

ED 031 753

CG 004 306

By-Dickmann, Robert A.

The Use of Functional Job Analysis As An Aid to Personnel.

American Personnel and Guidance Association, Washington, D.C.; Johns Hopkins Univ., Baltimore, Md.; National Vocational Guidance Association, Washington, D.C.

Pub Date 22 Jan 69

Note-20p.; Paper was presented at the American Personnel and Guidance Association Convention, Las Vegas, Nevada, March 30--April 3, 1969.

EDRS Price MF-\$0.25 HC-\$1.10

Descriptors-Employees, *Employment, *Employment Practices, *Job Analysis, *Job Development, Job Satisfaction, *Job Skills, Vocational Education, Work Simplification

Functional Job Analysis (FJA) is based on the premise that every job requires a worker to function in relation to Things, Data and People (factors) in varying degrees. A level is determined for each of the three areas for each worker function. A measure of emphasis was developed by assigning percentages to weight each factor. The level at which a worker functions in relationship with Things, Data and People together with the weights form a functional profile. In addition to the FJA Structure of Worker Functions' use for determining "what the worker does," the structure effectively defines job classifications. Efforts are being made to develop career ladders to allow for orderly progression as a worker develops in his ability with Things, Data, and People. A classification guideline can be set up with FJA and company supervisors. These guidelines can form a major factor in the evaluation of a worker. A self report questionnaire would also be used. Highlights of the use of FJA include: (1) inexperienced analysts can determine correct functional levels and weights easily, and (2) a performance appraisal instrument can be developed so ratings are made in direct relationship to functional profiles. Future directions include investigation of worker aptitudes, interests in relation to functional levels. (Author/KJ)

**U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION**

**THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION
POSITION OR POLICY.**

THE USE OF FUNCTIONAL JOB ANALYSIS AS AN AID TO PERSONNEL

Robert A. Dickmann
Johns Hopkins University
Applied Physics Laboratory
8621 Georgia Avenue
Silver Spring, Maryland 20910

Paper prepared for the 1969
National Vocational Guidance Association -
American Personnel Guidance Association
Conference, Las Vegas, Nevada

January 22, 1969

CG 004306

ED031753

THE USE OF FUNCTIONAL JOB ANALYSIS AS AN AID TO PERSONNEL

Functional Job Analysis had its first practical test as a job analysis technique when it was introduced by Dr. Sidney A. Fine, in 1961, to the Applied Physics Laboratory, a Division of Johns Hopkins University consisting of 2500 scientists, engineers, and support personnel performing research and development on satellites and Naval weapon systems.

The Applied Physics Laboratory was searching for a methodology for job analysis which could be applied to a dynamic organization of research and development personnel. Although job analysis and job evaluation systems are well established in manufacturing industries as well as Civil Service and the Military, R&D organizations have generally resisted formal job descriptions and job evaluation plans as evidenced by the preponderance of salary comparisons using a maturity curve rather than a position description comparison.

The basic problem plaguing the evaluation of R&D engineers and scientists is that the jobs are everchanging. At APL it is not inconceivable that a scientist could be working on a complex satellite orientation system one week, and on a medical physics problem the next week. The problem faced by R&D management is obvious, job descriptions written in the traditional manner which concentrate on "What gets done" - the end-products worked on by engineers and scientists, vary so considerably that objective inter-company or even intra-company comparisons are extremely difficult, if not impossible. Not only does the job analyst confront an endless list of worker end-products, but he must break through the various languages unique to each discipline.

FJA offered an alternative by allowing us to determine the level at which a worker is functioning or rather "what the worker does" and also, it provides a common language readily understood by the engineer as well as the administrator.

Job Analysis

Although the impact of FJA has been far-reaching within APL, the primary application was as a Job Analysis and Job Evaluation System.

