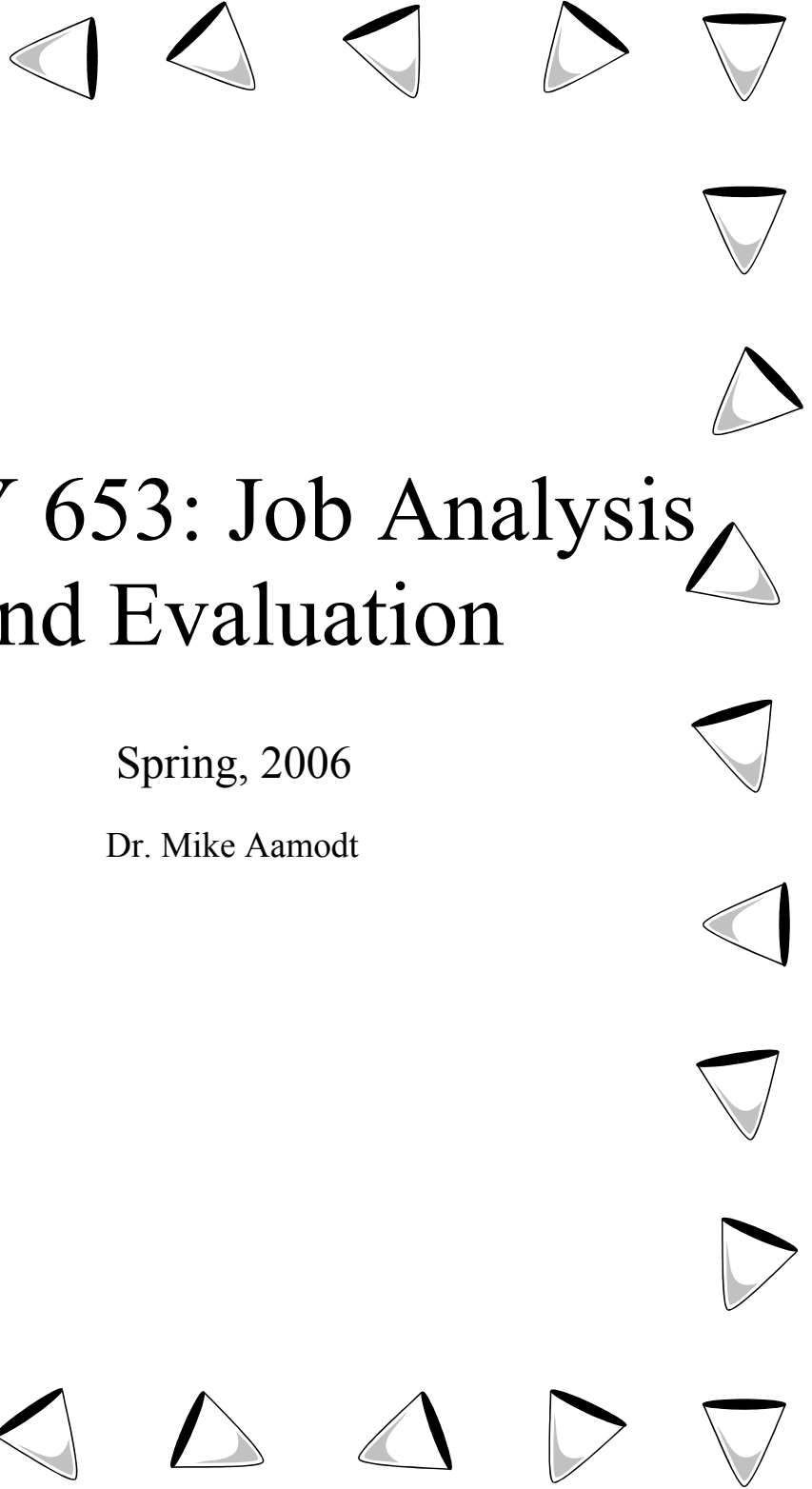


PSY 653: Job Analysis and Evaluation

Spring, 2006

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KEY TERMS

- Job Analysis
- Job Evaluation
- Job Description

Introduction to Job Analysis

I. Reasons for Job Analysis

A. Jobs Change

B. It is the Law

1. *Uniform Guidelines on Employee Selection*
2. *Griggs v. Duke Power* (1971) - Employee Selection
3. *Wade v. Mississippi Cooperative Extension Service* (1974) - Performance Appraisal
4. Establishes content validity

C. Many Uses

1. Recruitment
2. Job descriptions
3. Employee selection
4. Performance appraisal
5. Training
6. Job evaluation and classification
7. Job descriptions
8. Job design
9. Personpower/succession planning
10. Vocational guidance
11. Organizational analysis

Class Discussion from Web Reading

What do the Uniform Guidelines say about job analysis?

II. Job Analysis Decisions

A. Who Will Conduct the Job Analysis?

1. Internal department
 - a. Human resources
 - b. Compensation
 - c. Training
 - d. Engineering
2. Internal task force
3. Supervisors
4. Employees
5. Consultants
6. Interns/class projects

B. Which Employees Should Participate?

1. All employees

2. Sample
 - a. random/representative
 - 1) number in sample
 - 2) how chosen

 - b. non-random
 - 1) job performance level
 - 2) gender and race concerns
 - 3) personality

C. Which Jobs Should be Included?

D. What Type of Information Should be Gathered?

1. Formal v. informal requirements

2. Specific v. general information

Job	Loan Officer
Position	Loan Officer at the Radford Branch
Duty	Approval of Loans
Task	Investigates history to determine if applicant has bad credit
Activity	Runs credit histories on credit machine
Element	Enters applicant's social security number into credit machine
Sub Element	Elevates finger 30 degrees before striking key

3. Job oriented v. worker oriented information

E. Which Methods Should be Used?

1. Previous Documents
2. Interviews
3. Observation
4. Participation
5. Task Analysis
6. Critical Incidents
7. Worker Ability Approaches
8. Ergonomic Approaches

