The 1991 Revised DOT: What's New and Different and its Impact on Traditional Evaluation Techniques

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Abstract

The 1991 Revision to the *Dictionary of Occupational Titles (4th Edition)* added some important new variables to the reported data. Since only about 20% of the content of the DOT was revised and the Department of Labor has not yet printed new characteristics of occupations information, it is difficult to understand what really is new. This paper compares many aspects of the old version to the revised edition. There is a discussion of the *Revised Handbook for Analyzing Jobs* (1991), and an analysis of the frequency with which the new worker characteristics data is reported. The impact of the subtleties of these many new changes on assessment instruments, techniques, and strategies is presented. Emphasis is placed on how to avoid dangerous judgments which may adversely affect the process of vocational analysis, particularly when using a computerized approach.

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Spurred by the Great Depression, the United States Department of Labor (DOL) began a program of occupational research beginning in 1934, categorizing occupations primarily by job content using techniques for job analysis pioneered in this era. During and after World War II, research focus shifted towards methods and techniques for matching the individual worker's characteristics to the requirements of a job (Miller, Treiman, Cain, and Roos, 1980). By the mid-sixties, *The Dictionary of Occupational Titles, Third Edition* (DOL, 1965) had evolved, with worker characteristics identified for occupations grouped by a new coding structure called Data-People-Things (DPT). The General Aptitude Test Battery and commercial development of assessment systems began to emerge using DPT technology.

DOL's third release of the *Handbook for Analyzing Jobs* (DOL, 1972) laid the foundation for data collection and coding procedures used by job analysts to construct the Fourth edition of the **DOT** (DOL, 1977). The Fourth edition added three more digits to the **DOT** code to create a unique key for each **DOT** occupation, a step essential to computerized retrieval of **DOT** information. The Fourth edition also responded to the civil rights activism of the sixties and seventies, reflecting a careful review of words to eliminate sex bias in occupational titles and descriptions.

By 1977, a private sector method was introduced which built upon the Fourth edition **DOT** and the 1972 **HAJ**. The Vocational Diagnosis and Assessment of Residual Employability (VDARE) process (McCroskey, Wattenbarger, Field, and Sink, 1977)

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introduced the first scientific method for analyzing transferability of skills. To accommodate the disability adjudication needs of the Social Security Administration, the DOL began to publish some of the detailed characteristics of the typical requirements of each of the unique occupations in the *Selected Characteristics of Occupations* (DOL, 1981). The DOL also made the complete unabridged data set available to commercial developers on magnetic computer tape. From this data tape emerged the popular *Classification of Jobs According to Worker Trait Factors* (Field & Field, 1980). The release of the magnetic data tape stimulated pioneering work by a variety of innovative software companies to automate **DOT** information (Fry, 1982; Botterbusch, 1983).

Suggestions from the rehabilitation community and the embryonic vocational software industry led the DOL to begin to revise the **HAJ** to better classify physical demand characteristics and environmental working conditions. *A Guide to Job Analysis* (MDC, 1982) was a preliminary version of a revised **HAJ**, showing the general direction of future changes in **DOT** characteristics. Supplements to the Fourth Edition were released (**DOL**, 1982, 1986). The 1986 **DOT** Supplement introduced some preliminary expanded worker characteristics, though only for the 875 new titles, not the original 12,099 titles of the Fourth Edition. Additional changes to the job analysis taxonomy were made, culminating in the only *official revision* to the **HAJ** (DOL, 1991).

The Dictionary of Occupational Titles, Revised Fourth Edition (DOL, 1991) follows the new **RHAJ** criteria. The revision was done to consolidate the 1977 **DOT** and its 1986 Supplement, to add new titles, and to delete obsolete titles. A Revised **SCO** is in preparation by DOL, but has not yet been released in print (as of March, 1993). DOL has permitted electronic release of the data ***prior*** to the official print publication, an historic event signaling DOL movement towards more timely data release through technology. A *Revised Classification of Jobs* (Field & Field, 1992) has been privately printed to enable hard copy access to the data. Many manufacturers of vocational software have already modified their products to take advantage of the precision available in these new worker characteristics. Significant structural changes in the **DOT** may occur later in this decade, pending the outcome of recommendations of the Advisory Panel on the **DOT** (APDOT) and funding to implement the recommendations.