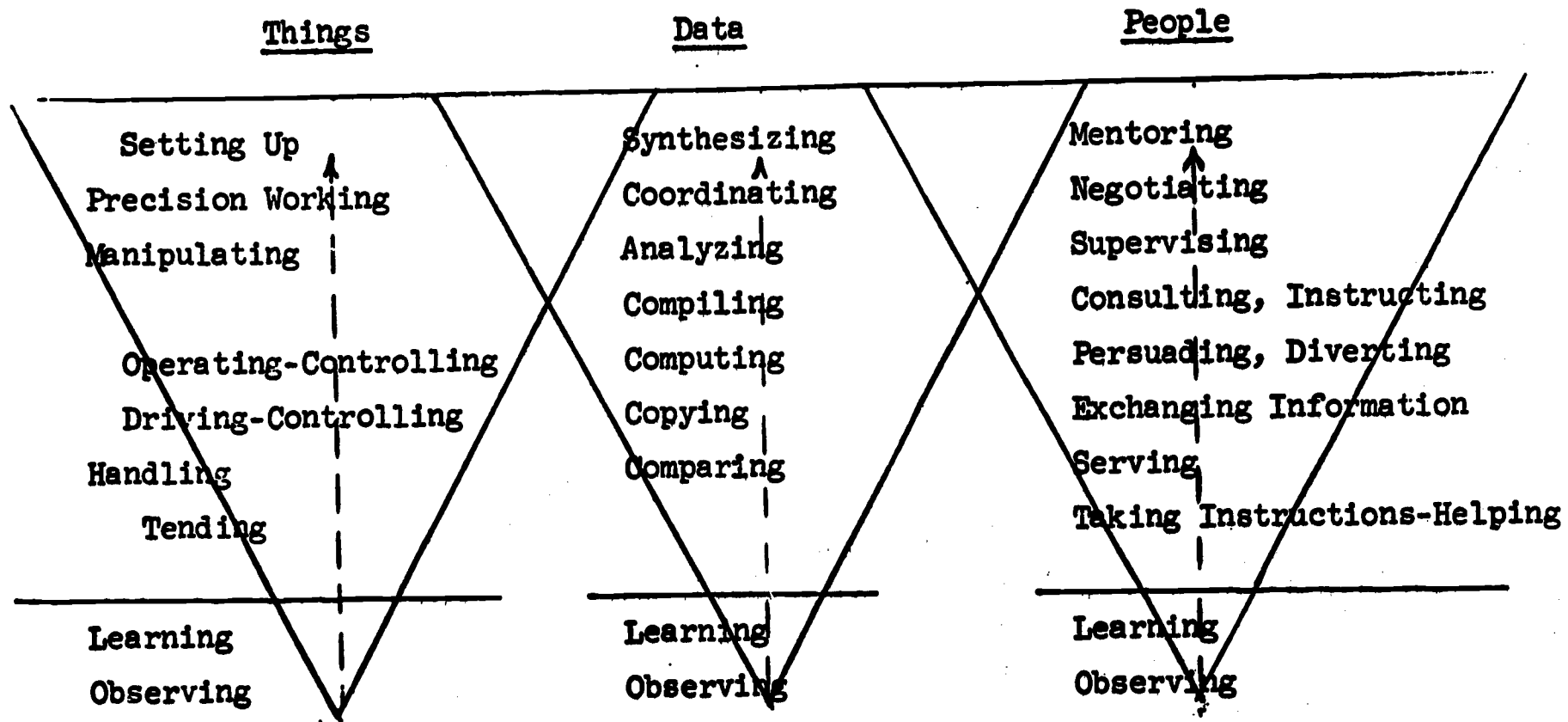
Before discussing the implications of FJA to the Personnel System, some comments are warranted on the structure itself, and how it is used. The original FJA structure as developed by Fine (1955)* was altered slightly to reflect the APL organization and is as shown in Figure 1. Appendix A gives the definitions for each function. With no manufacturing performed, the functional level of Feeding-Offbearing was eliminated, and Speak-Signaling was changed to Exchanges Information.

Functional Job Analysis is based on the premise that every job requires a worker to function in relation to Things, Data and People in varying degrees. The worker functions are in the form of three hierarchies arranged in each instance from the relatively simple to the complex in such a manner that each successive relationship includes those that are simple and excludes the more complex. Each worker function is defined and provides a standard terminology for use in summarizing exactly what the worker does on the job by means of one or more meaningful verbs.