III. The Finished Job Analysis Report

A. Introduction

1. Purpose
2. Time Frame
3. Method
4. Sample

B. Job Descriptions

C. Task Analysis

1. List of tasks
2. Ratings for each task

D. Competency Inventory

1. List of competencies
2. Ratings for each competency

E. Task – Competency Linkage

F. Critical Incidents (if obtained)

Writing Job Descriptions



Job Description Sections

I. Title

- A. Describes the Nature of the Job

- B. Assists in Employee Selection and Recruitment

- C. Affects Perceptions of Job Worth and Status
 1. Job Evaluation Results

 2. Employee Feelings of Personal Worth

- D. Affects Clarity of Resumes

II. Organization Name

III. Organizational Code

- A. Should Make Sense
- B. Example 01-9-001-001 (Location-EEO1-Group-Position)
- C. O*NET code can be used

IV. Brief Summary

- A. Useful for recruitment advertising
- B. Should be written in an easy-to-understand style
- C. Jargon and abbreviations should not be used

V. Work Activities

- A. Organize by Dimensions
 - 1. Similar Activities
 - 2. Similar KSA's
 - 3. Temporal Order
- B. Statements
 - 1. List only one activity per statement
 - 2. Statements should be able to "stand alone"
 - 3. Should be written in an easy-to-understand style
 - 4. Use precise rather than general words

"Responsible for"

"Oversees"

"Handles accounts"

VI. Tools and Equipment Used

VII. Materials and Substances Exposed To

VIII. Work Context

- A. Work Schedule

- B. Degree of Supervision

- C. Ergonomic Information
 - 1. Stress
 - a. Physical
 - b. Psychological

 - 2. Indoors v. outdoors

 - 3. Lighting/heat/noise/physical space

 - 4. Clean v. "dirty" environment

 - 5. Standing/sitting/bending/lifting

IX. Work Performance

A. Standards Used

B. Frequency

C. By Whom

X. Compensation Information

A. Job Evaluation Dimensions

B. Exempt Status

C. Pay Grade

D. Job Group

E. EEO-1 Category

1. Officials and managers
2. Professionals
3. Technicians
4. Sales workers
5. Office and clerical
6. Craft workers
7. Operatives
8. Laborers
9. Service workers

XI. Competencies

- A. Two Sections
 - 1. Before hire
 - 2. After hire
- B. Should Include Necessary
 - 1. Knowledge
 - 2. Skills
 - 3. Abilities
 - 4. Other characteristics
 - a. Personality
 - b. Degrees/Certifications/Licenses
 - c. Experience requirements

Accounting Technician
Department of Finance
City of Bedford, Virginia

Job Summary

The Accounting Technician performs technical work involving the preparation and maintenance of financial records for all City departments. The Accounting Technician is responsible for invoicing customers and receiving invoices from vendors.

Work Activities

Invoicing

- Review purchase orders submitted by the buyer for accuracy
- Record purchase orders by entering data in the computer
- Receive invoices from City departments
- Verify account numbers and vendor numbers
- Review invoices to prepare for payment
- Make copies of invoices
- Attach check copies to invoice copies
- File copies of sent and received invoices
- Call vendors to request payment when overdue
- Contact vendors for copies of any invoices unpaid by the City
- Issue new vendor numbers as required
- Prepare checks for mailing

Balancing Accounts

- Post daily cash receipts to general ledger
- Prepare and post all journal entries
- Prepare entries and post changes for the investment accounts
- Balance investment accounts with Treasurer
- Reconcile vendor statements
- Create accounts payable reports
- Update account payable reports into computer
- Calculate commissions

Other Duties

- Answer the main line for the Department of Finance
- Process miscellaneous billing and transactions
- Answer telephones to support human resources, purchasing, and utility billing
- Print out requests of reports for departments
- Make citizens, customers, and vendors content by answering their questions

Tools and Equipment Used

- Telephone
- Fax Machine
- Personal Computer
- Copy Machine
- Printer

Job Context

The Accounting Technician works from 8:30 a.m. to 5:00 p.m., Monday through Friday to total 40 hours. Weekend and overtime work is rarely necessary to complete tasks. The Accounting Technician reports directly to the Director of Finance, however, the work itself is done independently. Stress is low to moderate due to the consequences of improper invoicing procedures.

The work environment does not allow for much movement due to tight seating space. The work pace is constant. The temperature is controlled and is mostly comfortable. Adequate lighting is provided. The Accounting Technician may be required to lift up to 25lbs.

Evaluation of Performance

The performance of the Accounting Technician is rated by the Director of Finance using the standard City performance appraisal instrument.

Compensation and Compliance Information

Salary Grade:

Exempt Status: Non-Exempt

EEO-1 Category: (2) Professionals

Competencies

Upon Hire

- Education and experience equivalent to a B.A. in accounting
- Typing skills
- Basic math skills
- Willingness to learn
- Ability to work with minimal supervision
- Ability to express ideas clearly both orally and in writing
- Detail oriented personality

After Hire

- Knowledge of City policies
- Ability to use government software

Critiquing Job Descriptions

Restaurant Associate

Nora's Scarf 'n Barf Restaurant

Job Summary

The Restaurant Associate is responsible for performing a variety of tasks involved in the preparation and sales of food. Duties include preparing food, cooking food, taking customer orders, and cleaning the restaurant.

Work Activities

Food Preparation

- Remove buns from boxes and place on food preparation table
- Takes meat and chicken from the freezer and places on table to thaw
- Takes condiments from the refrigerator and places them on food preparation table
- Inspect meat and chicken to make sure they are safe to eat
- Handle problems

Cooking

- Place fries and breaded fish patties into vat and remove when high-pitched alarm goes off
- Cooks hamburgers, chicken, and hot dogs on the grill
- Puts grilled food onto bun and adds requested condiments

Cleaning

- Wipes counter and tables as needed
- Cleans the grill at the end of each shift
- Changes cooking oil when the bottom of the vat can't be seen or after several customer complaints
- Uses RK-9 to clean tables after manager indicates a 10-6 has occurred
- Mops
- Cleans cooking utensils at end of shift
- Sweeps and cleans parking lot area

Tools and Equipment Used

- Deep-fat fryer
- Grill
- Cleaning materials (e.g., mop, rags, cleanser)
- Cash register
- Common cooking utensils (e.g., spatulas, tongs)

Materials and Substances Exposed To

- RK-9
- Wesson cooking oil
- Meat, poultry, chicken, fish, potatoes, bread
- Draino

Job Context

The Restaurant Associate works an 8-hour shift, 5 days per week. The actual days and times worked vary based on a rotating schedule. Psychological stress is high when the restaurant is busy or customers get angry. Physical stress is moderate as the Restaurant Associate spends all 8 hours standing, with extensive bending and leaning. At times, crates weighing 80 pounds must be lifted.

