INITIAL REPORT OF THE OIDAP WORK TAXONOMY SUBCOMMITTEE

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NC State University
OIDAP Advisory Panel Member
OVERVIEW

- Fundamentals of Work Analysis
- Work Taxonomy Evaluation Methodology
- Work Taxonomy Evaluation Criteria
"LEROY'S JOB IS PRETTY SAFE ... THEY'VE FORGOTTEN WHAT HE DOES."
Definition

Two Important Models

Important Job Analysis Decisions

What is a job analysis system?

Making Job Comparisons
Definition of Work Analysis

- Collecting Information about Jobs
- By any Means
- For any Purpose
THE IOIE MODEL

Interaction:
- Work Analysis
- Selection
- Training
- Performance Evaluation

Individual

Organization

Environment
THE INTEGRATED PERSONNEL RESOURCE SYSTEM

[Diagram showing the flow of processes such as Human Resource Plan, Job Analysis, Recruitment, Selection, Performance Appraisal, Training, Compensation, with feedback loops and test validation.]
Purpose of the Analysis
Level of Analysis/Degree of Specificity
Source of information
Mode/Form of information collection
Evaluation Criteria
PURPOSE OF THE ANALYSIS

- A Job Analytic Information System Describing all Available Work in the US Economy for Disability Determination
- Ability to Withstand Both Legal and Scientific Challenges
WHY ME?

I'll admit, it's a dangerous job, but it has to be done!

Now, I suppose the first question that comes to your mind is, "Why does this job have to be done?"

No, the first question that comes to my mind is, "Why me?"
### DEGREE OF ANALYSIS SPECIFICITY

<table>
<thead>
<tr>
<th>Degree of Specificity</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>1000’s</td>
</tr>
<tr>
<td>Job</td>
<td>10’s-100’s</td>
</tr>
<tr>
<td>Position</td>
<td>1</td>
</tr>
<tr>
<td>Job Dimensions</td>
<td>10’s</td>
</tr>
<tr>
<td>Generalized Work Activities</td>
<td>10’s</td>
</tr>
<tr>
<td>Duties</td>
<td>10’s</td>
</tr>
<tr>
<td>Tasks</td>
<td>100’s</td>
</tr>
<tr>
<td>Elements</td>
<td>1000’s</td>
</tr>
</tbody>
</table>
Sources of Work Information

- Incumbent
- Peers
- Supervisor
- Subordinate
- Analyst
MODES/FORM OF INFORMATION COLLECTION

- Diary
- Interview
- Observation
- Participation
- Survey
- Web/Document Search
HOW DO YOU EVALUATE WORK ANALYSIS RESULTS?

- Acceptability
- Utility
- Shelf Life
- Reliability
- Validity
SAMPLE WORK ANALYSIS SYSTEMS?

- Combinations of Specificity, Source, Mode, & Evaluation Criteria Decisions
  - Functional Job Analysis
  - CODAP - Task Inventories
  - Generalized Work Activity Questionnaires
FUNCTIONAL JOB ANALYSIS

- Rational Job Dimensions
  - Worker Function and Orientation
    - Data, People, Things
  - Worker Instructions
  - General Educational Development
    - Reasoning, Math, Language
- Makes use of Task Ratings
### FJA TASK RATING

#### TASK CODE:

<table>
<thead>
<tr>
<th>THINGS</th>
<th>%</th>
<th>DATA</th>
<th>%</th>
<th>PEOPLE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4C</td>
<td>65</td>
<td>3B</td>
<td>25</td>
<td>1A</td>
<td>10</td>
</tr>
</tbody>
</table>

#### WORKER FUNCTION AND ORIENTATION

**GOAL:** Operates Grader — Output Basic

**OBJECTIVE:** Backfilling, scarifying, windrowing, cutting firebreak, maintaining haul road, snow removal

**TASK:** Operates grader manipulating controls to travel forward/back, turn, raise/lower blade, position wheels and blade at correct angles; follows work order and markings on grade stakes, drawing on knowledge and experience, monitoring the performance of the equipment and adapting to the changing situation, constantly alert to the presence and safety of other workers/equipment, in order to perform routine grader tasks such as backfilling, haul road maintenance, snow removal.
Inventory of Job Tasks for Multiple Jobs