A job's relationship to Things, Data and People can be expressed in terms of the highest appropriate function in each hierarchy to which the worker has an occupationally significant relationship and these functions taken together

*Fine, S. A. Functional Job Analysis. Personnel Administration and Industrial Relations, Spring 1955

STRUCTURE OF WORKER FUNCTIONS



- Notes:
1. Each successive function reading down usually or typically includes all those that follow it.
 2. Tending, Operating-Controlling and Driving-Controlling, and Setting Up are special cases involving machines and equipment of Handling, Manipulating, and Precision Working respectively and hence are indented under them.
 3. The hyphenated factors Operating-Controlling, Driving-Controlling, and Taking Instructions-Helping are single functions.
 4. The factors separated by a comma are separate functions on the same level separately defined. They are on the same level because empirical evidence does not make a hierarchical distinction clear.
 5. Learning and Observing are adaptive functions basic to functioning in all three areas.

Figure 1

indicate the total level of complexity of which he must perform.

In addition to determining the level a worker performs in each of the Things, Data and People categories, a measure of emphasis was developed by assigning percentages to weight each factor, always adding to 100% with no factor given less than 10%. The level at which a worker functions in relationship with Things, Data and People together with the weights form a functional profile.

An illustration of the dynamics of the functional profile in relationship to career growth may be helpful at this point. A worker entering the electronics career field after a training course would normally have a functional profile such as that shown in Figure 2 under Entry Level in the Electronic Career Ladder. The entry level technician is required to wire and solder components to a chassis from an explicit schematic and a parts list. The major emphasis for this entry level job is in the technician's ability to use his hands and to work with Things. The weighting, as shown, is determined partially by the workers time and attention to the categories, but also by a Job Analyst's evaluation of "what he is being paid for".

A year or so after the technician is on the job his profile will change to that shown in Figure 2 for the Electronic Technician. He has gained proficiency as a craftsman and in addition he knows the color code of capacitors and resistors, knows how and where to obtain parts and equipment, and can fabricate with little or no assistance. He may also be required to do simple testing of a completed chassis before handing it back to his supervisor.

Before he can be reclassified to a higher level, his profile will look like that shown for the Senior Electronic Technician. He is now a top craftsman, and in addition, he

FUNCTIONAL PROFILES FOR
ELECTRONIC CAREER LADDER

<u>Entry Level</u>		<u>Electronic Technician</u>		<u>Sr. Elect. Technician</u>		<u>Engineering Assistant</u>	
T- Handles	30	T- Precision Works	70	T- Sets-Up	50	T- Sets-Up	50
D- Compares	10	D- Compares	20	D- Compiles	40	D- Analyzes (Modifies Alters, Adapts)	50
P- Takes Instruc- tions	$\frac{10}{100\%}$	P- Takes Instruc- tions	$\frac{10}{100\%}$	P- Exchanges Info.	$\frac{10}{100\%}$	P- Exchanges Info.	$\frac{20}{100\%}$

Figure 2

he has gained considerable knowledge and theory of electronics. His only instructions may be a rough schematic. From this, he must select parts, fabricate the unit, and perform various electronic tests to ensure that the unit works properly. The emphasis has changed considerably to reflect the Data aspects of his job, but the craftsman still carries the greatest weight. Many workers may level off at the Senior Electronic Technician classification as this is considered the journeyman level in electronics.

The requirements for advancement to the next higher level, that of Engineering Assistant, are much more stringent in that they require a significant advance in the Data area. The Engineering Assistant is the highest non-professional (non-exempt) man in the electronic career ladder. The functional profile for an Engineering Assistant in Figure 2 shows that he is performing at the Analysis level in Data and that the Data function has the major emphasis in his functional profile. He receives his instructions orally with only output and/or input parameters given. He must know sufficient electronic theory to be able to independently design, build and test units to meet the input/output requirements. When he completes the fabrication and testing, he will document his work with

drawn schematics and a written report of the test results, etc. To make the jump from the Compiles to the Analysis level, an Associate degree from an electronics school is generally necessary. The emphasis is largely on his Data ability with the possible additional People requirement to oversee the work of one or more junior technicians.

Job Classifications and Job Evaluations

In addition to the FJA Structure of Worker Function's use in determining "What the worker does," the structure effectively defines the job classifications. When one or more jobs in a specific field carry the same or similar functional profile, a specific job classification can be defined with an appropriate rate range developed. In each case, efforts are made to develop career ladders to allow for orderly progression as a worker develops in his ability with Things, Data and People.