Performance Appraisal

The Restaurant Associate is evaluated each month on the standard Scarf 'n Barf performance appraisal instrument. Bonuses can be earned by having few customer complaints, no shrinkage, and no citations for health or safety violations.

Personal Requirements

Upon Hire

- ability to count change back to customers
- no mental or physical problems
- must be bondable
- excellent communication skills
- be flexible

After Hire

- Knowledge of restaurant menu and recipes
- Knowledge of restaurant policies

Conducting a Typical Job Analysis



Conducting a Typical Job Analysis/Content Validity Study

Introduction

- I. Step 1: Identify Tasks Performed
 - a. Gather existing information
 - b. Interview subject matter experts (SMEs)
 - c. Observe incumbents
 - d. Observation interview
 - e. Job participation
- II. Step 2: Write Task Statements
- III. Step 3: Rate Task Statements
- IV. Step 4: Determine essential KSAOs
- V. Step 5: Rate Competencies
- VI. Step 6: Link Competencies to Tasks
- VII. Step 7 Select Tests to Tap KSAOs

Conducting a Typical Job Analysis

Step 1: Job Analysis Interviews

I. Types

- A. Individual
 - 1. Regular
 - 2. Observation-Interview
- B. Group (SME Conference)
 - 1. Regular
 - 2. Special
 - a. Ammerman Technique
 - b. Dacum
- C. Combination of Individual and Group

II. Interview Preparation

A. Establish Goals and Objectives

B. Meet With the Organization

1. To ask:

- a. Number and title of positions
- b. Number and names of employees in each position
- c. Best times to interview and observe
- d. Who the contact person will be
- e. For an organizational chart
- f. Where and when the interviews will take place
- g. If there are previous job descriptions, manuals, etc.
- h. If there is certain key information they want
- i. If there is a particular format that must be used

2. To Explain:

- a. The types of information that will be obtained
 - b. Who and how many employees will be interviewed
 - c. How long it will take
 - d. What you need
 - e. What the process will be
3. Tour the actual site
4. Meet relevant officials
- C. Develop questions to be asked
- D. Prepare and send a brief letter of explanation
- E. Contact relevant official to schedule interviews

III. Conducting the Interview

A. Immediately Prior to the Interview

1. Ensure that the incumbent has been notified in advance
2. Ensure that you have a proper place to interview
3. Bring:
 - a. Paper and pencils
 - b. Copies of previous job descriptions
 - c. Copies of interview outline and questions
 - d. Task inventory
4. Dress "Shirt and Tie"

B. Opening the Interview

1. Establish rapport
2. Make the purpose of the interview clear
3. Ensure confidentiality
4. Explain what the incumbent will gain by being open
5. Encourage the incumbent to talk

C. During the Interview

1. Style

- a. Don't rush the incumbent
- b. Be professional but not aloof
- c. Do not take sides
- d. Don't take issue with the incumbent's statements
- e. Don't show any interest in salary

2. Questions

- a. Must be related to the purpose of the analysis
- b. Should be clear and unambiguous
- c. Must be free of personal or intimate material
- d. Should not be leading
- e. Should be open-ended
- f. Respond with good "active listening" techniques

3. Note Taking

Sample Interview Template

Job Title
 Location
 Employees interviewed
 Date interviewed

Work Schedule

Time start
 Time end
 Flextime? Y N
 Days worked
 Number of days worked per week
 Number of hours worked per day
 Weekend work? No Occasionally Often Part of Job
 Overtime frequency No Occasionally Often
 Notice of overtime Advance notice No notice
 On call? Y N Pay: Evening Weekend Holiday
 Holiday work No Occasionally Often Part of Job
 Shift Day Evening Night
 Shift rotation Fixed Rotating
 Frequency of rotation
 Shift differential paid? Y N Amount:
 # of *unpaid* hours worked per week in excess of 40
 # nights per month spent traveling (away from home)
 Comments:

Working Conditions

Office environment (climate controlled) Never Small Part Mod Part Usually
 Exposure to outdoor elements (heat, rain, cold, snow) Never Small Part Mod Part Usually
 Exposure to heat or cold while indoors Never Small Part Mod Part Usually
 Tight, uncomfortable working conditions Never Small Part Mod Part Usually
 Dirty environment (dirt, dust, grime, smoke, etc.) Never Small Part Mod Part Usually
 Exposure to loud noise Never Small Part Mod Part Usually
 Exposure to dangerous work conditions Never Small Part Mod Part Usually
 Pace of work Slow Moderate Fast Hectic
 Comments:

Physical Demands

Lifting heavy objects/exerting heavy force Never Small Part Mod Part Usually
 Maximum weight lifted
 Typical weight lifted
 Physical exertion (climbing, crawling, jumping) Never Small Part Mod Part Usually
 Strain caused by bending, stretching, reaching Never Small Part Mod Part Usually
 Strain caused by repetitive movement Never Small Part Mod Part Usually
 Comments:

Training and Experience

Education (required and preferred)

Years of experience (required and preferred)

Comments:

Scope of Responsibility

Reports to (position)

Supervises (list positions)

Number of people supervised

Comments:

Decision Making

Money (vendor contracts, salary offers)	None	Recommend	Make Decision
Hiring employees	None	Recommend	Make Decision
Terminating employees	None	Recommend	Make Decision
Evaluating employee performance	None	Recommend	Make Decision
Employee schedules	None	Recommend	Make Decision
Purchasing products/ordering supplies	None	Recommend	Make Decision
Simple customer requests	None	Recommend	Make Decision
Difficult customer requests	None	Recommend	Make Decision
Allocating money to departments/divisions	None	Recommend	Make Decision
Monitoring budgets	None	Recommend	Make Decision

Comments:

Interpersonal Complexity

Takes instructions/follows orders	Never	Small Part	Mod Part	Usually
Answers questions/refers to other sources	Never	Small Part	Mod Part	Usually
Interviews people to obtain information	Never	Small Part	Mod Part	Usually
Deals with temporarily angry people	Never	Small Part	Mod Part	Usually
Cross-sells products	Never	Small Part	Mod Part	Usually
Coordinates other employees	Never	Small Part	Mod Part	Usually
Formally mediates problems/manages conflict	Never	Small Part	Mod Part	Usually
Trains employees, makes public presentations	Never	Small Part	Mod Part	Usually
Persuades/sells/negotiates/motivates	Never	Small Part	Mod Part	Usually
Supervises employees	Never	Small Part	Mod Part	Usually
Interacts with the general public	Never	Small Part	Mod Part	Usually
Interacts with customers/clients	Never	Small Part	Mod Part	Usually
Interacts with vendors	Never	Small Part	Mod Part	Usually
Interacts with executives/VIPs	Never	Small Part	Mod Part	Usually