Often Evaluated on Several Scales
- Difficulty
- Frequency
- Time

Used for many purposes including to assess training
EXAMPLE INVENTORY
TASKS

- Apply safety awareness techniques
- Arrest individual for bookable violations and warrants
- Attend press conferences/media events on special projects
- Chart trainees' daily activities
- Check schedules for accuracy
- Correspond regularly with court officials
GENERALIZED WORK ACTIVITY QUESTIONNAIRE

- Often Based on a “Theory of Work”
  - Work Inputs
  - Work Processes
  - Work Output
- Meant to Apply to all or most Work
- Normative Data Collected
# GENERALIZED WORK ACTIVITY RATING

<table>
<thead>
<tr>
<th>If Yes, how OFTEN do you perform this activity?</th>
<th>How CRITICAL is this activity to accomplishing the main mission of your job?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the one best answer</td>
<td>Choose the one best answer</td>
</tr>
<tr>
<td>a) Constantly to hourly</td>
<td>a) Part of my job, but of relatively minor importance</td>
</tr>
<tr>
<td>b) Every few hours to daily</td>
<td>b) Necessary, but not critical</td>
</tr>
<tr>
<td>c) Every few days to weekly</td>
<td>c) Absolutely critical</td>
</tr>
<tr>
<td>d) Every few weeks to monthly</td>
<td></td>
</tr>
<tr>
<td>e) Every few months to yearly</td>
<td></td>
</tr>
</tbody>
</table>

(If yes, check here and answer below)

As part of your job, DO YOU... Work in pairs?

<table>
<thead>
<tr>
<th>If Yes, how OFTEN do you perform this activity?</th>
<th>How CRITICAL is this activity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
</tr>
</tbody>
</table>

As part of your job, DO YOU... Work in teams?

<table>
<thead>
<tr>
<th>If Yes, how OFTEN do you perform this activity?</th>
<th>How CRITICAL is this activity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
</tr>
</tbody>
</table>

In this example, there are two activity questions:
MAKING JOB COMPARISONS

- Metric is Important
- Level of Work Specificity Matters
# JOBS GROUPED BY ABILITY LEVEL

## TABLE 12.4
Partial List of Jobs Grouped According to Common Abilities Needed

<table>
<thead>
<tr>
<th>Static Strength</th>
<th>Explosive Strength</th>
<th>Dynamic Strength</th>
<th>Trunk Strength</th>
<th>Stamina</th>
<th>Extent Flexibility</th>
<th>Dynamic Flexibility</th>
<th>Speed of Limb Movement</th>
<th>Gross Body Coordination</th>
<th>Gross Body Equilibrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighter</td>
<td>Officer</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Operator</td>
<td>Firefighter</td>
<td>Firefighter</td>
</tr>
<tr>
<td>Attendant</td>
<td>Operator</td>
<td>Attendant</td>
<td>Operator</td>
<td>Attendant</td>
<td>Operator/Officer</td>
<td>Attendant</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Firefighter</td>
</tr>
<tr>
<td>Operator</td>
<td>Operator</td>
<td>Attendant</td>
<td>Operator</td>
<td>Attendant</td>
<td>Operator/Officer</td>
<td>Attendant</td>
<td>Firefighter</td>
<td>Firefighter</td>
<td>Firefighter</td>
</tr>
<tr>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
<td>Serviceman</td>
</tr>
<tr>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
<td>Clerk/Painter</td>
</tr>
<tr>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
<td>Laborer/Mechanic</td>
</tr>
</tbody>
</table>
## JOBS GROUPED BY ABILITY LEVEL