A classification guideline, consisting of a general description, the job specifications, and examples of work requirements can be developed by round table discussions with supervisors having the particular jobs under consideration. These round table discussions with the supervisors are an essential part of the system. They not only sell FJA to the organization, but the supervisors are the originators of the job criteria. The function of the Job Analyst is to compile the data and form a consensus for management of their expectations for a given classification.

These classification guidelines form a major factor in the evaluation of the worker. They represent the management expectations against which a job can be evaluated. They need to be published and available for review by the worker in order that he knows exactly what is required of him in the way of job performance and what is required of him for advancement

to the next higher classification.

Job Analysis - Self Report

In the early stages of the development of the Job Analyses system, interviews were used to obtain job information from workers. However, it was soon realized that a Job Analysis questionnaire, designated a Self-Report, could be developed, structuring questions along the hierarchical functions for Things, Data and People. Only four separate forms needed to be developed to cover the wide variety of jobs found at the Laboratory. They are for the Engineering-Scientific area, the Administrative area, the Math-Computer Science area and the Operations Research-Systems Engineering area. In each case, the Self-Report was able to solicit in-depth information from a non-exempt trainee through to an experienced Ph.D. Experience has shown us that in only a small percentage of cases, for those workers with little facility in reading or writing, is it necessary to conduct a job analysis interview. Not only were the Self-Reports more objective but they required less time on the part of the Job Analyst.

The Self-Report generally consists of eight basic questions, each having multiple written alternatives. Many of the questions are scaled in accordance with the functional hierarchy. The worker checks off or ranks the one or more appropriate answers which reflect his job level and is then required to give examples. The examples give the Job Analyst information on job content and in addition act as a check that the worker understands the question. The worker is quick to realize that the questions, being so scaled, have built in checks and balances which do not allow him to overrate or underrate the level at which he works.

An illustration of a Data question in the Self-Report for Engineering-Scientific workers, scaled for the technician through the senior professional staff, is as shown in Figure 3.

Example of a Data Question from Job Analysis - Self-Report

My "design" responsibilities are best characterized by:
(Rank 1, 2, 3, etc. those that apply)

- ___(a) Troubleshooting - checking known inadequacies and limitations of existing units and trying known alternatives to achieve required outputs.
- ___(b) Testing and evaluating (making recommendations for purchase, acceptance, or improvement).
- ___(c) Modifying, adapting, altering circuits or sub-systems to achieve given specifications in development stages of units drawing on knowledge of principles, components, and parts that might be suitable.
- ___(d) Determining feasibility of suggested approaches to the solution of problems through data analysis, use of formulas, and understanding of theory. May involve use of specialized equipment.
- ___(e) Conceiving solutions to major problems of a tactical or similar nature and blocking out broad approaches on basis of known theory and experience.
- ___(f) Formulating research and experimental design to explore unknown areas of knowledge from a theoretical standpoint. May or may not involve use of equipment.

Figure 3

A people question, common to all self-report forms and scaled to the People functional hierarchy is as shown in Figure 4.

Example of a People Question from Job Analysis - Self-Report

In dealing with people, my work typically requires that I:
(Double check the most important one(s) in your work).

- ___(a) Receive and take action on instruction or assignment.
- ___(b) Give and receive (exchange information).
- ___(c) Give information to individuals concerning administrative procedures to be followed and/or technical work methods to be carried out on a piece of work.
- ___(d) Give assignments and work orders including specifications and standards.
- ___(e) Make evaluations of personnel performance.
- ___(f) Provide ideas or give opinions as to plans, procedures, or technical alternatives with regard to work in process.
- ___(g) Same as (f) but required to sell plans, procedures, or technical proposals.
- ___(h) Give instruction (explain, teach, demonstrate, impart knowledge) in a learning situation.
- ___(i) Debate problems from a general policy position in order to work out acceptable plans and procedures consistent with objectives of policy.
- ___(j) Make decisions and instigate courses of action group or project is to follow.
- ___(k) Give help or advice to individuals seeking help concerning a course of action they might follow to solve a personal problem. (Note whether on supervisory, administrative, or informal basis).

