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ABSTRACT
        This manual contains guidelines for editing task
statements written according to the principles and techniques of
functional job analysis to be used in preparing input data tc the
National Task Bank. It does not include any descriptive matter about
the task bank, which was developed to provide a model for State and
local public welfare agencies through the application of systems
approach and functional job analysis to agency management. Related
documents are available as VT 020 661 and VT 020 662 in this issue.
(MF)

EDITING MANUAL

FOR USE WITH
THE NATIONAL TASK BANK

Prepared for SRS
by
W.E. Upjohn Institute for
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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
SOCIAL AND REHABILITATION SERVICE
OFFICE OF MANPOWER DEVELOPMENT AND TRAINING

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INTRODUCTION

This manual is an attempt at definitive, illustrative guidelines for editing task statements, written according to the principles and techniques of FJA. Therefore, this Manual is intended for use by persons trained and competent in FJA task analysis. It is not intended as introductory material to the technique.

In no case do we intend to suggest that our techniques are so far advanced that only our answer is possible. The important thing to recognize is that we do have a technique and rationale that, when used as described herein, can produce reliable and valid task statements, useful in personnel operations.

Prepared by

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and

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FORMAT

In an attempt to provide a practical how-to manual, we have organized the material around eight questions. These questions, which editors should ask about each task, are each explained through brief narrative and examples. The eight questions are summarized here for quick reference.

1. Does the end Result of the task make a contribution to the organizational objective?

2. Does the language in the Worker Action phrase of the Task Statement support the Worker Function levels?

3. Are the Worker Action phrase and the Result phrase of the Task statement in reasonable relation, to one another?

4. Is the Result identified in the task a verifiable Result?

5. Do the Worker Action and the Result phrases of the Task Statement support the orientation percentages assigned?

6. Are the Performance Standards specified useful to a supervisor and to a worker?

7. Does the Training Content reflect the knowledges and abilities required to perform the task?

8. Is there more than a one-level spread between Data, Worker Instructions, and Reasoning Scale ratings?

1. DOES THE END RESULT OF THE TASK MAKE A CONTRIBUTION TO
    THE ORGANIZATIONAL OBJECTIVE?

        -Can an independent reader see the task *output*
        as a contribution to an objective?

    The relationship of a task·to an objective is evident
    in the definition of a task:

        "A task is an action or action sequence, grouped
        through time, designed to contribute a specified
        end result to the accomplishment of an objective,
        and for which functional levels and orientation
        can be reliably assigned. The task action, or
        action sequence, may be primarily *physical*, such
        as operating an electric typewriter; or primarily
        mental, such as analyzing data; and/or primarily
        interpersonal, such as consulting with another
        person." 1/

    A task is not "make-work" or "busy-work", but is an
    activity designed to contribute to an objective. This
    is confirmed when the objective provides clear-cut
    criteria for the achievement of the task Result.

1/ An Introduction to Functional Job Analysis: A Scaling
of Selected Tasks from the Social Welfare Field, Sidney A.
Fine and Wretha W. Wiley, W.E. Upjohn Institute for Employ-
ment Research, C. 1971, pp. 9-10.

2.   DO ` THE LANGUAGE IN THE WORKER ACTION PHRASE OF THE
     T; K STATEMENT SUPPORT THE WORKER FUNCTION LEVELS?

> -Do an independent reader's Worker Function
> rankings agree with yours?

IF NOT,

> A.   *Reexamine:*
> Are the Action verbs explicit and concrete,
> or do they describe work to be done on the
> level of objectives, but not specific
> actions of a worker?
>
> B.   *Rewrite task:*
> Add or subtract material until independent
> readers get the same picture of what the worker
> is expected to do.
>
> C.   *Remember,* however:
> That the original intent of the task should
> not be sacrificed in the consensus process.
> The edited task must be clear to the orig..nal
> writer, to resource people, to other editors,
> and to you.

