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ABSTRACT

Research which resulted in the development of the United States Employment Service Specific Aptitude Test Battery for use in selecting inexperienced and untrained individuals for training as nurse aids is described. Occupational norms were established in terms of each significant aptitude measure which when combined, predict job performance. Statistical data, hospitals contributing samples for the validation study, descriptive rating scales, and a description of the job duties of the nurse aid (medical ser.) are included. (BJG)

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Nurse Aid (medical ser.)
355.878

U.S. Department of Labor
Employment and Training Administration
U.S. Employment Service
Technical Report S-282R75
1975

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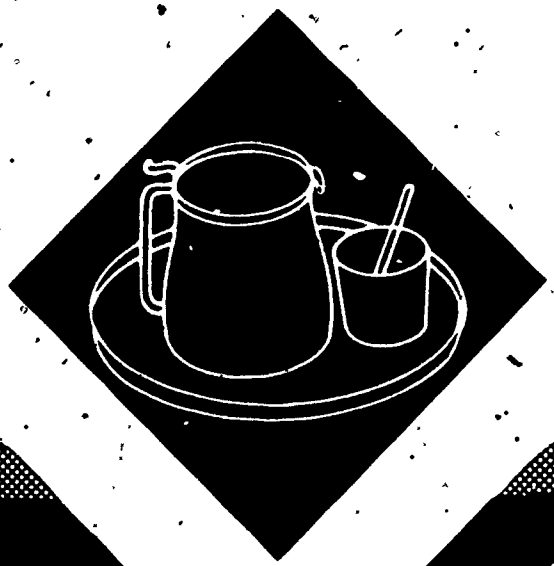

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S-282R75

S-282R75

Technical Report on Development of USES Specific Aptitude Test Battery

For

Nurse Aid (medical ser.) 355.878

S-282R75

Developed in Cooperation with the
California, Pennsylvania, Utah and Virginia
State Employment Services

U. S. DEPARTMENT OF LABOR
John T. Dunlop, Secretary

Employment and Training Administration
William H. Kolberg
Assistant Secretary for Employment and Training

1975

Development of USES Specific Aptitude Test Battery S-282R-75

For

Nurse Aid (medical ser.) 355.878

RESEARCH SUMMARY

This report describes the research which resulted in the development of the following Specific Aptitude Test Battery for use in selecting inexperienced or untrained individuals for training as Nurse Aids:

Aptitudes	Cutting Scores
G - General Learning Ability	80
P - Form Perception	70
Q - Clerical Perception	80

Samples:
Validation sample: 136 female Nurse Aids enrolled in MDTA courses in the South (see Appendix 2). A total of 68 were minority group members (66 Blacks, 1 American Indian, and 1 Spanish Surnamed) and 68 were nonminority group members.

Cross-validation sample #1: 155 female Nurse Aids employed in hospitals in the North and West (see Appendix 2). This study was conducted prior to the requirement of providing minority group information. Therefore, minority group status of sample members is unknown.

Cross-validation sample #2: 199 Nurse Aids (185 females and 14 males) employed in hospitals in the West (see Appendix 2). This study was conducted prior to the requirement of providing minority group information. Therefore, minority group status of sample members is unknown.

Criterion:
Validation sample: Instructors' ratings. Criterion data were collected during 1971.

Cross-validation sample #1: Rank order ratings converted to linear scores were obtained for 40 sample members in 1953 and broad category ratings were obtained for 115 sample members in 1954.

Cross-validation sample #2: Supervisory ratings. Criterion data were collected during 1962 and 1963.

Design:
Validation sample:
Longitudinal and concurrent. Test data were collected for 83 subjects at the beginning of training and for 53 subjects at the end of training. Criterion data were collected at the end of the nine weeks' training course.

Cross-validation samples:
Concurrent. Test and criterion data were collected at about the same time.