Figure 4

In addition to these example questions, there are generally two questions regarding the Things category, one asking about the typical end product, and a second regarding the tools or equipment used to make the end product.

A scaled question regarding the "instruction" or assignment framework within which the worker functions, has also proved a valuable index to the level at which a worker can or does perform.

An additional question, common to all the forms, has to do with the sources used by the worker to obtain information needed to complete a job. As a worker progresses towards professional level work, sources such as technical journals and texts are noted which were not used in lower classifications.

The Job Analysis - Self-Report takes approximately an hour to complete by the worker for a routine job. In turn, the Job Analyst will also spend approximately an hour writing the job description, and additional time if there are questions. Occasionally, a personal interview will be required for a complex job or where the worker has difficulty in expressing himself. However, with the structured FJA approach, one job analyst can adequately review and describe 15 jobs per week in contrast to a rate of 3 jobs per week recently noted for several Civil Service organizations. At APL, these job descriptions are reviewed by the worker and his supervisor, then stored on computers and printed out annually for updating by the worker.

From the aforementioned illustration of the growth of an electronic technician, it is apparent that FJA can systematically and objectively follow a worker throughout a career ladder. The functions and their definitions break through the language barrier inherent in the various disciplines. Not only can we compare one engineer with another, but we can now compare the

the engineer to a chemist, a nurse or a streetcar conductor. With the supplementary weighting factor we have a system sufficiently sensitive to compare the 1st chair violinist to the 2nd chair violinist in a symphony orchestra. But more importantly, the language of FJA offers us communication with the worker and his supervisor. Should a request for reclassification for a Senior Electronic Technician to an Engineering Assistant be denied, because the worker is functioning at the Compiling level rather than the Analyzing level in the Data area, the problem is pinpointed and the worker is not left reeling with an overall sense of failure. The denial can be readily explained to both the worker and his supervisor, and a clear explanation can be made regarding what is required prior to reconsideration.

Highlights in the use of FJA as an aid to Personnel

The impact of FJA has been extensive, but time permits only some highlights to be mentioned.

- 1) A reliability and validity study of the use of Functional Profiles was made by having six inexperienced analysts review 10 Self-Reports after only a twenty minute orientation to the FJA structure and weighting system. Three of the analysts were clerical-secretarial personnel, and the 10 Self-Reports covered the complete spectrum of non-exempt and exempt jobs. The results showed that the inexperienced analysts were able to determine the correct functional levels and weights with ease.
- 2) A Performance Appraisal instrument was developed to enable ratings to be made in direct relationship to a worker's functional profile. Items to be rated were developed for each of the functional levels for Things, Data and People and for an additional category titled "Core Behavior" which relates to general personality behaviors, rather than speci-

fic ability behaviors.

By having the items to be rated, scaled in accordance with the levels of the worker's functional profile, and the job viewed in relationship to the management expectations, an objective Personnel Evaluation System could be accomplished.

- 3) A method was developed using the functional levels and weights to define Exempt and Non-Exempt (Professionalism) status as required of industry by the Fair Labor Standards Act.
- 4) The Functional profiles, along with complete resumes, are developed on all staff members and computerized for a manpower utilization system. Not only can searches be made for persons with specific aptitudes and abilities, but studies to predict future manpower needs, training requirements and personnel growth can be made where previously not feasible when job levels were not scaled.