EXAMPLES:

2.   *Guides/Escorts clients from reception/intake area of the
agency to a specific office in agency upon request of supervisor,
in order to enable client to reach a particular office.*

Rater"A"

Data People Things			Data People Things				Reas.	Math.	Lang
W.F.-LEVEL			W.F.-ORIENTATION			INSTR.		G.E.D.	
2.	1B	1A	65%	25%	10%	1	1	1	1

Rater"B"

Data People Things			Data People Things				Reas.	Math	Lang
W.F.-LEVEL			W.F.-ORIENTATION			INSTR.		G.E.D.	
2	2	1A	50%	45%	5%	1	1	1	1

Independent raters "A" and "B" disagreed on the level of the
People function involved in guiding and escorting clients.
As written, the task does not involve more than physically leading
the client to an office. However, rater "B" thought that the
worker would be talking with the client, putting him at ease,
etc. Rater "A" conceded this possibility, but felt it
should be made explicit.

3. ARE THE WORKER ACTION PHRASE AND THE RESULT PHRASE IN
   THE TASK STATEMENT IN REASONABLE RELATION TO ONE ANOTHER?

   -Is the Worker Action described likely to produce
    the stated Result?

EXAMPLES:

1. *Examines field visit schedule, determines suitable appoint-
ment time for out-of-office visit, writes/types applicant's
name, address, and phone number, in order for field visit
staff to make visit commitments.*

   -Scanning an appointment schedule and selecting a
    suitable appointment time does not result in *another*
    worker making a visit commitment. The Action phrase
    and the Result phrase are not in reasonable relation
    to one another. What has happened is that the unit's
    objective has been used as the Result above requires
    more tasks than the Action describes. This Worker
    Action alone cannot reasonably be expected to achieve
    this Result.

A more reasonable Result of the Action phrase would be,

   "*...to prepare/keep record of scheduled appointments.*"

   -Scanning an appointment schedule, determining and
    recording appointment time, can reasonably be expected
    to produce a record of scheduled appointments.

2. *Sets up projector, lectern, blackboard, and other equipment,
adjusts lighting and ventilation, in order that community meeting
to interpret agency policy and procedures on income maintenance
be carried out.*

   -Setting up the equipment in a meeting room does not result
    in a meeting's being held.

A more reasonable Result would be,

   "*...to prepare equipment and room conditions for community
   meeting.*"

   -Setting up the needed equipment and readying the room can
    produce the Result of preparing the room for the meeting.

4. IS THE RESULT IDENTIFIED IN THE TASK A VERIFIABLE RESULT?

-Does the worker know what he is expected to produce?
-Does the supervisor know what he should evaluate?

EXAMPLES:

1. ...*in order to make record of scheduled appointments.*

2. ...*to prepare equipment and room conditions for community meeting.*

3. ...*to prepare letter for signature.*

All of the above Results or outputs are relatively con-
crete and tangible. In each case, the expected output
is clear, both to the supervisor and to the worker. Data
and Things oriented tasks tend to produce tangible
Results.

The Result phrases in People oriented tasks, however, tend to
be less tangible, and less easily observed. For example,

4. ...*to persuade families to apply for a foster child.*

5. ...*to inform client of agency's policies and procedures.*

When the Result phrase does not describe a tangible,
easily observed output (as in examples 4 and 5), the
Results have to be inferred from the more generalized
output represented by the objective and included in a
Performance Standard:

A Performance Standard derived from an objective which clarifies
4 above, might be:

.*X% of families contacted submit applications for foster child.*

Criteria of this nature will usually be interpreted in
relation to an estimated result on the basis of some
previous related experience or test. It is necessary to
remember that the Standard indicated probably depends
on the inputs of a number of tasks, and not just the one
indicated.

A Performance Standard derived from an objective which clarifies
5 above, might be:

.*Less than X# complaints from clients that they did not
understand how to obtain services, due to incomplete or
inaccurate explanation of policies and procedures by
worker.*

5. DO THE WORKER ACTION AND THE RESULT PHRASES OF THE TASK
    STATEMENT SUPPORT THE ORIENTATION PROPORTIONS ASSIGNED?

_____

EXAMPLES:

1.— *Drives own/agency car, upon request of supervisor, in
order to transport clients to agency, neighborhood center,
doctor's office, etc.*

Independent raters assigned the following percentages to this
task:

Rater"A"				*Rater "B"*		
Data	People	Things		Data	People	Things
W.F.-ORIENTATION				W.F.-ORIENTATION		
10%	40%	50%		40%	5%	55%

> Both raters' emphasis on Things (driving to transport to
> a specific place) is obviously correct, but without further
> detail, both can justify their secondary emphasis on Data
> or People by making appropriate inferences. Such inferences
> should be made explicit.

