement Methods in Industrial Psychology (2007),
Ch. 6, Tim McGonigle and Christina Curnow of Caliber Association)

Process

Create List of Tasks

- Job Analysis/Job Class Spec
- Feeder Jobs/Class Series (if any)
- SME Review: Is the list comprehensive?

Does it cover all previous work experience that might have value for this job?

Missing anything that might contribute to successful performance in the job?

SME Rating 1

IMPORTANCE :

the value previous performance of this task brings to the job

- 3 – highly important
- 2 – moderately important
- 1 – somewhat important

SME Rating 2

Times Task Must Be Performed To Reach Competency Levels:

- Minimally Competent:
  - can do it with direct oversight
  - minimum # times = willing to hire
- Expert:
  - has experienced all possible problems
  - can train others
- Moderately Competent/Highly Competent:
  - fill in relative to 1st two
  - often only 3 levels

Score Sheet

TASK	Determine point values by number of times task was performed.	Enter point values for each job.				Total Points for all jobs	Importance Rating and maximum point value	Total Credit for Task
	Times performed	Job 1	Job 2	Job 3	Job 4			
1.	1 point (5 – 10) 2 points (11 – 15) 3 points (16 – 20) 4 points (21 $\geq$)						3 (12 points max)	
2.	1 point (25 – 49) 2 points (50 – 74) 3 points (75 - 99) 4 points (100 $\geq$)						2 (8 points max)	
3.	1 point (10 – 19) 2 points (20 – 29) 3 points (30 – 39) 4 points (40 $\geq$)						1 (4 points max)	

Test Form

Name of Employer:		
Employer Address:		City/State:
Job Title:		Full Time: Part Time:
Dates of Employment (mo & yr) From:	To	Hrs worked per week:
Supervisor/Owner:		Employer Phone:
Briefly describe your job duties:		

Indicate in the space provided the total number of times you performed each task while employed in this job. Do NOT mark tasks you did not perform on this job.

# times performed		Task
	1.	operated a farm-type tractor with mower and/or other attachments controlled by power take-off
	2.	operated a van, pick-up or dump truck as needed to transport materials
	3.	raked and mulched leaves
	4.	operated various hand and power tools such as edgers, lawn sweepers and pruners

Nuts and Bolts

- 4 jobs / 3 jobs + Training / Training Only
- Task Score = #times value x importance weighting
- Total score = sum of task scores
- Training score values determined by SMEs
- Hand graded but relatively quick & easy to score
- Grading verified by 2nd rater
- Issues:

  exaggeration

  understanding "# of times performed"

Forced - Choice

- Manager / Coordinator Classifications
- Work History Questionnaire Mailed with Admission Letter
- Test Administered at the Test Site

Process

Create List of Tasks:

- Job Analysis/Job Class Spec
- Feeder Jobs (Class Series)
- List of General Management Tasks
- SME Review: Is the list comprehensive?

Are we missing any work experiences that you want to see new employees bring to the job?

Have we missed any that might contribute, even in some small way, to successful performance in the job?

SME Rating

How much would experience performing this task in a previous job contribute to successful performance on this job?

- **3** – extremely valuable/highly important
- **2** – have some importance or some value
- **1** – provide some skills that might be helpful but are probably not all that important

Develop the Questions

- Multiple SMEs = average ratings
- Sort list by importance
- Divide into 3 equal sized groups:
  hi – mid – low importance
- Select one task from each group into an item
- Assign response weights = to importance rating

Groupings

3.00	managed contracts with outside service providers
2.80	gathered bids, completed encumbrances and requisitions for supplies and equipment as needed
2.80	prepared contracts for equipment or service
2.00	managed the daily operations of a unit or section
2.00	planned and scheduled building alterations according to tenants' requirements
2.00	estimated the cost of repairs of equipment
0.80	maintained landscaping utilizing lawn tractors, weed eaters, hedge trimmers, and other related tools
0.80	designed and implemented special or research projects
0.80	conferred with officials and lead workers in order to revise user and/or procedural manuals

Questions Become . . . . .

Of the following, the task that I performed most often in my previous work experience, as indicated on my work history questionnaire, is

(3.0) A. managed contracts with outside service providers

(2.0) B. planned and scheduled building alterations according to tenants' requirements

(0.8) C. conferred with officials and lead workers in order to revise user and/or procedural manuals

(0.0) D. I have not performed any of the above tasks in my previous work experience.

Job(s) _____

Work History Questionnaire

Work Experience
Job #1:

Company Name:		
Company Address:		
Company Phone:	( )	
Your Title:		

	From:	To:
Dates of Employment:		
	(Month/Year)	(Month/Year)

Employment Status: Full-time   Part-time

Supervisor's Name: Phone #:   ( )

Brief description of your primary work responsibilities:

Nuts and Bolts

* 100 +/- task statements
* 30 +/- questions
* Try not to make it obvious
* Shuffle alternatives
* Scannable answer sheets (easy grading)
* Items with low reliabilities are reviewed, distractors possibly interchanged

The End

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