Future Directions for FJA

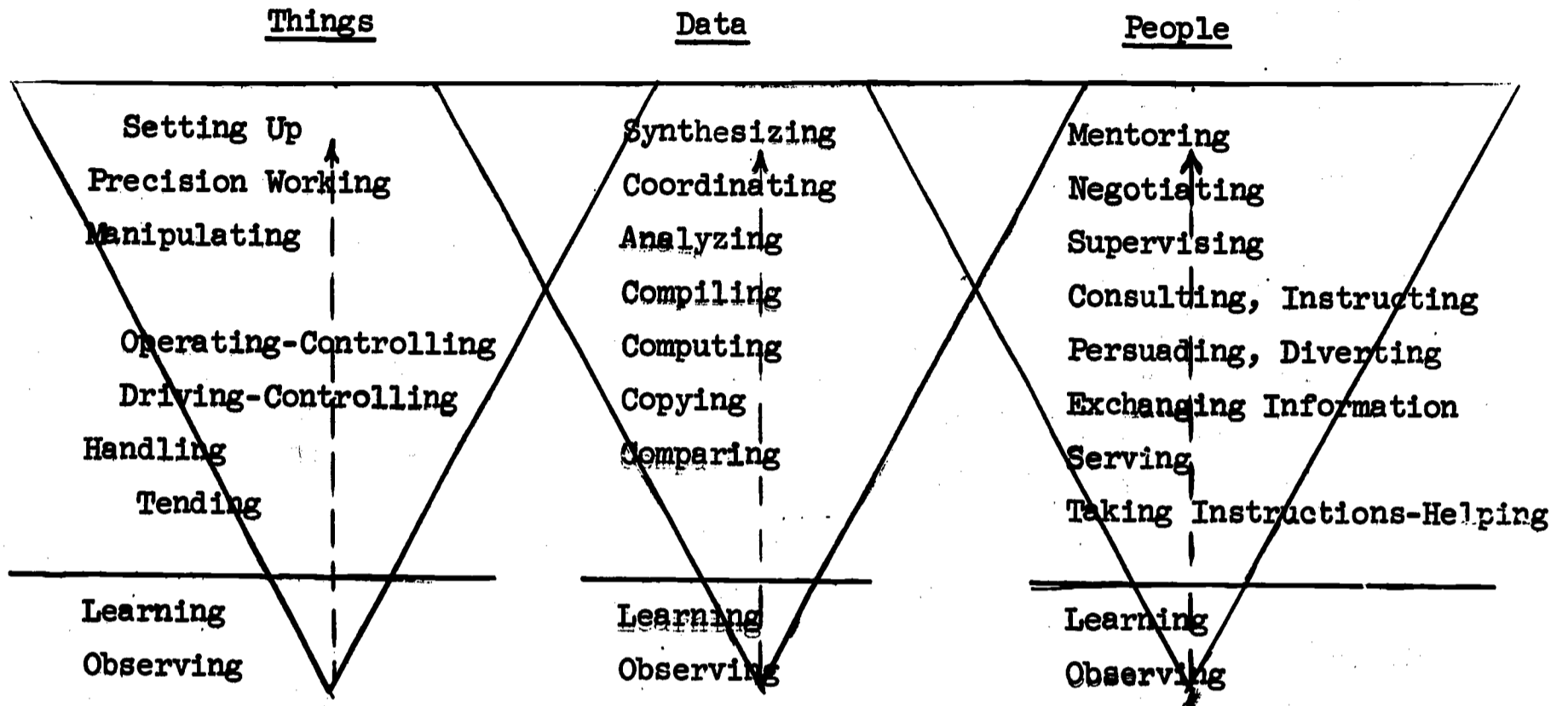
Functional Job Analysis provides a basic framework for the development of the Personnel System, a system to encompass all facets of the relationship between men and their jobs.

At APL, efforts have been started to look more closely at worker aptitudes, interests and abilities in relationship to the functional levels of Things, Data and People. Scores on the General Aptitude Test Battery (GATB) are obtained after an employee is hired and stored for future evaluation in relationship to the functional levels obtained. It is expected that appropriate aptitude norms can be developed for each functional level which would allow more precise predictions of manpower potential. If we can demonstrate a direct relationship between measurable aptitudes and the functional hierarchy, then Personnel counseling can be more effective

by showing the young employee a broader but more realistic spectrum of career possibilities. With known potential, and a career ladder chosen, the training requirements also become predictable.

When Personnel can effectively predict the ultimate growth and training requirements for each of its employees, and can continually match their manpower with job requirements that are everchanging, they have gone beyond being just a service to management, but have taken on the responsibility of management.

STRUCTURE OF WORKER FUNCTIONS



- Notes:
1. Each successive function reading down usually or typically includes all those that follow it.
 2. Tending, Operating-Controlling and Driving-Controlling, and Setting Up are special cases involving machines and equipment of Handling, Manipulating, and Precision Working respectively and hence are indented under them.
 3. The hyphenated factors Operating-Controlling, Driving-Controlling, and Taking Instructions-Helping are single functions.
 4. The factors separated by a comma are separate functions on the same level separately defined. They are on the same level because empirical evidence does not make a hierarchical distinction clear.
 5. Learning and Observing are adaptive functions basic to functioning in all three areas.