Rater"A" :   The rater emphasizing Data may have inferred   ᵣledge
of traffic patterns, routings, signs, regulations, forms to ᵥe
filled out, etc. However, in order for other editors/readers
to agree with this rating, the inferences must be made explicit:

> *Drives own/agency car, upon request of supervisor, selecting
> routes on basis of knowledge of city and schedule, in order
> to transport client to agency, neighborhood center,
> doctor's office, etc.*

Rater"B":   The rater emphasizing People may have inferred inter-
action between client and driver. Such inference should be
made explicit, in order for other editors/readers to agree with
the rating:

> *Drives own/agency car, upon request of supervisor, greeting/
> talking with clients, in order to transport clients to agency,
> neighborhood center, doctor's office, etc.*

A *third possibility* could involve a higher Things rating, and
equally low People/Data ratings. This possibility would exclude
either of the above inferences and emphasize the fact that the
driver followed predetermined routes.

EXAMPLES: (cont'd)

2.   *Evaluates accepted applications, considers nature of
case, current work load, and competence of staff, in order
to decide on assignment of new cases for foster home study.*

Independent raters assigned the following percentages to this
task:

Rater"A"

Data	People	Things
W.F.-ORIENTATION		
40%	55%	5%

Rater"B"

Data	People	Things
W.F.-ORIENTATION		
90%	5%	5%

There is no direct involvement with People in this task.
"*Evaluating accepted applications...*" is primarily a
Data oriented task, as it has been analyzed by Rater
"B".

Rater "A" may have inferred that the worker was also verbally
assigning cases to staff members. However, this is not stated
in the task as it was written. A Task Statement which would
include this inference, and would reflect Rater "A's" orientation
assignments, is:

3.   *Verbally assigns tasks/gives directions to the clerical
staff/worker, explaining and answering questions about pre-
scribed and discretionary elements of procedures and performance
requirements, based upon prior assessment of operation flow,
work load, and worker's capabilities, in order to ensure that
the worker understands his duties and responsibilities.*

6. ARE THE PERFORMANCE SPECIFIED USEFUL TO A SUPERVISOR AND TO
    A WORKER?

        -Do they tell a supervisor what to look for and how
         to assess performance?
        -Do they tell a worker the quality and quantity of
         work he is expected to produce, and how to judge
         when/whether that quality and quantity has been
         reached?

    A. HAVE PERFORMANCE STANDARDS BEEN GENERATED TO EVALUATE
        BOTH THE WORKER ACTION (BEHAVIOR) AND THE RESULT (OUTPUT)?

EXAMPLE:

1.   Asks client questions/listens to/transcribes/writes
answers to specified items on application form, in order to
complete application form for client.

Performance Standards:		What is being evaluated?
Descriptive:	Numerical:	RESULT: completed form.
.Form is accurate, complete, and legible.	.All (100%) of specified items are filled out on form.	A portion of WORKER ACTION: transcribes/writes.
.Asks questions clearly.	.Less than X% of clients complain of lack of clarity in questioning...	One phase: of WORKER ACTION: asks questions.
.Manner is pleasant and courteous.	...or of worker's manner.	WORKER's behavior/ACTION towards the client. Process of ACTIONS: asks.../listens... which RESULT in: completed form.

B. PERFORMANCE STANDARDS SHOULD BE CONSISTENT WITH
ORIENTATION PERCENTAGE/RESULT.

    -Data emphasis yields Data Standards.
    -People emphasis yields People Standards.
    -Things emphasis yields Things Standards.

EXAMPLE:

1.   *Visually inspects applicants' files, noting missing infor-
mation, and indicates omissions on form letter, in order to
complete form letter to applicant requesting the missing
information by return mail.*

Data	People	Things
W.F.-ORIENTATION		
80%	5%	75%

Performance Standards:

Descriptive:

.Checks files carefully and
 thoroughly
.Missing information is
 accurately and completely
 recorded on form letter.
.Files are inspected and
 omissions noted with
 reasonable speed.