Validity:
Validation Sample:
Phi coefficient for total sample = .42 ($P/2 < .0005$)
Phi coefficient for Black subsample = .37 ($P/2 < .005$)
Phi coefficient for nonminority subsample = .36 ($P/2 < .005$)

Cross-validation sample #1:
Phi coefficient for total sample = .21 ($P/2 < .01$)

Cross-validation sample #2:
Phi coefficient for total sample = .22 ($P/2 < .005$)

Comparison of Minority and Nonminority Groups:
No differential validity was found for this battery. The difference between the phi coefficients for Black and nonminority groups for the validation sample is not statistically significant (CR = .11). The battery is fair to Blacks since the percent of Blacks who met the cutting scores approximated the percent who were in the high criterion group; 58% of the Blacks met the cutting scores and 61% were in the high criterion group.

JOB ANALYSIS

A job analysis was performed by observation of the Nurse Aids' performance on the job and in consultation with the Nurse Aids' supervisors. On the basis of the job analysis, the job description shown in Appendix 4 was prepared, which was used to (1) select an experimental sample of Nurse Aids who were performing the job duties; (2) choose an appropriate criterion or measure of job performance; (3) determine which aptitudes are critical, important or irrelevant to job performance (see Tables 1 and 4); and (4) provide information on the applicability of the test battery resulting from this research.

TABLE 1

Qualitative Analysis

Aptitude	Rationale
G - General Learning Ability	Required to learn and apply nursing techniques and hospital procedures; to comprehend written and verbal instructions.
P - Form Perception	Required to perceive differences between and defects in instruments.
Q - Clerical Perception	Required to read and record accurately temperature, pulse rate, respiration rate and blood pressure and to maintain stock records.
K - Motor Coordination	Required to take blood pressure and pulse rate readings.
M - Manual Dexterity	Required to handle food trays, make beds and perform cleaning tasks.

EXPERIMENTAL TEST BATTERY

All 12 tests of the GATB, B-1002B, were administered to the validation sample and to cross-validation sample #2 and all 12 tests of the GATB, B1002A, were administered to cross-validation sample #1.

CRITERIA

Validation Sample:
The immediate instructor rated each trainee. The ratings were obtained by means of personal visits of State test development analysts who explained the rating procedure to the instructors. Two ratings were obtained from each instructor with an interval of at least two weeks between the ratings. Since sample members' test scores are confidential, instructors had no knowledge of the test scores of the trainees.

A descriptive rating scale was used. The scale (see Appendix 3) consists of seven items. Six of these items cover different aspects of job performance. The seventh item is a global item on the

Nurse Aid's "all-around" ability. Each item has five alternative responses corresponding to different degrees of job proficiency. For the purpose of scoring the items, weights of 1 to 5 were assigned to the responses. The total score on the rating scale is the sum of the weights for the seven items. The possible range for each rating is 7 - 35.

A review of the job description indicated that the subjects covered by the rating scale were directly related to important aspects of job performance.

A - Facility: Nurse Aids perform a variety of duties and must learn each quickly and thoroughly.

B - Quantity of work: Nurse Aids must work quickly and efficiently in providing patient care so that all patients needing care will receive attention.

C - Quality of work: Nurse Aids' work must be of good quality to provide optimum health care and to avoid potential dangers of improper treatment.

D - Speed of learning: Nurse Aids should learn new duties with a minimum of instruction and supervision.

E - Ability to use equipment: Equipment used to take temperature and blood pressure must be used properly.

F - Job versatility: Nurse Aids must be able to perform a variety of routine duties such as care of bed patients, assembling and sterilizing packs of supplies, dressings and instruments, arranging supplies in stock rooms, scheduling clinic appointments for out-patients, and assisting in post-mortem care.

G - "All-around" job ability: Nurse Aids' value to the health care facility involves a combination of aspects of job performance listed above.

A reliability coefficient of .93 was obtained between the initial ratings and the re-ratings, indicating a significant relationship. Therefore, the final criterion score consists of the combined scores of the two ratings. The possible range for the final criterion is 14 - 70. The actual range is 18-70. The mean is 49.9 with a standard deviation of 11.3. The relationship between the criterion and age and education is shown in Table 2.

TABLE 2

Means, Standard Deviations (SD) and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education and Experience

Validation Sample

	Mean	SD	r
Age (years)	29.8	13.2	.12
Education (years)	10.3	1.7	-.09

About one-third of the workers are considered to be marginal workers. Therefore, the criterion distribution was dichotomized so as to include about one-third of the sample in the low criterion group and the remainder in the high criterion group. The criterion cutting score was set at 44 which places 29% in the low criterion group and 71% in the high criterion group. It was not possible to place precisely one-third of the workers in the low criterion group because of the nature of the criterion distribution.