What's new about the 1991 DOT?

As released by the DOL, the 1991 **DOT** was printed in two soft cover volumes. The pages were edge-banded to make lookups easier. A number of private sector companies have reprinted the **DOT**, some binding the two volumes into a convenient and durable hard cover single volume.

The 1977 **DOT** plus the 1986 Supplement had a combined total of 12,855 occupations. The 1991 **DOT** has only 12,741 unique **DOT** descriptions. These base titles are cross-referenced by over 20,000 alternate titles. The DOL claims that 844 occupations are "new". The author, however, only finds that 90 occupations are truly "new," since the DOL count includes the 875 "new" titles which have been listed in the **DOT** supplement since 1986. These 90 completely new titles are listed in Table 1. The titles include a new Occupational Group Arrangement (OGA) for computer related occupations. There are 14 "new" titles added in this OGA, with 7 existing **DOT** codes having been reassigned to this new OGA for a total of 21 computer data processing occupations.

NEW 1991 Revised DOT Titles (by DOT Industry Designation)

Aircraft Manufacturing

007.362-010 NESTING OPERATOR, NUMERICAL CONTROL
553.362-014 AUTOCLAVE OPERATOR
606.382-026 ROBOTIC MACHINE OPERATOR
699.362-010 AUTOMATED CUTTING MACHINE OPERATOR
699.382-010 FLUID JET CUTTER OPERATOR

Any Industry

031.132-010 SUPERVISOR, NETWORK CONTROL OPERATORS
031.262-014 NETWORK CONTROL OPERATOR
823.261-030 DATA COMMUNICATIONS TECHNICIAN

Automobile Manufacturing

806.137-022 QUALITY ASSURANCE SUPERVISOR
806.367-014 QUALITY ASSURANCE GROUP LEADER
806.367-018 QUALITY ASSURANCE MONITOR

Clerical

221.362-030 COMPUTER PROCESSING SCHEDULER

Education

094.227-030 TEACHER, LEARNING DISABLED

Electrical Equipment

727.664-010 BATTERY ASSEMBLER, DRY CELL
820.684-010 TRANSFORMER ASSEMBLER II

Electronics Components

590.684-042 INTEGRATED CIRCUIT FABRICATOR
725.684-026 CATHODE RAY TUBE SALVAGE PROCESSOR

Financial

186.117-086 MANAGER, EXCHANGE FLOOR
186.167-070 ASSISTANT BRANCH MANAGER, FINANCIAL INSTITUTION
186.267-022 LOAN REVIEW ANALYST
186.267-026 UNDERWRITER, MORTGAGE LOAN
211.382-010 TELLER, VAULT
216.362-038 ELECTRONIC FUNDS TRANSFER COORDINATOR
216.362-046 TRANSFER CLERK
216.482-034 DIVIDEND CLERK
219.362-074 TRUST OPERATIONS ASSISTANT
249.137-034 SUPERVISOR, LENDING ACTIVITIES
249.362-018 MORTGAGE LOAN CLOSER

Government Services

195.267-022 CHILD SUPPORT OFFICER

Instruments & Apparatus

710.685-014 THERMOMETER PRODUCTION WORKER

Library

100.167-038 NEWS LIBRARIAN

Machine Shop

609.360-010 NUMERICAL CONTROL MACHINE SET-UP OPERATOR

Medical Services

075.127-034 NURSE, INFECTION CONTROL
075.167-014 QUALITY ASSURANCE COORDINATOR
076.121-018 EXERCISE PHYSIOLOGIST
078.261-026 CYTOGENETIC TECHNOLOGIST
078.261-034 MEDICAL RADIATION DOSIMETRIST
078.261-042 PHERESIS SPECIALIST
078.361-038 OPHTHALMIC TECHNICIAN
078.362-038 ELECTROMYOGRAPHIC TECHNICIAN
078.362-042 POLYSOMNOGRAPHIC TECHNICIAN
078.362-046 SPECIAL PROCEDURES TECHNOLOGIST, ANGIOGRAM
078.362-050 SPECIAL PROCEDURES TECHNOLOGIST, CARDIAC
078.362-054 SPECIAL PROCEDURES TECHNOLOGIST, CT SCAN
078.362-058 SPECIAL PROCEDURES TECHNOLOGIST, MAGNETIC
078.362-062 STRESS TEST TECHNICIAN
078.364-014 ECHOCARDIOGRAPH TECHNICIAN
079.151-010 TRANSPLANT COORDINATOR
079.362-018 TUMOR REGISTRAR
079.364-026 PARAMEDIC
143.362-014 OPHTHALMIC PHOTOGRAPHER