Numerical:

.No more than X# of applicants
 complain about being requested
 to send in data previously
 submitted.
.No more than X# complaints
 of incomplete information in
 files due to omissions from
 form letters.

These Standards reflect the orientation of the task toward
Data, with a minimal mention of Things (handling of files,
paper, etc.). There are no People Standards, as there is no
significant interpersonal interaction involved in this task.

C.   PERFORMANCE STANDARDS MUST BE FEASiBLE.

-Be prepared for the fact that Numerical Stan-
dards usually require that an organization dev-
elop mechanisms and controls for generating and
monitoring them. The statement of these Standards
may point to ways in which the organization must
be innovative and they may also highlight its
dependence on the *discretion* of workers, and the
limitations of what it can expect from
supervisory control.

EXAMPLE:

3. *Visually inspects applicant's files, noting missing infor-
mation, and indicates omissions on form letter, in order to
complete form letter to applicant requesting the missing
information by return mail.*

Performance Standards:

Descriptive: *Numerical:*

.Manner is pleasant and   .No more than X# complaints
 courteous.   from clients of worker's
                                   manner.

-Is there a process/procedure for complaints?
-Are the clients aware of it?
-How reliable is the data?

    -Do you hear good as well as bad?
    -Can you tell if the client is unhappy with the *system*
     or with the *worker?*

NOTE ON PERFORMANCE STANDARDS:

Since the Worker Action is a *verb*, it tends to be described
by an *adverb:*

    <u>Asks</u> questions <u>clearly</u>
    <u>verb</u>   <u>adverb</u>

Since the output/Result is a *noun*, it tends to be described
by an *adjective.*

    <u>Plan</u> is <u>thorough.</u>
    <u>noun</u>   <u>adjective.</u>

7. DOES THE TRAINING CONTENT REFLECT THE KNOWLEDGES AND ABILITIES
    REQUIRED TO PERFORM THE TASK?

        -Does the Functional Training Content reflect
            a) the required *knowledges* of processes?
            b) the required *abilities* to function/perform
               actions or behaviors?

        -Does Specific Training Content reflect
            a) the required *knowledges* of the plant or
               organization (procedures, and how they determine
               the application of Functional abilities)?
            b) the required *abilities* to perform under local
               conditions and specifications (according to
               knowledge of specific organization or plant)?

EXAMPLE:

*1.   Calculates/performs statistical analysis on population
movements within state's correctional facilities, using a desk
calculator, in order to compute data to be used in report
requested by the Bureau Director.*

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
4	1A	1C	60%	5%	35%	3	3	3	3

Training Content:

Functional: *Specific:*

.*How to perform basic*   .*How to perform statistical*
 statistical analysis   *analysis of population*
 (formulae for computing   *movements.*
 measures of central
 tendency, deviations,
 correlations, etc.).
.*How to operate a*   .*How to operate* X *type of*
 calculator.   *calculator.*
                                     .*Knowledge of general limi-*
                                     tations of particular data:
                                     how collected, what type
                                     of sample, etc.
                                     .*Knowledge of agency format*
                                     for presenting statistical
                                     data.

8. IS THERE MORE THAN A ONE-LEVEL SPREAD BETWEEN DATA, WORKER INSTRUCTIONS, AND REASONING SCALE RATINGS?

    -If so, can you defend the difference?

    Each of these Scales looks at *intellectual functioning* from a somewhat different point of view. There is not a correspondence between levels in these three Scales, but they do closely parallel each other. If there is more than a one-level spread, the differences must be justifiable with evidence available in one or another of the columns.

EXAMPLE:

1. *Guides parent in selection of resources to help their exceptional child, exploring with them the needs and behavior of the child and their preferences, and advising them regarding the use of available evaluation, training, treatment, and placement resources, in order to help parents to decide on and utilize treatment/placement resources.*

One analyst rated this task:

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
	W.F.- LEVEL		W.F.-ORIENTATION			INSTR.		G.E.D.	
4	4A	1A	40%	55%	5%	6	5	3	5

There is more than a one-level spread between the Data level 4 and the **Instruction** level 6. Is this difference justifiable, using the information in the Task Statement? The spread in the ratings for Data, Worker Instructions, and Reasoning (4-6-5 respectively) should raise the question of whether one or another of the ratings is too high or too low.