Cross-validation Sample #1:
The immediate supervisor rated each worker. The ratings were obtained by means of personal visits of State test development analysts who explained the rating procedure to the supervisors. Since sample members' test scores are confidential, supervisors had no knowledge of the test scores of the workers.

The criterion for the Utah subsample consisted of supervisory ratings in the following four broad category job performance groupings: (1) outstanding, (2) above average, (3) average, and (4) below average. Two separate ratings were obtained for each worker with an interval of two weeks between the ratings. The two ratings when combined yielded seven levels of proficiency. These seven broad categories were converted to normalized standard scores of 65, 59, 53, 41, 33 and 29.

The criterion for the Pennsylvania subsample consisted of supervisory rank-order ratings (see Appendix 3). The final criterion scores consisted of the rank-order ratings converted to linear scores. The relationship between the criteria and age, education and job experience is shown in Table 2a.

TABLE 2a

Means, Standard Deviations (SD) and Pearson Product-Moment Correlations with Supervisory Ratings (r) for Age, Education and Experience

Cross-validation Sample #1

	Mean	SD	r*	r**
Age (years)	31.8	11.8	-.15	.04
Education (years)	10.9	1.7	.02	.11
Total Experience (months)	18.8	20.3	.25	.07

*Pennsylvania Sample N=40
**Utah Sample N=115

About one-third of the workers are considered to be marginal workers. Therefore, the criterion distribution was dichotomized so as to include about one-third of the sample in the low criterion group and the remainder in the high criterion group. The cutting scores on the criteria were set at 48 for the Utah sample and at 41 for the Pennsylvania sample which placed 30% of the Utah and 32% of the Pennsylvania in low criterion groups and 70% and 68% in high criterion groups, respectively. When combined, 31% were in the low criterion group and 69% in the high criterion group. It was not possible to place precisely one-third of the workers in the low criterion group because of the nature of the criteria distributions.

Cross-calidation Sample #2:
The immediate supervisor rated each worker. The ratings were obtained by means of personal visits of State test development analysts who explained the rating procedure to the supervisors. Two ratings were obtained from each supervisor with an interval of at least two weeks between the ratings. Since sample members' test scores are confidential, supervisors had no knowledge of the test scores of the workers.

A descriptive rating scale was used. The scale (see Appendix 3) consists of nine items. Eight of these items cover different aspects of job performance. The ninth item is a global item on the Nurse Aid's "all-around" ability. Each item has five alternative responses corresponding to different degrees of job proficiency. For the purpose of scoring the items, weights of 1 to 5 were assigned to the responses. The total score on the rating scale is the sum of the weights for the nine items. A review of the job description revealed that the subjects covered by the rating scale were directly related to important aspects of job performance.

A - Quantity of work: Nurse Aids must work quickly and efficiently in providing patient care so that all patients needing care will receive attention.

B - Quality of work: Nurse Aids' work must be of good quality to provide optimum health care and to avoid potential dangers of improper treatment.

C - Accuracy of work: Nurse Aids must be able to detect accurately vital signs such as changes in pulse rate, temperature readings and blood pressure readings.

D - Job knowledge: Nurse Aids must have sufficient knowledge of procedures to provide appropriate health care and to recognize when assistance of a professional nurse or physician is required.

E - Facility: Nurse Aids perform a variety of duties and must learn each quickly and thoroughly.

F - Job versatility: Nurse Aids must be able to perform a variety of routine duties such as care of bed patients, assembling and sterilizing packs of supplies, dressings and instruments, arranging supplies in stock rooms, scheduling clinic appointments for out-patients, and assisting in post-mortem care.

G - Job resourcefulness: Nurse Aids must be able to react effectively in emergency situations.

H - Job initiative: Nurse Aids should be able to suggest ways of providing services more effectively.

I - "All-around" job ability: Nurse Aids' value to the health care facility involves a combination of aspects of job performance listed above.