Motion Pictures

203.362-026 CAPTION WRITER

Printing and Publishing

221.167-026 CUSTOMER SERVICES COORDINATOR
651.685-026 ASSISTANT PRESS OPERATOR, OFFSET
651.686-014 FEEDER
651.686-022 ROLL TENDER
972.281-022 STRIPPER, LITHOGRAPHIC I
972.282-018 ELECTRONIC MASKING SYSTEM OPERATOR
972.284-010 FILM FLAT INSPECTOR
972.381-034 PROOFER, PREPRESS
972.687-010 PLATE INSPECTOR
976.684-038 CONTACT WORKER, LITHOGRAPHY
977.684-026 BENCH WORKER, BINDING
979.282-010 ELECTRONIC PREPRESS SYSTEM OPERATOR

Professional & Kindred

030.062-010 SOFTWARE ENGINEER
030.162-014 PROGRAMMER-ANALYST
030.162-022 SYSTEMS PROGRAMMER
031.262-010 DATA COMMUNICATIONS ANALYST
032.132-010 USER SUPPORT ANALYST SUPERVISOR
033.162-010 COMPUTER SECURITY COORDINATOR
033.162-014 DATA RECOVERY PLANNER
033.162-018 TECHNICAL SUPPORT SPECIALIST
033.262-010 QUALITY ASSURANCE ANALYST
033.362-010 COMPUTER SECURITY SPECIALIST
039.162-010 DATA BASE ADMINISTRATOR
039.162-014 DATA BASE DESIGN ANALYST
045.107-050 CLINICAL THERAPIST
045.107-054 COUNSELOR, MARRIAGE AND FAMILY
160.162-030 AUDITOR, DATA PROCESSING
169.167-082 MANAGER, COMPUTER OPERATIONS

Protective Devices

719.381-018 BLOCK MAKER

Radio-TV Broadcasting

159.147-018 SHOW HOST/HOSTESS
194.122-010 ACCESS COORDINATOR, CABLE TELEVISION
194.162-010 PROGRAM DIRECTOR, CABLE TELEVISION
194.262-022 MASTER CONTROL OPERATOR
194.362-022 TECHNICIAN, NEWS GATHERING
194.382-018 VIDEOTAPE OPERATOR
202.382-010 STENOCAPTIONER

Real Estate

186.167-074 CLOSER
186.167-090 MANAGER, TITLE SEARCH

Table 1 - Newest titles in the 1991 DOT

The DOL added "trailer" information to each **DOT** description. This enables quick retrieval of basic worker characteristics without having to consult another resource document. Trailer data includes the Strength classification, General Educational Development (GED) - Reasoning, Math, and Language, Specific Vocational Preparation (SVP), Guide for Occupational Exploration Code (GOE), and the Date the description was Last Updated (DLU).

DOL claims to have reviewed all of the occupational definitions and made significant changes to 1,609 occupations based on additional information gathered from on-site observations of 10,000 jobs in more than 1,500 establishments in some 45 industries. The number of industries (Industry Designations) was reduced from 220 categories to only 140. The surviving industries are much more useful ... who will ever miss the "Excelsior" industry?

The DOL appears to have "taken the bull by the horns", focusing its on-site analyses within industries which have been most impacted by automation. These industries include:

- Aircraft manufacturing
- Automobile manufacturing
- Clerical
- Electronics
- Finance
- Instruments and apparatus
- Machine shop
- Medical services
- Printing and publishing

The author was able to identify significant changes in 1,544 occupations, many of which had multiple factors changed (such as strength, physical demands and working conditions, GED, SVP, aptitudes, and cross-references to other codes). The author's sampling of these significantly changed definitions revealed excellent work by DOL analysts. Many of the changed descriptions incorporated references to the use of computers as an essential component of the job tasks. Changes in worker characteristics ratings appear to have been in directions expected, with slightly higher GED levels and Clerical aptitude assigned if computer use was involved in a description.