Comments:

Education and Experience

Education Needed		Amount of Related Experience					
		None	1-11 months	1-2 years	3-4 years	5-9 years	> 9 years
No education requirements	Level	1	2	3	4	5	6
	Points	25	49	74	98	123	147
High school diploma or GED	Level	249	3	4	5	6	7
	Points	49	74	98	123	147	172
One year certificate	Level	3	4	5	6	7	8
	Points	74	98	123	147	172	196
Two year degree	Level	4	5	6	7	8	9
	Points	98	123	147	172	196	221
Bachelor's degree	Level	5	6	7	8	9	10
	Points	123	147	172	196	221	245
Bachelor's + (e.g., CPA, MA)	Level	6	7	8	9	10	11
	Points	147	172	196	221	245	270

Supervision/Responsibility

Number of Employees Supervised

How many employees do you directly supervise?

How many employees are you responsible for?

Functions Responsible For

How many functions are you responsible for?

Budget Responsibility

What is the size of the budget for which you are responsible?

Interpersonal Complexity

Interpersonal Complexity	Level	Points	Benchmark Jobs
Takes instructions/follows orders	1		
Answers questions/refers to other sources	2		
Interviews people to obtain information	3		
Deals with angry customers, employees, or vendors	4		
Coordinates other employees	5		
Formally mediates problems/solves conflicts	6		
Trains employees/makes public presentations	7		
Persuades/sells/negotiates/motivates	8		
Supervises and mentors employees	9		

Working Conditions

	Level	Points	Benchmark Jobs
Physical Stressors			
Strain caused by repetitive movement			
No exposure	1		
Infrequent exposure	2		
Frequent exposure	3		
Constant exposure	4		
Lifting heavy objects/exerting heavy force			
No exposure	1		
Infrequent exposure	2		
Frequent exposure	3		
Constant exposure	4		
Personal Safety (13%)			
Minimal exposure to injury	1		
Concern about occurrence of minor injury	2		
Concern about occurrence of major injury	3		
Concern about occurrence of loss of life	4		Police officer
Workplace Comfort (5%)			
Controlled office environment	1		
Mixed office/outdoor environment	2		
Outdoor environment	3		

Consequence of Bad Performance

	Level	Points	Benchmark Jobs
Small decrease in efficiency or small increase in time or cost to correct performance	1	25	
Angry customers or citizens	2	50	Receptionist
Large decrease in efficiency or large increase in time or cost to correct performance	3	75	
Injury to others or loss of life	4	100	Police officer

Competency Checklist

For each of the competencies listed below, place a mark indicating the frequency with which you use the competency and a mark indicating the importance of the competency in performing your job. In making your ratings, please use the following scale:

Frequency

- 0 Task is not performed as part of this job
- 1 Task is seldom performed
- 2 Task is occasionally performed
- 3 Task is frequently performed

Importance

- 0 Unimportant. There would be no negative consequences if the task was not performed or if the task was not performed properly
- 1 Important: Job performance would be diminished if this task was not completed properly
- 2 Essential: The job could not be performed effectively if the incumbent did not properly complete this task

Competency Area	Frequency Competency is Used				Importance of Competency		
	0	1	2	3	0	1	2

Math Skills

- Basic Math
 - Multiplication
 - Division
 - Addition
 - Subtraction
- Algebra
- Geometry
- Trigonometry
- Statistical Analysis
 - Descriptive statistics (e.g., mean, standard deviation)
 - Correlation and regression
 - Significance testing (e.g., ANOVA, *t*-test, Chi-square)
- Types of numbers
 - Whole numbers
 - Fractions
 - Decimals
 - Ratios
 - Weight (e.g., pounds, ounces)
 - Volume (e.g., gallons, pints)
 - Speed (e.g., miles per hour)
 - Temperature
 - Length, width, and height
 - Time (e.g., hours, seconds)
 - Dates

Money (e.g., dollars, cents)

Frequency		Frequency Competency is Used			Importance of Competency			
0	Task is not performed as part of this job							
1	Task is seldom performed							
2	Task is occasionally performed							
3	Task is frequently performed							
Importance		0	1	2	0	1	2	
0	Unimportant. There would be no negative consequences if the task was not performed or if the task was not performed properly							
1	Important: Job performance would be diminished if this task was not completed properly							
2	Essential: The job could not be performed effectively if the incumbent did not properly complete this task							
Competency Area		0	1	2	3	0	1	2

Computer Skills

- Data entry and typing speed
- Data entry and typing accuracy
- Word
- Excel
- Access
- PowerPoint
- Front Page
- Email
- Internet

Written Expression

- Grammar
- Punctuation
- Spelling
- Writing style or creative writing
- Accuracy in completing and reviewing reports
- Editing the writing of others
- Reading comprehension
- Reading material quickly
- Handwriting neatness

Interpersonal & Oral Communication Skills

- Listening
- Providing feedback
- Counseling
- Mediating conflicts
- Selling
- Negotiating
- Coaching and advising
- Persuading
- Public speaking
- Teaching and training
- Explaining concepts and ideas
- Using proper grammar
- Using and interpreting nonverbal cues
- Speaking in a clear and understandable voice
- Interviewing to gather information
- Entertaining
- Debating

Frequency								
0	Task is not performed as part of this job							
1	Task is seldom performed							
2	Task is occasionally performed							
3	Task is frequently performed							
Importance		Frequency Competency is Used				Importance of Competency		
0	Unimportant. There would be no negative consequences if the task was not performed or if the task was not performed properly							
1	Important: Job performance would be diminished if this task was not completed properly							
2	Essential: The job could not be performed effectively if the incumbent did not properly complete this task							
Competency Area		0	1	2	3	0	1	2

Technical Skills

- Reading and interpreting blueprints
- Mechanical comprehension
- Mechanical reasoning
- Reading and comprehending tables and charts
- Electrical/electronic knowledge
- Repairing machines and equipment
- Driving
- Reading maps

Cognitive Skills

- Memorization
- Critical thinking
- Creativity
- Reasoning and logic
- Problem solving
- Organizing information