A reliability coefficient of .86 was obtained between the initial ratings and the re-ratings, indicating a significant relationship. Therefore, the final criterion score consists of the combined scores of the two ratings. The possible range for the final criterion is 18 - 90. The actual range is 40-90. The mean is 64.6 with a standard deviation of 9.9. The relationship between the criterion and age, education and job experience is shown in Table 2b.

TABLE 2b

Means, Standard Deviations (SD) and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education and Experience

Cross-validation Sample #2

	Mean	SD	r
Age (years)	39.6	11.2	.00
Education (years)	11.6	1.6	.02
Experience (months)	65.7	59.3	-.06

SAMPLE

Validation Sample:
The validation sample consisted of 136 females enrolled in MDTA Nurse Aid courses in the South (see Appendix 2). A total of 68 were minority group members (66 Blacks, 1 American Indian, and 1 Spanish Surnamed) and 68 were nonminority group members. The means and standard deviations for age, education and experience of sample members are shown in Table 2. Descriptive statistics for subgroups are shown in Appendix 1.

Cross-validation sample #1: 155 females employed as Nurse Aids in hospitals in the North and West (see Appendix 2). This study was conducted prior to the requirement of providing minority group information. Therefore, minority group status of sample members is unknown. All workers had at least 1 month of job experience in jobs with duties similar to those shown in the job description in Appendix 4. The means and standard deviations for age, education and experience of sample members are shown in Table 2a.

Cross-validation sample #2: 199 Nurse Aids (185 females and 14 males employed in hospitals in the West. This study was conducted prior to the requirement of providing minority group information. Therefore, minority group status of sample members is unknown. The means and standard deviations for age, education and experience of sample members are shown in Table 2b. All workers had at least 3 months of job experience in jobs with duties similar to those shown in the job description in Appendix 4.

STATISTICAL RESULTS

TABLE 3

Statistical Results for Validation Sample

N=136

Aptitude	Mean	SD	r
G - General Learning Ability	86.4	13.0	.36**
V - Verbal Aptitude	89.6	10.5	.35**
N - Numerical Aptitude	88.2	16.1	.24**
S - Spatial Aptitude	89.3	15.6	.24**
P - Form Perception	97.3	18.7	.21*
Q - Clerical Perception	106.8	14.3	.28**
K - Motor Coordination	105.0	19.8	-.08
F - Finger Dexterity	98.6	20.3	.21*
M - Manual Dexterity	98.6	25.0	-.05

* Significant at the .05 level
** Significant at the .01 level

Table 4 summarizes the qualitative analysis and statistical results shown in Tables 1 and 3 and shows the aptitudes considered for inclusion in the battery.

TABLE 4

Summary of Qualitative and Quantitative Data for Validation Sample

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
"Critical" on Basis of Job Analysis									
"Important" on Basis of Job Analysis	X				X	X	X		X
"Irrelevant" on Basis of Job Analysis									
Relatively High Mean						X	X	X	X
Relatively Low Standard Deviation	X	X				X			
Significant Correlation with Criterion	X	X	X	X	X	X		X	
Aptitudes Considered for Inclusion in the Battery	G	V	N	S	P	Q	K	F	M

The information in Table 4 indicates that the following aptitudes should be considered for inclusion in the battery: G, V, N, S, P, Q, K, F, and M. The objective is to develop a battery of 2, 3, or 4 aptitudes with cutting scores set at five point intervals at the point (a) where about the same percent will meet the cutting scores as the percent placed in the high criterion group and (b) which will maximize the relationship between the battery and the criterion. The cutting scores are set at approximately one standard deviation below the mean aptitude scores of the sample, with deviations above or below these points to achieve the objectives indicated above.