A total of 310 existing occupations were identified which were assigned new **DOT** code numbers. DOL claims to have deleted 208 obsolete titles, but the author found that only 75 occupations were completely deleted in the revision. Rather, the author discovered 133 old occupations were combined into other, already existing **DOT** codes. This reflected DOL's desire to show how some narrow, highly focused jobs no longer exist. Many "real world" positions require performance of a multitude of duties.

Major Changes in Worker Characteristics

The Revised Handbook for Analyzing Jobs (**RHAJ**) is the primary reference document used by DOL job analysts to collect job data. Ambiguities in interpretation of worker characteristics vs. typical job requirements were resolved by study of the relevant descriptive material contained in the **RHAJ**. Being the foundation for the 1991 **DOT**, the **RHAJ** is a critical document for understanding the **DOT**. When purchasing the **RHAJ**, be sure that Chapter 9 contains 36 pages. The Government Printing Office misprinted this chapter, omitting 32 pages! Private sector reprints are available which include these missing pages.

As detailed in the **RHAJ**, there are significant changes in Strength, Physical Demands, Environmental Working Conditions, and Temperaments. GED and SVP definitions are unchanged. Bipolar interest ratings (i.e. 1A vs. 2B) were discontinued. Details on each of these areas are presented below.

Strength

The **RHAJ** presents a much clearer definition of Strength requirements than was given in the original **HAJ**. The new definition is quite specific on issues relating to the frequency, the forces, and the positions of the worker. The **RHAJ** (Chapter 12) presents a table which can also be inverted as presented below (Table 2).

STRENGTH - Per RHAJ (Chapter 12)

WEIGHT / FORCE Exerted to lift/carry/push/pull/move objects			
WORK DAY	Occasional (Up to 1/3)	Frequent (1/3 to 2/3)	Constant (2/3 or more)
Negligible	S	S	L
10 lbs. max.	S	L	M
20 lbs. max.	L	M	H
25 lbs. max.	M	M	V
50 lbs. max.	M	H	V
100 lbs. max.	H	V	V
Over 100 lbs.	V	V	V
POSITION: Stand	S	L	L
Walk	S	L	L
Sit	L	L/S	S
Use Arm/Leg Controls	L	L	L

Table 2 - Revised Definition of Physical Demands

This new table will cause a major shift in common practice interpretation of the Strength factor. Strength is determined by evaluating a combination of factors such as lifting, carrying, pushing, pulling, moving objects, standing, walking, sitting, and using arm and/or leg controls. For a job to be considered sedentary, **both** weight/force and position criteria must be satisfied. Constant lifting of a negligible weight is now rated as Light work. Frequent lifting of 10 lbs. maximum is also considered to be light. Constant lifting of 20 lbs. maximum is rated as Heavy work. The structure of this table considers the fatigue inherent in repetitive performance of the exertional requirements of a job. This clear definition reflects DOL's growing sensitivity to the needs of rehabilitation practitioners.

Figure 1 shows no significant change in the overall distribution of occupations within the Strength category. However, there is a trend

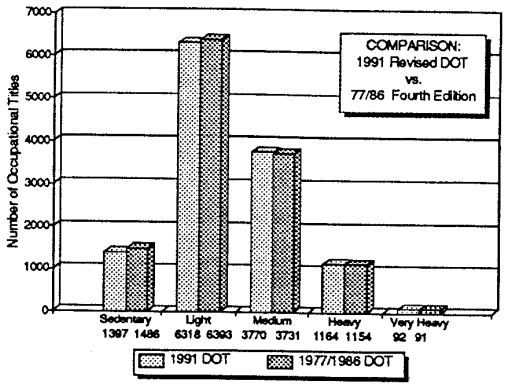

Figure 1 - 1991 vs. 1977/86 DOT Strength

towards fewer Sedentary and Light occupational titles, and more Medium occupations. Figure 2 shows this trend clearly, although the frequency with which the "lost" occupational titles actually exist in the national economy may make such a trend analysis meaningless.