>   The task of guiding parents in the selection of resources for their exceptional child involves more than, "*examining, evaluating data with reference to criteria, standards, and requirements of a particular discipline...*" (Data Scale, level 4, "Analyzing").

In order to guide the parents as indicated, isn't it necessary that the worker "*Modify, alter, and/or adapt existing designs, procedures, or methods to meet unique specifications, unusual conditions, or specific standards of effectiveness within the overall framework of operating theories, principles...*"? If so, we can alter the "Analyzing" rating to Data level 5, "Innovating", making it more consistent with the other ratings and the Task Statement.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
	W.F. -LEVEL		W.F. -ORIENTATION			INSTR.		G.E.D.	
5A	4A	1A	40%	55%	5%	5	5	3	5

On the other hand, if "Innovating" is not necessary, and the task involves no more than "Analyzing", then it has been written in a way that exaggerates the performance expectations with regard to discretion (level of instructions) and should be

In reviewing the material submitted by participants in the Reliability-Validity Study for inclusion in the Editing Manual, considerable variation was found in the ratings for the task dealing with "translation", which follows:

> Translates from one language to another questions on the application form and client's request for assistance, in order to enable the client to complete the form.

Independent raters assigned the following levels:

A.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
4	2	1	70%	35%	5%	3/4	3	1	4

B.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
3B	2	1A	30%	65%	5%	3	4	1	4

C.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
4	2	1A	40%	55%	5%	4	4	1	4

D.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
2	2	1A	65%	30%	5%	3	3	1	3

E.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
1	2	1A	30%	60%	10%	2	3	1	3

F.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
5A	2	1A	25%	70%	5%	3	3	1	4

This type of task is often misunderstood in terms of its functional level, since language is typically taken for granted. It should be noted that we are not referring here to the casual, imprecise, word-for-word, pot luck translations experienced by tourists or by resorting to a friend or acquaintance with, "You know a little Spanish; please tell me what this client is saying." Obviously, in these situations the translator is not responsible for the accuracy of the translation he makes.

Although the worker in this task is converting the material from the words (symbols) used by speakers of one language into the words (symbols) used by speakers of another, the basic task--that is, the one for which primary performance standards are applied--is not the translation itself, but the exchange of information which the translation enables the worker and the client to achieve. Thus, the translation is viewed as a catalyst (tool) to get the essential job done.

The task was edited as follows:

> Talks about/discusses (in X language) items
> on English language application form with client
> (speaker of X language), answering client's questions
> and explaining meaning and purpose of items on
> form, elicits answers to items, and records answers
> in English on form, using own speaking, reading, and
> writing knowledge of English and X language,
> in order to complete form for client.

Data	People	Things	Data	People	Things		Reas.	Math	Lang.
W.F.- LEVEL			W.F.-ORIENTATION			INSTR.	G.E.D.		
4	2	1A	45%	50%	5%	3	3	1	4

Rather than attempt to cover the degree of skill which the worker must have to enable him to complete the task in the Scale ratings, they should be dealt with in Performance Standards, in which the editor can describe such things as degree of fluency, or correctness of pronunciation and clarity of speech.

Investigations indicate that it is practically impossible for a translator to function at any Data level lower than Analyzing. He has to decide whether to make a "word-for-word" translation, or to translate idiomatically. In word-for-word translation, a large part of the meaning of the original statement may be lost, because words have not only "dictionary" meanings (denotative meanings), which are standard for all users of the language, but also connotative meanings, or the emotional weight of the words governed by each user's experience.

This involves the worker with a wide range of variables, and a great deal of data. He must comply with the rules of structure, syntax, and semantics of both languages. He must also understand the content of the statement in the original language, and its equivalent in the second language, in order to give a full translation. Thus, the translator must Analyze.

In Analyzing, he must:

a) Examine and evaluate data
   1) language equivalents
   2) statement content

b) with reference to criteria, requirements, and standards
   1) content of the statement in original language.
   2) use for which translation is intended.
   3) desires of the originator of the statement.
   4) structures, syntax, and semantics of both languages.

c) to determine interaction effects and consider alternatives.
   1) to determine which of several possible renderings of the original statement into the second language is preferable.