Perceptual Skills

- Near vision
- Far vision
- Color vision
- Night vision
- Peripheral vision
- Depth perception
- Hearing sensitivity
- Sense of smell
- Sense of touch
- Sense of taste

Physical Skills

- Upper body strength
- Lower body strength
- Stamina
- Running speed
- Flexibility
- Agility
- Manual dexterity
- Reaction time
- Coordination

Knowledge

D. Closing the Interview

1. If relevant, summarize the incumbent's statements
2. Conclude by explaining the value of the information provided
3. Answer any questions
4. Get permission to call again to verify or get new information
5. Close the interview on a friendly note

IV. Observation Interview

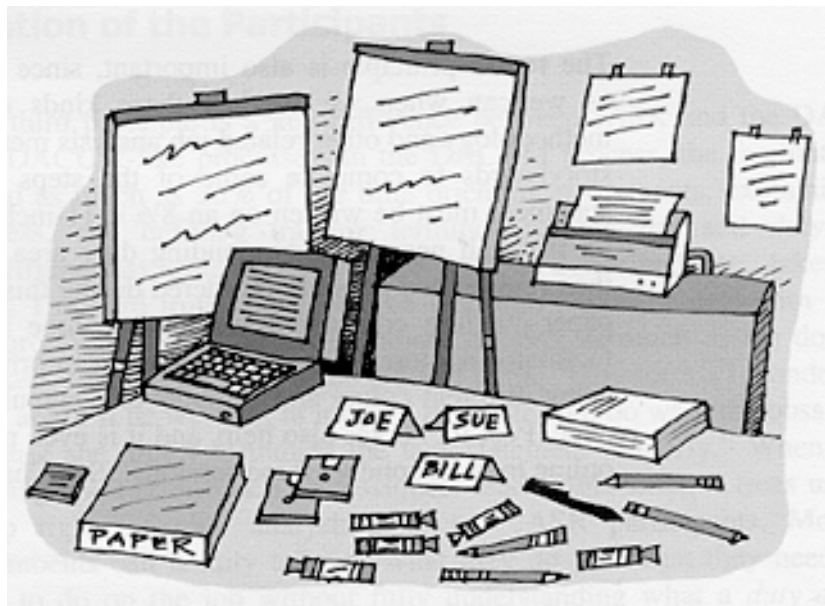
V. Subject Matter Expert (SME) Conferences

A. Participants

1. Gather 5-10 SMEs for each conference
2. 1-2 conferences should be sufficient for any job analysis
3. Try to get a good range of sex, race, age
4. Try to get only good performers
5. Conference must include both incumbents and supervisors
6. Meeting will be run by a facilitator
7. Ideally, there will be a person to record the statements on a lap top

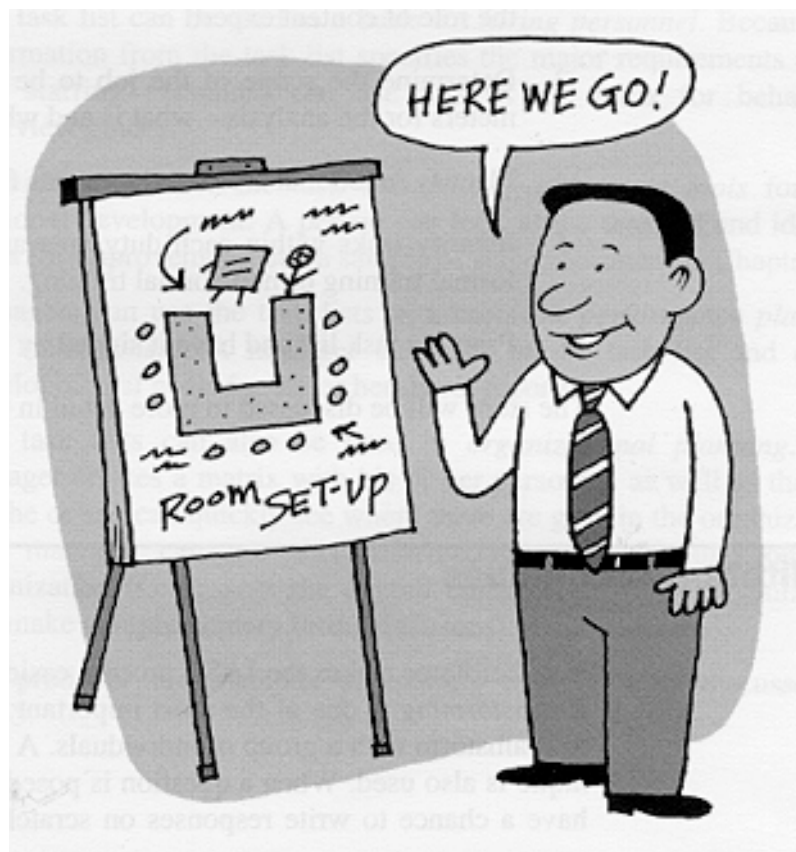
B. Materials (Hartley, 1999)

1. Two flip chart stands (2 is ideal, 1 will work)
2. Several pads of flip chart paper (try to get self-sticking)
3. Water-based markers
4. Pad of paper and pencils for each participant
5. Name tents
6. Lap top computer



Hartley, D. E. (1999). *Job analysis at the speed of reality*. Amherst, MA: HRD Press

- C. Room Set up (Hartley, 1999)
1. Set chairs and tables in a U-shape
 2. Put flip charts in front of room
 3. Have recorder with computer sit in first seat
 4. Put name tents in front of each seat



Hartley, D. E. (1999). *Job analysis at the speed of reality*. Amherst, MA: HRD Press

- D. Getting Started
 - 1. Introductions
 - 2. Explain the process to the group

- E. Have group generate main categories (write on one page of flip chart)
 - 1. Task type
 - 2. Goal
 - 3. Competency type
 - 4. Temporal order

- E. Have group generate tasks under each category
 - 1. Write one category name on a flip chart page
 - 2. Have panel members individually write tasks
 - 3. Have panel members share what they wrote
 - a. Recorder types into computer
 - b. Facilitator writes on chart
 - 4. Task statements can be written in proper format later

VI. Ammerman Technique

A. Basic Information

1. Developed by Ammerman (1965)
2. Published by Robinson (1981)
3. Is a group interview technique
4. Focuses on objectives and critical behaviors