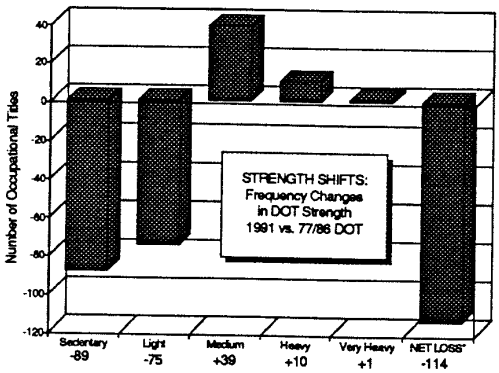

Figure 2 - Strength Shifts

Physical Demands

There are major changes in this realm. The original **HAJ** combined climbing and/or balancing, stooping with kneeling, crouching and/or crawling, reaching with handling, fingering and/or feeling, talking with hearing, and seeing. The **RHAJ** disaggregated these

characteristics into discrete factors, added a new category for tasting/smelling, and expanded the seeing characteristic to six new factors (near acuity, far acuity, depth perception, accommodation, color vision, and field of vision). These new characteristics are no longer reported in a simple binary fashion as "present" or "not present". The **RHAJ** introduced an interval rating system based on the frequency of required performance during a normal work day. These intervals include:

N - Not Present
O - Occasional (Up to 1/3 of the work day)
F - Frequent (1/3 to 2/3 of the work day)
C - Constant (2/3 or more of the work day).

Table 3 lists the new Physical Demand factors and includes an important frequency distribution matrix. The author proposes a standardized set of distinctive acronyms as a more "friendly" alternative to the **RHAJ** numerical labels.

2 - CL - Climbing
3 - BA - Balancing
4 - ST - Stooping
5 - KN - Kneeling
6 - CR - Crouching
7 - CW - Crawling
8 - RE - Reaching
9 - HA - Handling
10 - FI - Fingering
11 - FE - Feeling
12 - TA - Talking
13 - HE - Hearing
14 - TS - Tasting/Smelling
15 - NE - Near Acuity
16 - FA - Far Acuity
17 - DE - Depth Perception
18 - AC - Accommodation
19 - CV - Color Vision
20 - FV - Field of Vision

FREQUENCY DISTRIBUTION

	Not Present	Occasional	Frequent	Constant
2 - CL	1104	1294	399	4
3 - BA	11828	680	223	10
4 - ST	8266	2992	1467	16
5 - KN	10910	1360	470	1
6 - CR	9975	1987	774	5
7 - CW	12353	321	67	0
8 - RE	110	953	10324	1354
9 - HA	98	891	10338	1414
10 - FI	2046	3683	6429	583
11 - FE	10718	1368	606	49
12 - TA	8169	1208	3252	112
13 - HE	7655	1595	3366	125
14 - TS	12636	72	33	0
15 - NE	1742	1725	8526	748
16 - FA	11231	669	784	57
17 - DE	6808	1868	3906	159
18 - AC	7862	2556	2109	214
19 - CV	7917	3429	1312	83
20 - FV	11800	409	483	49

Table 3 - New Physical Demand Factors

When using these new factors in computerized systems, it is essential that the user be fully aware of the frequency distribution matrix to understand the impact of choosing certain factors as restrictors. For example, an individual with a torn rotator cuff may have difficulty reaching above shoulder height. It is tempting to input a restriction so that only occupations would be selected in which reaching is not present. However, the new Reaching factor includes ***any kind*** of reaching, at, above, or below the shoulder and/or waist. This one input will produce almost no occupations, no matter how the search is conducted because there are only 110 occupations in the entire **DOT** in which reaching is rated as not present. ***The universe of available occupations can be severely restricted by a single input value.***

The new reaching and handling factors are heavily skewed towards the F - Frequent rating. This is also true for Near Acuity. This reduces the discriminative value of these new factors, although ratings were assigned by DOL job analysts with no consideration for job modification. Ratings were assigned based on observed frequency.

On the other hand, cumulative trauma disorders are handled well under the new rating system. The frequency of fingering is often the trigger for pain and dysfunction in a CTD case. The more even frequency distribution of ratings across the FI - Fingering dimension allows the rehabilitation professional to more precisely target a suitable set of occupational alternatives.

The Americans with Disabilities Act now requires employers to make an effort to reasonably accommodate workers. The author encourages rehabilitation professionals to use the least restrictive indicators of residual capacity, with the full awareness that some job accommodations and modifications may be appropriate and necessary at job placement.