The following battery resulted:

Aptitudes	Cutting Scores
G - General Learning Ability	80
P - Form Perception	70
Q - Clerical Perception	80

VALIDITY OF THE BATTERY

TABLE 5
Validity of Battery for Total Validation Sample

	Below Cutting Scores	Meeting Cutting Scores	Total
High Criterion Group	20	77	97
Low Criterion Group	25	14	39
Total	45	91	136

Phi coefficient = .42
Significance level = P/2 < .0005

TABLE 5a
Validity of Battery for Black Validation Subsample

	Below Cutting Scores	Meeting Cutting Scores	Total
High Criterion Group	11	29	40
Low Criterion Group	17	9	26
Total	28	38	66

Phi coefficient = .37
Significance level = P/2 < .005

TABLE 5b
Validity of Battery for Nonminority Validation Subsample

	Below Cutting Scores	Meeting Cutting Scores	Total
High Criterion Group	8	48	56
Low Criterion Group	7	5	12
Total	15	53	68

Phi coefficient = .36 (Yates' corrected)
Significance level = P/2 < .005

TABLE 6
Validity of Battery for Cross-validation Sample #1

	Below Cutting Scores	Meeting Cutting Scores	Total
High Criterion Group	36	71	107
Low Criterion Group	27	21	48
Total	63	92	155

Phi coefficient = .21
Significance level = P/2 < .01

TABLE 7
Validity of Battery for Cross-validation Sample #2

	Below Cutting Scores	Meeting Cutting Scores	Total
High Criterion Group	36	96	132
Low Criterion Group	33	34	67
Total	69	130	199

Phi coefficient = .22
Significance level = P/2 < .005

OCCUPATIONAL APTITUDE PATTERN

This occupation was incorporated into OAP-24 in Section II of the 1970 edition of the Manual for the USES General Aptitude Test Battery with a "double asterisk" (**), because the cutting score for Aptitude P is more than 10 points lower than the cutting score for Aptitude P in OAP-24 but a significant phi coefficient was obtained between the criteria and OAP-24 cutting scores of G-80, P-85 and Q-90. A phi coefficient of .28 (P/2 < .0005) was obtained for the combined validation sample and cross-validation samples.

APPENDIX 1

Descriptive Statistics for Black and Nonminority Subgroups of Validation Sample

	Black (N=66)			Nonminority (N=68)		
Variable	Mean	SD	Range	Mean	SD	Range
Aptitude G	82.3	12.5	61-112	90.5	12.4	63-127
Aptitude V	86.8	9.2	68-111	92.4	11.0	63-117
Aptitude N	85.9	16.1	58-127	90.6	16.0	56-136
Aptitude S	87.0	15.1	58-124	91.7	15.9	61-124
Aptitude P	96.9	20.1	56-143	97.4	17.3	59-134
Aptitude Q	107.5	14.3	84-148	106.7	14.1	80-151
Aptitude K	110.8	20.3	68-159	99.3	17.8	49-134
Aptitude F	99.8	18.2	58-143	98.1	21.9	37-151
Aptitude M	105.6	22.6	47-152	92.2	25.5	32-138
Criterion	48.7	11.5	20-70	51.6	10.4	20-70
Age	26.1	10.9	17-54	33.1	13.9	17-63
Education	10.6	1.7	6-12	10.1	1.7	7-12

APPENDIX 2

Hospitals Contributing Samples for Validation Study

Bristol Memorial Hospital, Bristol, Virginia
Lewis Gayle Hospital, Roanoke, Virginia
Piedmont Sanatorium, Crewe, Virginia

Hospitals Contributing Samples for Cross-validation Study #1

Presbyterian Hospital, Philadelphia, Pennsylvania
Salt Lake General Hospital, Salt Lake City, Utah
Saint Mark's Hospital, Salt Lake City, Utah
Latter-Day Saints Hospital, Salt Lake City, Utah

Hospitals Contributing Samples for Cross-validation Study #2

Los Angeles County General, Los Angeles, California
Harbor General Hospital, Los Angeles, California
John Wesley Hospital, Los Angeles, California
Long Beach General Hospital, Los Angeles, California
Olive View Hospital, Los Angeles, California
Rancho Los Amigos Hospital, Los Angeles, California

APPENDIX 3

Validation Sample

RATING TRAINEES

SUGGESTIONS TO RATERS

We are asking you to rate the job performance of the trainees whom you instructed. These ratings will serve as a "yardstick" against which we can compare the test scores in this study. The ratings must give a true picture of each trainee or this study will have very little value. You should strive to give the most accurate ratings possible for each trainee.

These ratings are strictly *confidential* and won't affect your trainees in any way. Neither the ratings nor test scores of any trainee will be shown to anyone other than personnel of the ESC testing section. We are interested in only "testing the tests." Ratings are needed for only those trainees who are in the test study.