B. Steps

1. Convene a panel of experts
2. Ask panel to identify objectives
3. List specific behaviors needed to meet objectives
4. Identify which of the behaviors are crucial
5. Statistically summarize criticality ratings

D. Robinson Study

1. Analyzed construction superintendent position
2. Identified 11 objectives
3. 71 tasks were needed to meet the objectives
4. 20 of the tasks were considered critical
5. Developed tests to tap critical behaviors
 - a. Blueprint reading test
 - b. Scrambled subcontractor test
 - c. Construction error recognition test
 - d. Scheduling test
 - e. Structured interview

Conducting a Typical Job Analysis

Step 2: Write Task Statements

I. Task Inventories

- A. Consist of a list of tasks (usually several hundred) obtained by
 - 1. Reviewing existing documents
 - 2. Conducting interviews
 - 3. Observing incumbents
 - 4. Performing the job

- B. Tasks are usually grouped into broader duties/dimensions
 - 1. Type of task
 - 2. Time Sequence
 - 3. Type of KSAO

- C. Including bogus tasks is not a bad idea

II. Writing Task Statements

A. Required Components

1. What is done (action)
2. To what (object)

B. Optional Components

1. Where
2. How
3. Why
4. When
5. How much of

C. Well-written task statements

1. One action, one object
2. Easy to understand
3. Written in the same tense
4. Should include the tools and equipment used to complete the task
5. Stand-alone content
6. Cannot be KSAOs
7. Should not be a policy (e.g. "treating people nice")

Task Statement Examples

Sends purchase requests

Sends purchase requests to the purchasing department

Sends purchase requests to the purchasing department using campus mail

Drives

Drives a five-speed truck

Drives a five-speed truck to make deliveries within the City of Radford

Locks hall doors

Locks hall doors at midnight

Uses master key to lock hall doors at midnight

Uses master key to lock hall doors at midnight so that non-residents cannot enter the dorm

What is Wrong With These Statements?

1. Handles customer complaints
2. Types, files, and distributes correspondence
3. Utilizes decision-making skills and abilities
4. In charge of the copy machine
5. Uses the computer to balance department budget
6. Responsible for opening and closing the office
7. Greets visitors
8. Examines supervisor's daily schedule
9. Oversees the office
10. Files correspondence, bills, and reports

Use the space below to write some task statements for your current job.

Conducting a Typical Job Analysis Step 3: Rate Task Statements

- I. Tasks can be rated on a variety of scales
 - A. Importance
 - B. Part-of-the-job
 - C. Frequency of performance
 - D. Time spent
 - E. Relative time spent
 - F. Complexity
 - G. Criticality

- II. Research shows that only two scales are necessary
 - A. Frequency
 - B. Importance

Frequency

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- 1 Task is seldom performed
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- 3 Task is frequently performed

Importance

- 0 Unimportant. There would be no negative consequences if the task were not performed or if the task was not performed properly
 - 1 Important: Job performance would be diminished if this task were not completed properly
 - 2 Essential: The job could not be performed effectively if the incumbent did not properly complete this task
-

III. Using the Ratings

- A. Create a chart similar to that shown below
- B. Include task in job description if average frequency rating is greater than .5
- C. Include task in the final task inventory if:
 - 1. Average rating is greater than .5 for *both* frequency and importance {or}
 - 2. Combined rating is 2.0 or higher
- D. Compute rater agreement (Kappa) for each task

Task #	Raters						Combined Average		
	Scully			Mulder					
	F	I	CR	F	I	CR	F	I	CR
1	2	0	2	3	0	3	2.5	0.0	2.5
2	2	2	4	2	1	3	2.0	1.5	3.5
3	0	0	0	0	0	0	0.0	0.0	0.0
4	3	2	5	3	2	5	3.0	2.0	5.0

F = frequency, I= importance, CR = combined rating

Conducting a Typical Job Analysis

Step 4: Determine Essential KSAOs

I. Terminology

A. Competencies

B. Job specifications

C. KSAOs

1. *Knowledge* – A body of information needed to perform a task
2. *Skill* – The proficiency to perform a learned task
3. *Ability* – The basic capacity for performing a wide range of different tasks, acquiring a knowledge, or developing a skill
4. *Other characteristic* – Such personal factors as personality, willingness, interest, and motivation and such tangible factors as licenses, degrees, and years of experience

Exercise Identifying KSAOs

Part A. For each of the following characteristics, indicate whether the characteristic is a knowledge, skill, ability, or other characteristic.

1. Typing speed _____
2. Finger dexterity _____
3. Driving a car _____
4. Traffic rules _____
5. A driver's license _____
6. A friendly personality _____
7. Ten years of experience _____
8. Basic intelligence _____
9. Physical strength _____
10. Color vision _____
11. Being a nonsmoker _____
12. Customer service experience _____
13. Use of PowerPoint _____
14. Willingness to work weekends _____
15. Spelling and grammar _____
16. Writing reports _____

Part B. For each of the following tasks, list the KSAOs needed to successfully perform the task. Use KSAOs in Exhibit 3.07 as a guide.

Task	KSAOs
1. Pulling a citizen from a burning vehicle	<hr/>
2. Driving a patrol car in pursuit of motorists	<hr/>
3. Writing traffic citations to motorists who violate traffic regulations	<hr/>
4. Chasing suspects on foot	<hr/>
5. Determining the cause of an automobile accident	<hr/>
6. Testifying in court	<hr/>
7. Providing a lost motorist with directions	<hr/>
8. Searching a car for weapons or evidence	<hr/>
	<hr/>

II. Selecting KSAOs to Rate

A. Structured KSAO Questionnaires

1. Fleishman Job Analysis Survey (F-JASO)
2. Threshold Traits Analysis (TTA)
3. Job Components Inventory (JCI)
4. Job Specific Lists (*Law Enforcement Competency Survey*)

B. Brainstorming

Step 5: Rate Competencies

- I. KSAOs are rated on two scales
 - A. Importance
 - B. When they are needed
- II. KSAOs with importance ratings of .5 or less are discarded
- III. Compute rater agreement (Kappa) for each competency

Importance of KSAO

- | | |
|---|---|
| 0 | KSAO is not needed for satisfactory completion of the academy or satisfactory job performance |
| 1 | KSAO is helpful for satisfactory completion of the academy or satisfactory job performance |
| 2 | KSAO is important/essential for satisfactory completion of the academy or satisfactory job performance |