Environmental Conditions

Once again in response to input from the rehabilitation community, the DOL greatly expanded its treatment of working conditions. The same frequency rating intervals are followed for these factors, except that the Noise factor is rated on a scale of 1-5 (Very Quiet to Very Loud). Table 4 lists each of the factors, again with the author's suggested "user-friendly acronyms".

1 - WE - Exposure to Weather
2 - CO - Extreme non-weather Cold
3 - HO - Extreme non-weather Heat
4 - WT - Wetness/Humidity
5 - NO - Noise intensity level
6 - VI - Vibration
7 - AT - Atmospheric conditions
8 - MV - Moving mechanical parts hazard
9 - EL - Electric shock hazard
10 - HI - High, exposed places
11 - RA - Radiation exposure hazard
12 - EX - Explosion hazard
13 - TX - Toxic/Caustic hazards
14 - OT - Other hazards

FREQUENCY DISTRIBUTION

	Not Present	Occasional	Frequent	Constant
1 - WE	10875	804	750	312
2 - CO	12631	70	35	5
3 - HO	11915	364	406	56
4 - WT	11594	543	509	95
5 - NO	*Rating from 1=Very Quiet to 5=Very Loud*			
6 - VI	12675	36	22	8
7 - AT	10993	820	765	163
8 - MV	12016	564	140	21
9 - EL	12590	101	50	0
10 - HI	12577	119	45	0
11 - RA	12670	51	16	4
12 - EX	12645	60	15	21
13 - TX	12371	312	45	13
14 - OT	11030	787	843	81

Table 4 - New Environmental Conditions

The frequency distributions for all of these factors are heavily skewed towards "Not Present," so the impact on database searches is relatively minimal.

Temperaments

Temperaments are the adaptability requirements made on the worker by specific types of job situations. The **HAJ** identified 10 temperament factors. The **RHAJ** dropped old Temperament M - Generalizing and deciding based on Measurable or verifiable criteria, combining it with Temperament J - Making Judgements and decisions. The RHAJ also introduced two new temperament factors, A - Working Alone or apart in physical isolation from others and U - Working Under specific instructions. Table 5 lists the temperament factors and gives frequency information.

N	Temperament
2229	D - DIRECTING, controlling, planning
5858	R - REPETITIVE, short cycle work
490	I - INFLUENCING people
2243	V - VARIETY of duties
171	E - EXPRESSING personal feelings
3	A - Working ALONE, apart from others
274	S - Performing under STRESS
6983	T - Attaining precise TOLERANCES
193	U - Work UNDER specific instructions
2897	P - Dealing with PEOPLE
6024	J - Make JUDGMENTS and decisions

Table 5 - Revised Temperament Factors

Specific Vocational Preparation

No changes were made to the SVP category. Table 6 shows that the cumulative frequency count distribution is remarkably stable. In the absence of a skills definition by the DOL since 1965, the author suggests four clusters of SVP: ***Unskilled*** (SVP = 1 or 2); ***Semi-Skilled*** (SVP = 3 or 4); ***Skilled*** (SVP = 5, 6, or 7); and ***Highly Skilled*** (SVP = 8 or 9). These clusters correspond to popular usage of these terms by the general public and by educational organizations.

	N	Length of SVP
Un-	191	1 - Short Demonstration Only
Skilled	2934	2 - Up to 30 Days
Semi-	2199	3 - 30 Days to 3 months
Skilled	1637	4 - 3 to 6 months
	1205	5 - 6 months to 1 year
Skilled	1328	6 - 1 to 2 years
	2055	7 - 2 to 4 years
Highly	1146	8 - 4 to 10 years
Skilled	46	9 - Over 10 years

Table 6 - Specific Vocational Preparation

A special analysis of SVP by Strength supports the widely held belief that more training/skills leads to less physically demanding work. Using the skills clusters advocated by the author, Figure 3 illustrates that Highly Skilled occupations are more Sedentary and Light in nature, Skilled jobs are more Sedentary, Light and Medium, Semi-Skilled jobs are more Light and Medium in nature, and Unskilled jobs are more Light, Medium and Heavy in nature.