In making ratings, don't let general impressions or some outstanding trait affect your judgment. Try to forget your personal feelings about the trainee. Rate him only on his performance. Here are some additional points which might help you:

1. Please read and study all directions and the rating scale *thoroughly* before rating a trainee.
2. For each question compare your trainees with "trainees in general" for this type of vocational training. We want the ratings to be based on the same standards in all training courses covering the same occupation.
3. A suggested method is to rate all trainees on one question at a time. The questions pertain to the different abilities of the trainees. A trainee may be good in one ability and poor in another; for example, a very slow trainee may be very accurate. So rate all trainees on the first question, then rate all trainees on the second question, and so on.
4. Rate the trainees according to the work they have done throughout the entire vocational training course. Don't rate just on the basis of one "good" day, one "bad" day or some single incident. Think in terms of each trainee's usual or typical day by day performance.
5. Rate only on the abilities listed on the rating sheet. Do not let factors such as cooperativeness, ability to get along with others, promptness and honesty influence your ratings. Although these aspects of a worker are important, they are of no value for this study as a "yardstick" against which to compare aptitude test scores.

Please fill in the information requested below.

RATED BY_____ TITLE_____

LOCATION OF TRAINING_____ DATE_____
(City) (State)

UNITED STATES EMPLOYMENT SERVICE

DESCRIPTIVE RATING SCALE FOR TRAINEES

(For Trainees Used in Aptitude Test Development Studies)

Score_____

RATING SCALE FOR_____
(DOT Title and Code for Training Course)

Directions: Please read "the suggestions to raters" on the back of this form then complete this rating scale. In making your ratings, only one box should be checked for each question.

Name of trainee (print)_____
(Last) (First)

Sex: Male_____ Female_____

A. How much aptitude or facility does he have for the vocational training? (Trainee's adeptness or knack for performing the work easily and well.)

☐ 1. Has great difficulty doing the work. Not at all suited for the training.

☐ 2. Usually has some difficulty doing the work. Not too well suited for the training.

☐ 3. Does the work without too much difficulty. Fairly well suited for the training.

☐ 4. Usually does the work without difficulty. Well suited for the training.

☐ 5. Does the work with great ease. Exceptionally well suited for the training.

B. How much ability does he have for maintaining adequate production in the vocational activity for which he was trained?

- ☐ 1. Capable of very low work output. Can perform only at an unsatisfactory pace.
- ☐ 2. Capable of low work output. Can perform at a slow pace.
- ☐ 3. Capable of fair work output. Can perform at an acceptable but not a fast pace.
- ☐ 4. Capable of high work output. Can perform at a fast pace.
- ☐ 5. Capable of very high work output. Can perform at an unusually fast pace.

C. How good was the quality of his work during the vocational training?

- ☐ 1. Performance was inferior and almost never met minimum quality standards.
- ☐ 2. Performance was usually acceptable but somewhat inferior in quality. The grade of his work could stand improvement.
- ☐ 3. Performance was acceptable but usually not superior in quality.
- ☐ 4. Performance was usually superior in quality.
- ☐ 5. Performance was almost always of the highest quality.

D. How quickly did he learn the instructional units of the vocational training?

- ☐ 1. Learned the work very slowly. Needed careful and repeated instructions.
- ☐ 2. Learned the work somewhat slower than most.
- ☐ 3. Learned most of the work in the usual amount of time.
- ☐ 4. Learned most of the work quickly.
- ☐ 5. Learned all of the work very rapidly. Needed only the minimum amount of training or instructions for even the difficult aspects.

E How much ability does he have for using the equipment of the vocational training?

- ☐ 1. Has very limited ability. Cannot use the equipment adequately.
- ☐ 2. Has little ability. Can use the equipment to "get by."
- ☐ 3. Has a moderate amount of ability. Can use the equipment to do fair work.
- ☐ 4. Has high ability. Can use the equipment to do good work.
- ☐ 5. Has very high ability. Can use the equipment to do excellent work.