When KSAO is Needed

- | | |
|---|---|
| 0 | KSAO is not needed |
| 1 | KSAO is needed after completion of field training |
| 2 | KSAO is needed after completion of the academy |
| 3 | KSAO is needed at the time of hire |
-

Step 6: Link Competencies to Tasks

- I. Create a matrix
 - A. Tasks on the side
 - B. Competencies on the top
- II. Have SMEs place a check-mark next to each competency that is needed to perform the task

Comparison of Structured Methods

	Job Analysis Method							
	O*Net	F-JAS	TTA	JCI	JAI	PPRF	PAQ	JSP
ABILITY								
Cognitive Abilities								
Verbal abilities	√	√	√	√			√	√
Oral comprehension	√	√	√	√			√	√
Written comprehension	√	√	√	√			√	√
Oral expression	√	√	√	√			√	√
Written expression	√	√	√	√			√	√
Idea generation and reasoning abilities	√	√	√			√	√	√
Fluency of ideas	√	√						
Originality	√	√	√			√		√
Problem sensitivity	√	√						√
Reasoning	√	√					√	√
Deductive reasoning	√	√						√
Inductive reasoning	√	√						√
Information ordering	√	√				√		√
Category flexibility	√	√						
Planning			√				√	√
Decision making			√	√			√	√
Combining information							√	√
Quantitative abilities	√	√	√	√			√	√
Mathematical reasoning	√	√		√				√
Number facility	√	√	√	√			√	√
Use of length, distance, size, weight					√			√
√ Memory	√	√	√					√
Perceptual abilities	√	√	√					
Speed of closure	√	√						
Flexibility of closure	√	√						
Perceptual speed	√	√						
Spatial abilities	√			√				
Spatial orientation		√						
Visualization	√			√				
Attentiveness	√			√				
Selective attention/concentration	√	√	√	√				
Time sharing	√	√		√				

	O*Net	F-JAS	TTA	JCI	JAI	PPRF	PAQ	JSP
Psychomotor Abilities	√	√		√				
Fine manipulative abilities	√	√		√			√	√
Arm-hand steadiness	√	√		√			√	√
Manual dexterity	√	√		√			√	√
Finger dexterity	√	√		√			√	√
Control movement abilities	√	√		√			√	√
Control precision	√	√					√	√
Multilimb coordination	√	√					√	√
Response orientation	√	√					√	√
Rate control	√	√					√	√
Reaction time and speed ability	√	√	√	√				
Reaction time	√	√		√				
Wrist-finger speed	√	√		√				
Speed of limb movement	√	√						
Physical Abilities	√							
Physical strength	√		√	√				
Static strength	√	√		√				
Explosive strength	√	√		√				
Dynamic strength	√	√						
Trunk strength	√	√						
Endurance/Stamina	√	√	√					
Flexibility, balance, coordination	√	√	√	√			√	√
Extent flexibility	√	√		√				
Dynamic flexibility	√	√						
Gross body coordination	√	√		√			√	√
Gross body equilibrium	√	√		√			√	√
Sensory Abilities	√	√						
Visual abilities	√	√	√					
Near vision	√	√		√			√	
Far vision	√	√					√	
Visual color discrimination	√	√		√			√	
Night vision	√	√						
Peripheral vision	√	√						
Depth perception	√	√					√	
Glare sensitivity	√	√						
Sense of color				√				
Auditory and speech abilities	√							
Hearing sensitivity	√	√	√					
Auditory attention		√	√					
Sound localization	√	√						
Sound recognition							√	
Sound localization							√	
Speech recognition	√	√						
Speech clarity	√	√						
Other senses								
Sense of taste				√			√	
Sense of smell				√			√	
Sense of touch				√			√	
Sense of body movement							√	

Job Analysis Method

	O*Net	F-JAS	TTA	JCI	JAI	PPRF	PAQ	JSP
WORK STYLES								
Achievement orientation	√		√					
Achievement/effort	√		√			√		
Persistence	√	√	√					
Initiative		√		√				
Social influence	√							
Energy	√							
Leadership orientation	√					√		
Interpersonal orientation	√							
Cooperative	√		√			√		
Concern for others	√					√		
Social orientation	√							
Tolerance			√					
Friendliness						√		
Sense of humor				√				
Interest in negotiation						√		
Adjustment	√							
Self-control	√					√		
Stress tolerance	√							
Adaptability/flexibility	√	√	√		√	√		
Adaptability to change			√		√			
Adaptability to repetition			√					
Adaptability to pressure				√		√		
Adaptability to isolation				√				
Adaptability to discomfort			√		√			
Adaptability to hazards/emergencies			√		√			
Interpersonal adaptability					√			
Cultural adaptability					√			
Problem solving adaptability					√			
Resilience		√						
Conscientiousness	√					√		
Dependability	√							
Attention to detail		√					√	
Integrity	√		√			√		
Personal appearance			√					
Work ethic						√		
Independence	√							
Practical intelligence	√							
Innovative	√		√					
Analytical	√							

Job Analysis Method

	O*Net	F-JAS	TTA	JCI	JAI	PPRF	PAQ	JSP
SKILLS								
Basic content skills	√			√				
Active listening	√			√				
Reading comprehension	√			√				
Writing	√			√				
Speaking	√			√				
Mathematics	√		√	√				
Science	√							
Basic processing skills	√							
Active learning	√							
Learning strategies	√							
Monitoring	√							
Critical thinking	√							
Problem-solving skills	√		√					
Problem identification	√							
Information gathering	√							
Information organization	√							
Synthesis/reorganization	√							
Idea generation	√							
Idea evaluation	√							
Implementation planning	√							
Solution appraisal		√						
Resistance to premature judgment		√						
Planning			√					
Social skills	√							
Social perceptiveness	√	√						
Coordination	√							
Persuasion	√	√	√	√			√	√
Negotiation	√			√			√	√
Instructing	√						√	√
Advising				√			√	√
Supervising							√	√
Service orientation	√			√			√	√
Oral fact finding (interviewing)		√		√			√	√
Oral defense		√						
Public speaking				√			√	√
Entertaining							√	√
Sales interest		√						