DEFINITIONS OF WORKER FUNCTIONS

OBSERVING

Applying selective attention to the work environment, or a part of it, as perceived through any of the senses.

LEARNING

Observing and studying to acquire knowledge and skill. Applied to apprentices, helpers who are informal apprentices, and students.

Note: Observing and Learning are a necessary base for all other functions; however, they are not to be assigned as ratings. Learners of various types (helpers, aides, apprentices, etc.) are to be assigned the functions of the job which they are learning. The title typically reflects the "learning" status of the job.

THINGS FUNCTIONS

HANDLING

Using body members, hand tools, and/or special devices to work, move, or carry objects or materials and involving little or no latitude for judgment with regard to attainment of standards or in selecting appropriate tool, object, or material. Examples include situations that involve a small number of special tools fairly obvious as to purpose, such as a broom, a special purpose end wrench, a grass shears, go no-go gauges. Dimensional precision can vary from rough to fine, being built into the structure of the task(s).

TENDING

Starting, stopping, and observing (also, where necessary, feeding or off-bearing material or product) the functioning of machines and equipment. Tending involves adjusting material or controls of the machine, such as changing guides, adjusting timers and temperature gauges, turning valves to allow flow of materials, flipping switches in response to lights or needle indicators. Judgment involved in making these adjustments may be a little more difficult than for Handling, particularly if worker is machine paced. However, built-in guides facilitate the use of judgment; responsibility is usually greater because of cost of machine or equipment.

MANIPULATING

Using body members, tools, or special devices to work, move, guide, or place or measure objects or materials, and involving some latitude for judgment with regard to precision attained and selecting appropriate tool, object, or material although this is readily manifest; e.g., rough breadboarding and unit testing (bench trial and error) to check-out element and component values. Finish and appearance of breadboards not primary objective. Dimensional precision can vary from rough to fine, being a function of tools and technology.

OPERATING-CONTROLLING

Starting, stopping, controlling and adjusting the progress of machines or equipment designed to fabricate and/or process things, data, or people. Operating machines involves setting up the machine and adjustment of the machine or material as the work progresses. Controlling equipment involves observing gauges, dials, etc., and turning valves and other devices to control such items as temperature, pressure, flow of liquids, speed of pumps, and reactions of materials. Set Up involves several variables and adjustment is more frequent than in Tending.

DRIVING-CONTROLLING

Starting, stopping, and controlling the actions of machines for which a course must be steered or guided in order to fabricate, process, and/or move things or people. Excludes such manually powered machines as hand trucks and dollies.

PRECISION WORKING

Using body members and/or tools, or work aids to work, move, guide, or place objects or materials in situations where ultimate responsibility for the attainment of standards occurs and selection of appropriate tools, objects, or material, and the adjustment of the tool to the task, require exercise of considerable training and judgment; e.g., in the electronic line, it ranges from making a model from schematics to meeting rigid specifications in micro-miniaturization of flight hardware with the use of complex special-purpose equipment.

SETTING UP

Adjusting, replacing, and altering tools, jigs, fixtures, and/or attachments of several special-purpose machines or complex multiple-tool machines, to prepare them to perform their function, change their performance, or restore their functioning in case of breakdown; or adjusting (connecting to power, setting meters, introducing signal, etc.) complex test equipment (electronic hydraulic, mechanical, etc.) to give a variety of readings that indicate whether, for example, power and signals are operating according to specification. Workers who set up several of a single kind of machine for other workers or who set up and personally operate a variety of machines or test equipment are included here.

Note: Included in the concept of Tending, Operating-Controlling, and Setting Up is the situation in which the worker is actually himself part of the set-up of the machine, either as the holder and guider of the material or holder and guider of the tool.

Where a worker is an integral part of the machine functioning, either by reason of holding and guiding the material or holding and guiding the tool, the Worker Function should be interpreted as fundamentally a relationship to the machine; namely, he is either Tending, Operating-Controlling, or Setting Up. Determination as to which of these Worker Functions is appropriate will involve consideration of the variables described in the Handling, Manipulating, and Precision Working definitions; namely, latitude for judgment, selection of appropriate tool, object, or material, standards to be attained, responsibility involved.