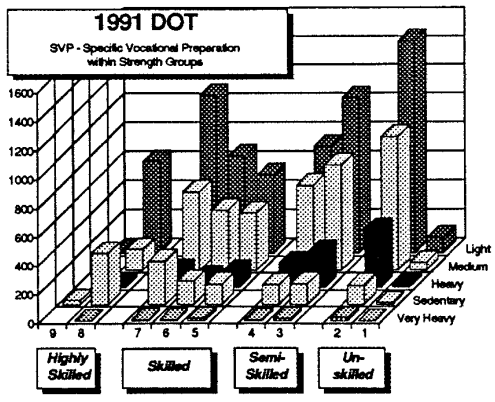

Figure 3 - Strength Distribution by SVP

General Educational Development

No changes were made to the GED taxonomy. The author noted that there were a considerable number of changes in the assigned GED levels for R, M, and L. A minor trend is seen in Table 7 showing a shift away from lower levels of GED-R,M,L towards average and high average areas. No clear pattern can emerge since less than 20% of the 1991 **DOT** was significantly changed or new.

COMPARISON OF FREQUENCY DISTRIBUTIONS

1991 DOT			GED LEVEL	1977/1986 DOT		
Reasoning	Math	Language		Reasoning	Math	Language
			(Low)			
821	4899	3966	1	836	4955	3992
4098	3556	3715	2	4112	3601	3760
3617	2756	2824	3	3655	2759	2848
2964	1005	1341	4	3009	978	1340
996	416	758	5	981	450	737
245	109	167	6	262	112	178
			(High)			

Table 7 - General Educational Development

Aptitudes

No changes were made to the Aptitude classification. The author observed in his sample review of significantly changed **DOT** descriptions that the Aptitude value for Q - Clerical Perception often was raised one level when computer use was added to the description of job duties. Table 8 presents the frequency distributions for each of the Aptitudes.

Other changes

The **RHAJ** also redefines WORK fields and Material, Product, Subject Matter, and Service (MPSMS) codes. There was a significant reshuffling of clusters in both schema. Some

G - General Learning Ability
V - Verbal
N - Numerical
S - Spatial Perception
P - Form Perception
Q - Clerical Perception
K - Motor Coordination
F - Finger Dexterity
M - Manual Dexterity
E - Eye-Hand-Foot Coordination
C - Color Discrimination

APTITUDE FREQUENCY DISTRIBUTION

	1	2	3	4	5
G	334	1565	6087	4755	0
V	326	1291	3844	7199	81
N	149	780	4050	6470	1292
S	137	1121	4341	6853	289
P	65	1233	5762	5539	142
Q	26	694	3006	6490	2525
K	0	405	6134	6130	72
F	51	582	4581	7419	108
M	18	553	8661	3429	80
E	16	71	630	2673	9351
C	21	185	1053	3818	7664

Table 8 - Frequency Distribution of Aptitude Levels

fields were eliminated; others were absorbed into existing codes. A new WORK field was created for Data Processing. The realignment of these codes is of great significance to proper analysis of transferable skills.

SUMMARY

The author believes that the changes made to these taxonomies are excellent and will lead to even better analysis of transferable skills. WORK and MPSMS codes are the only proper method for determining transferability (Botterbusch, 1986).

Although DOL was able to significantly change only about 20% of the **DOT**, the author is impressed by the work done in the 1991 **DOT**. While not "perfect", the precision with which worker characteristics are catalogued is much more useful to the rehabilitation industry.

Users of computerized job matching systems have a tremendous responsibility to study the full meaning of these new characteristics. There must be a continuous focus on the frequency distributions to understand how the database will behave. The additional complexity of these new factors requires a computerized search to assure complete and accurate analysis.

Manufacturers of vocational software are notified of the periodic changes in **DOT** data made by DOL. Many data changes occurred during 1992 which were released only to the software manufacturers. The only regular method being used by the DOL for public dissemination of these data changes is through vocational software manufacturers. **DOT** users who want to conveniently access the most up-to-date DOL information will likely only be able to do so through reliance on reputable vocational software manufacturers.

Users of assessment instruments and career reference materials should carefully examine all instrumentation being purchased or used to be sure that **DOT** code references remain accurate. Commercial instrumentation should be reviewed by the manufacturer to insure that references to **DOT** codes, Strength, Physical Demands, Environmental Conditions, WORK fields, and MPSMS codes in manuals, interpretation guides, and scoring profiles, use the revised **DOT** and **RHAJ** codes and code structures.

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