In certain situations, the translator may have to Innovate. For instance, if he is translating a piece of literature, he may:

a) Modify, alter, or adapt existing designs, procedures, or methods
   1) change the denotative meaning of the original statement.

b) to meet unique specifications, unusual conditions, or specific standards of effectiveness
   1) to include the connotative meaning of such things as rhyme, rhythm, and meter.

c) within the overall framework of operating theories, principles, and organizational structures
   1) without departing from standard criteria of structure, syntax, or semantics of the two languages.
   2) without eliminating the original total meaning of the original language rendition.

Since the translator must interpret, evaluate, and make choices among alternatives, his own style, or personal method of using both languages, will make itself felt. This will make it necessary that the rating on the Language Scale (G.E.D.) be no lower than level 4, the first level at which the user's style comes into play. The language level will range through levels 4, 5, and 6, depending on the content and technicality (relative abtruseness) of the message, as delineated by the scale examples.

This point applies only to truly bilingual tasks, and
not to those in which the worker, although bilingual, is
using only one language, both in receipt and transmission of
signals. The English ability of the worker has nothing to
do with his functioning in a situation demanding only
Spanish, and vice versa.

While "Analyzing" appears to be the minimum Data Function
when truly bilingual translation tasks are involved, the
functional relation to people can range from "Exchanging
Information" (which will obtain even in "Taking Instructions"
and "Serving"situations) through "Consulting", and, possibly,
"Negotiating", where inclusion of a slang term or a term from
another language other than the primary language of the
discussion or contract is at issue.

ADDITIONAL NOTE:

Although bilingualism is not involved, to some degree
the Functional Job Analyst must function in a similar manner
in translating the everyday, casual language of job description
(often involving the metaphoric use of verbs and the s atus
use of nouns, adjectives, and adverbs) to the precise, taxonomic
meanings of FJA. The Functional Job Analyst must continually
probe to establish the true involvement of the worker in the
task so that a reliable communication can be achieved--one
replicable on the basis of scales.

GLOSSARY

These are only brief definitions of terms explained
through examples in the body of the Editing Manual.   In
order to understand them within the conceptual framework
of Functional Job Analysis, please refer to the Upjohn
publication, An Introduction to Functional Job Analysis:
A Scaling of Selected Tasks from the Social Welfare
Field, by Sidney A. Fine and Wretha W. Wiley (c.1971),
from which they are taken.   The page numbers on which the
definitions appear in that monograph have been indicated
in parentheses at the end of each definition for ease of
reference.   Terms 3 through 8 are listed in the order
of their appearance from left to right across the top of
the analysis form used in the National Task Bank.

1. FUNCTIONAL JOB ANALYSIS (FJA):   A conceptual system
    for defining dimensions of worker activity and a
    method of measuring levels of worker activity which
    provides a set of tools for establishing levels of
    tasks. (pp. 12-13).

2. TASK: An action or action sequence, grouped through
    time, designed to contribute a specified end result
    to the accomplishment of an objective, and for
    which functional levels and orientation can be re-
    liably assigned. (p. 9).

3. WORKER FUNCTION SCALES: Three heirarchies of worker
    functions which define the simplest to the most com-
    plex worker behaviors in relation to Data, People,
    and Things. (p. 18).

4. ORIENTATION: A measure which indicates the relative
    involvement of the worker with Data, People, and
    Things as he performs a given task. (p. 15).

5. SCALE OF WORKER INSTRUCTIONS: A scale for measuring
    the proportions of prescription and discretion in
    the performance of a given task. (pp. 20-21).

6. SCALES OF GENERAL EDUCATIONAL DEVELOPMENT (GED): Three scales - Reasoning, Math and Language - for determining the basic educational skill requirements necessary to perform a job at specified Data/People/Things levels. (p. 27).

7. PERFORMANCE STANDARDS: The Criteria against whi h the results of a worker's tasks are assessed. There are two types: Descriptive and Numerical. (p. 22).

8. TRAINING CONTENT: The skills and knowledges required to perform a given task. There are two types: Functional and Specific. (p. 24).