Job Analysis Method

	O*Net	F-JAS	TTA	JCI	JAI	PPRF	PAQ	JSP
Technical skills	√							
Operations analysis	√							
Technology design	√							
Equipment selection	√							
Installation	√							
Programming	√							
Testing	√							
Operation monitoring	√							
Operations and control	√							
Product inspection	√							
Equipment maintenance	√			√				
Troubleshooting	√							
Repairing	√							
Electrical/electronic		√						
Mechanical		√						
Tools		√		√			√	√
Map reading		√		√				
Drafting		√						
Reading plans		√		√				
Driving		√					√	√
Typing		√						
Shorthand		√						
Filing				√				
Spelling		√						
Grammar		√						
Computer programming				√				
Craft knowledge			√					
Craft skill			√					
Systems skills	√							
Visioning	√							
Systems perception	√							
Identification of downstream consequences	√							
Identification of key causes		√						
Judgment and evaluation	√							
Systems evaluation	√							
Resource management skills	√							
Time management	√							
Financial resource management	√							
Material resource management	√							
Personnel resource management	√							

Other Job Analysis Methods



I. Job Components Inventory (JCI)

- A. Developed in England by Banks (1983)
- B. Takes about an hour to complete
- C. Consists of five categories
 - 1. Tools and equipment
 - a. 26 categories
 - b. over 200 tools
 - 2. Perceptual and physical requirements
 - a. 23 items
 - b. Strength, coordination, dexterity, etc.
 - 3. Mathematical requirements
 - a. 127 aspects
 - b. Ranges from basic math to plans and drawing
 - 4. Communication requirements
 - a. 22 items
 - b. Measures written and oral communication
 - 5. Decision-making and responsibility
 - a. 9 items
 - b. Methods, order of work, standards, etc.
- D. Interrater Reliability
 - 1. Banks and Miller (1984) = .75
 - 2. Surette (1988) = .56

E. Supervisor/Incumbent Reliability

1. Banks et al. (1983) = .60
2. Banks and Miller (1984) = .72

F. Other Research

1. The JCI can differentiate between jobs
2. Jobs analyzed by the JCI fall into six clusters
 - a. Clerical
 - b. Skilled interpersonal
 - c. Operative
 - d. Unskilled manual
 - e. Intermediate skilled technical
 - f. Skilled technical

II. Fleishman Abilities Scales



III. Critical Incident Technique

- A. Developed by John Flanagan (1954)

- B. Incident Generation
 - 1. Incumbents generate incidents of good and bad job performance
 - a. wrong example: *A police officer should be helpful*
 - b. correct example: *While driving home from work, I had a flat tire. A cop pulled me over, helped me change my tire, and followed me home to make sure that I was O.K..*
 - 2. These incidents can be obtained through interviews, questionnaires, or log books.
 - 3. Important factors
 - a. When the incidents are generated
 - 1. Nagay (1949) and air traffic controllers
 - 2. Miller and Flanagan (1950) found that incidents reported several months later tended to be more dramatic than those generated earlier
 - 3. Supervisors reporting incidents weekly forgot twice as many incidents as those reporting daily
 - b. The method used to collect the incidents does not appear to affect the types of incidents generated

- c. The person generating the incidents
 - 1. Wagner (1950) discovered that the types of incidents generated by dentists were different than those generated by patients
 - 2. Smit (1952) found differences between incidents generated by faculty and by students
 - 3. Anderson and Nilsson (1964) found differences between store managers, assistants, and customers
 - 4. Aamodt, Kimbrough, Keller, and Crawford (1982) found that black and white resident assistants generated different incidents
 - 5. Aamodt (1983) found differences involving gender and G.P.A.
- d. Number of incidents needed
 - 1. Flanagan (1954) suggested that 1,000-4,000
 - 2. Jensen (1951) found that new behaviors seldom occurred after reading 400 of 500 incidents
 - 3. Mullins (1983, 1988) looked at incidents from 97 campus police officers at 13 schools and found that no new incidents appeared after three universities and the first 19 officers

C. Test of Criticality

- 1. Read each incident to determine if "bad incidents" are really "bad" and "good incidents" are really "good"
- 2. Lowenberg (1979) found that 16% of her incidents failed this test and Van Fleet (1974) found that 47% of his incidents failed

D. Incident Sorting

- 1. Process

- a. Incidents are sorted by three people into an unspecified number of piles
- b. The job analyst and job experts examine the piles and then name and combine the piles
- c. Three new incumbents then sort the incidents back into the newly named piles
- d. Any incident placed into the same category by at least two of the sorters remains in the category

2. Relevant research

- a. Incidents can be reliably sorted and neither individual differences (Aamodt, 1983) nor the gender mentioned in the incident affect the sorting (Blankenship & O'Brien, 1983)
- b. Agreement rates of 60% yield similar results to agreement rates of 75 and 80 percent
- c. Three sorters yield similar results to as many as 100 sorters

E. Cumulating the Results

F. Uses for Critical Incidents

1. Job Analysis

2. Training
 - a. Glickman & Valence (1958)
 - b. Folley (1969)
 - c. O'brien and Plooij (1977)
 - d. Aamodt (1986)

3. Situational Interviews

4. Performance Appraisal
 - a. Behaviorally Anchored Rating Scales (BARS)
 - b. BARS spin-offs
 - c. Employee Performance Record

IV. Threshold Traits Analysis (TTA)

- A. Developed by Lopez (1981) to tap essential traits

- B. Assumptions
 - 1. Every position possesses two broad aspects
 - a. tasks that are performed
 - b. Conditions under which the tasks are performed

 - 2. A position description must identify the human attributes necessary to perform tasks

 - 3. Jobs must be grouped according to similarities of the traits required to perform the job

 - 4. There are three broad trait categories
 - a. Motor and physical skills
 - b. Cognitive abilities
 - c. Personality and/or motivational factors

- C. Method
 - 1. A list of 33 traits is given to about 15 supervisors

 - 2. Supervisors rate each trait on three scales
 - a. Relevancy (if this is 0, then trait is not considered)
 - b. Level
 - c. Practicality

 - 3. Rating are then averaged

- a. Magnitude of the rating
 - b. Agreement of raters
4. Tests are then chosen to measure each trait
 5. The technique takes about one hour per job

D. Evaluation of TTA

1. Interrater reliability = .86
2. Correlation with another technique = .87
3. Reasonable evidence of validity as incumbents in a job determined to have a particular trait scored higher on that trait than did incumbents in jobs not requiring that trait

Information About Working Conditions



Job Analysis Questionnaires

Position Analysis Questionnaire

Job Element Inventory

Common Metric Questionnaire