DATA FUNCTIONS

COMPARING

Judging the readily observable functional, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of Things, Data, or People.

COPYING

Transcribing, entering, or posting data.

COMPUTING

Performing arithmetic operations and reporting and/or carrying out a prescribed action in relation to them. Does not include counting.

COMPILING

Gathering, collating, or classifying information about Things, Data, or People. Applying routine standard tests to determine conformance to specifications. Reporting and/or carrying out prescribed actions to attain specifications called for by tests are frequently involved. Examples are routine testing, checkout, and troubleshooting of circuits, mechanical units, and subsystems, drafting plans and blueprints from sketches, fabrication from blueprints, and scheduling events within known conditions; does not involve fundamental changes of inputs and outputs.

ANALYZING

Examining and evaluating data within the frame of reference (practice) of a particular discipline, art, technique, or craft, in order to determine alternatives and consequences (interaction effects) and develop information as a basis for deciding on changes of input or output and/or tests. Examples are: evaluating items for purchase; exploring modifications and adaptations of existing designs and testing them; carrying out feasibility studies of revised inputs including developing new tests or extending range of old ones.

COORDINATING

Bringing together, on the basis of analyses of data (which tells how a given unit functions under different conditions) and goals originally asserted (which determines the needs), "circuits" into "subsystems," and "subsystems" into "systems;" reviewing the interaction effects (coherence of outputs with inputs and outputs with goal conditions) in order to decide whether emerging performance and/or problems call for: (a) new goals, (b) policies; e.g., purchase or develop; time, place, cost and sequence of events, (c) procedures and technologies.

SYNTHESIZING

Taking off in new directions on the basis of personal intuitions, feelings and ideas, with or without regard for tradition and experience, to conceive new approaches to problems, including their restatement; discover new facts and relationships; invent new devices; create original works of art; or reinterpret existing information and ideas according to new modes of thought, values, and parameters.

PEOPLE FUNCTIONS

TAKING INSTRUCTIONS - HELPING

Attending to the work assignment instructions or orders of supervisors. (No immediate response required unless clarification of instruction or order needed). Helping applies to "non-learning" helpers.

SERVING

Attending to the needs or requests of people (or animals) or expressed or implicit wishes of people. Immediate response involved.

EXCHANGING INFORMATION (SPEAK-SIGNALLING)

Talking, conversing with, and/or signalling people to convey or obtain information within the framework of well established procedures, or to clarify what is wanted in an assignment. Guiding and informing public or conveying or obtaining information to or from supervisor or colleague, are examples.

PERSUADING

Influencing others in favor of a product, service, or point of view.

DIVERTING

Amusing others.

INSTRUCTING

Teaching subject matter to others, or training others (including animals) through explanation, demonstration, and supervised practice.

CONSULTING

Serving as a source of technical information and giving such information or providing ideas to define, clarify, enlarge upon, or sharpen product specifications, procedures, or capabilities. Examples are: craftsmen consulting with designers concerning machine or craft capability; working out specifications with a manufacturer's representative; preparing computer programs with sponsors; editing manuscripts for publication with authors; advising on policy strategy with negotiators.

SUPERVISING

Determining or interpreting work procedure for a group of workers, assigning specific duties to them, maintaining harmonious relations among them, evaluating performance and promoting efficiency and other organizational values. Involves decision making on procedural and technical levels. The designation of functioning at the supervisory level should be consistent with the definition of Executive (supervisory) status as defined by the Fair Labor Standards Act i.e., --Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight --. (Code of Federal Regulations, title 29, 541.1)

NEGOTIATING

Exchanging ideas, information, and opinions with others on a formal basis to formulate policies and programs either on an initiating basis (i.e., contracts) and/or arrive jointly at resolutions of problems growing out of administration of existing policies and programs. Examples are (a) economic or labor-management contracts, (b) formulating and planning policies of organizations on executive levels. Involves decision making on policy and program level.

MENTORING

Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual, and/or other professional principles. Involves extra-organizational decision making in regard to human behavior.