<table>
<thead>
<tr>
<th>Ability Level</th>
<th>Mechanic</th>
<th>Custodian</th>
<th>Inspector</th>
<th>Nurse</th>
<th>Clerk/Custodian</th>
<th>Officer/Clerk</th>
<th>Mechanic</th>
<th>Inspector</th>
<th>Clerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Inspector</td>
<td>Nurse</td>
<td></td>
<td></td>
<td></td>
<td>Social Worker</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Attorney</td>
<td>Clerical</td>
<td>Social Worker</td>
<td>Clerk/Custodian</td>
<td>Officer/Clerk</td>
<td>Mechanic</td>
<td>Inspector</td>
<td>Clerk</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Social Worker</td>
<td>Accountant</td>
<td>Attorney</td>
<td>Custodian</td>
<td>Clerk/Custodian</td>
<td>Mechanic</td>
<td>Inspector</td>
<td>Clerk</td>
</tr>
</tbody>
</table>

WORK TAXONOMY DEVELOPMENT METHODOLOGY OVERVIEW

- Definition
- Identify Existing Taxonomies
- Compare Existing Taxonomies
- Evaluate Dimensions for Disability Determination Sensitivity
- Progress Report
Definition of Work Taxonomy

- Can be Rational or Empirical
- Is Meant to be Comprehensive
- Primary Purpose is Classification
- Can Vary in Level of Detail
- Can Be Based on Work Characteristics or Job Titles
- Most Frequently not the Level at Which Information is Collected
IDENTIFICATION OF EXISTING TAXONOMIES

- Reviewed Scientific Literature
- Conducted Database and Web Searches
- Solicited Suggestions from Subcommittee Members and SSA Staff Advisors
CURRENT TAXONOMIES RETAINED FOR ANALYSIS

- Occupational Analysis Inventory (OAI)
- General Work Inventory (GWI)
- Occupational Aptitude Patterns Map (OAP Map)
- Job Element Inventory (JEI)
- Common-Metric Questionnaire (CMQ)
CURRENT TAXONOMIES RETAINED FOR ANALYSIS

- Worker Activity Profile (WAP)
- Position Analysis Questionnaire (PAQ)
- Professional and Managerial Position Questionnaire (PMPQ)
- The Occupational Information Network (O*NET)
- Management Position Description Questionnaire (MPDQ)
- Purdue Cognitive Task Analysis Questionnaire (PCTAQ)
## Compare Existing Taxonomies

<table>
<thead>
<tr>
<th>Work Taxonomy Dimension</th>
<th>OAI</th>
<th>GWI</th>
<th>OAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dimension 1 (OAI)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. Dimension 6 (GWI)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3. Dimension 3 (OAP)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 1. Dimension 4 (GWI) | | | X |
| 2. Dimension 7 (OAP) | | X | |

| 1. Dimension 2 (OAI) | | | X |
| 2. Dimension 4 (OAP) | X | | |

*Note: The table represents the comparison of existing taxonomies for different dimensions.*
## EVALUATE DIMENSIONS FOR DISABILITY DETERMINATION SENSITIVITY

<table>
<thead>
<tr>
<th>Work Taxonomy Dimension</th>
<th>Physical</th>
<th>Cognitive</th>
<th>E, B, I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dimension 1 (OAI)</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2. Dimension 6 (GWI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Dimension 3 (OAP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Dimension 4 (GWI)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Dimension 7 (OAP)</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1. Dimension 2 (OAI)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2. Dimension 4 (OAP)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
WORK TAXONOMY
EVALUATION CRITERIA

- Does the dimension have obvious physical, cognitive, emotional, behavioral, or interpersonal relationship to world of work?
- Even if it does not, is it a dimension which is relevant to determining transferability of skills?
- Does the dimension show up in multiple taxonomies?
WORK TAXONOMY EVALUATION CRITERIA

- Is the dimension legally defensible – can it be unambiguously measured as an “observable” or as having an observable outcome
- Is the Dimension sensitive to the jobs SSA currently sees frequently
- Is the Dimension sensitive to the emerging characteristics of a knowledge/service intensive world of work
Have Identified 11 Work Characteristics Taxonomies for Further Analysis

Have Identified A Method of Analysis

Have Identified 6 Evaluation Criteria
QUESTIONS

Pepper . . .
And Salt

THE WALL STREET JOURNAL

“I was feeling nostalgic, so I thought we’d talk instead of text.”