F. How large a variety of job duties can he perform efficiently?

- ☐ 1. Cannot perform different operations adequately.
- ☐ 2. Can perform a limited number of different operations efficiently.
- ☐ 3. Can perform several different operations with reasonable efficiency.
- ☐ 4. Can perform many different operations efficiently.
- ☐ 5. Can perform an unusually large variety of different operations efficiently.

G. Considering all the factors already rated, and *only* these factors, how acceptable was his performance during vocational training?

- ☐ 1. Performance was unsatisfactory.
- ☐ 2. Performance was not completely satisfactory.
- ☐ 3. Performance was satisfactory.
- ☐ 4. Performance was good.
- ☐ 5. Performance was outstanding.

Cross-validation Sample #1

SP-25
1/67

ALTERNATION RANKING FORM

1. *Ranking Instructions*
   a. List all workers that you supervise in the left-hand column of the opposite page.
   b. Review the list and eliminate any individual if:
      (1) You are not sufficiently familiar with his performance to rank him (new employee, etc.).
      (2) His work is so unique that comparison is impossible.
   c. Now add to the list any other present workers in this same job which you previously supervised that you know well enough to evaluate.
   d. From the total list, select the person you consider as ranking highest in the ranking factor. (Overall performance, etc.) Write his name on the top line (labeled "1—Highest") of the *Rank Order* column, and cross his name off the list.
   e. From the remaining names, select the person you feel ranks lowest, and write his name on the line at the bottom of the Rank Order column where it says "1—Lowest". Now cross his name off the list.
   f. Continue by alternately selecting the next highest and the next lowest individuals remaining on the worker list until all names have been crossed out. For example, if you have listed eight workers, four of them should appear at the top of the Rank Order column and four at the bottom. The middle spaces would be left blank.

The fact that you rate an individual as lowest does not necessarily mean that you regard his performance as unsatisfactory. Your rating merely denotes how you would rank him in relation to others in the particular group.

2. *Rating Instructions*
   a. Think again about the performance of the individual you have just ranked on the particular ranking factor.
   b. Now rate each of the ranked workers using the letter ratings below. Place the appropriate letter rating after the foreman's name in the *Rank Order* column under "Rating". (Example: Joe Jones S—.)

Letter Rating

O	(Outstanding. Performance leaves little or nothing to be desired.)
E	(Excellent. An unusually competent worker. Performance almost always top notch.)
S+	(Good. A valuable worker. Performance usually superior.)
S	(Satisfactory. A fairly proficient worker. Performance generally acceptable.)
S—	(Not completely satisfactory. Of limited value to the organization. Performance marginal.)
U	(Definitely unsatisfactory. Would be better off without him. Performance usually not acceptable.)

Alternation
RANKING FORM

Basis for
Ranking: _____

Worker List	Rank Order	RATING
	1—Highest	
	2—Next Highest	
	3—Next Highest	
	4—Next Highest	
	5—Next Highest	
	6—Next Highest	
	7—Next Highest	
	8—Next Highest	
	9—Next Highest	
	10—Next Highest	
	11—Next Highest	
	12—Next Highest	
	13—Next Highest	
	14—Next Highest	
	15—Next Highest	
	16—Next Highest	
	17—Next Highest	
	18—Next Highest	
	18—Next Lowest	
	17—Next Lowest	
	16—Next Lowest	
	15—Next Lowest	
	14—Next Lowest	
	13—Next Lowest	
	12—Next Lowest	
	11—Next Lowest	
	10—Next Lowest	
	9—Next Lowest	
	8—Next Lowest	
	7—Next Lowest	
	6—Next Lowest	
	5—Next Lowest	
	4—Next Lowest	
	3—Next Lowest	
	2—Next Lowest	
	1—Lowest	

Rater's
Signature _____ Position _____

Division _____ Plant _____ Department _____

Date _____

Cross-validation Sample #2
SUGGESTIONS TO RATERS

We are asking you to rate the job performance of the people who work for you. These ratings will serve as a "yardstick" against which we can compare the test scores in this study. The ratings must give a true picture of each worker or this study will have very little value. You should try to give the most accurate ratings possible for each worker.

These ratings are strictly confidential and won't affect your workers in any way. Neither the ratings nor test scores of any worker will be shown to anybody in your company. We are interested only in "testing the tests." Ratings are needed only for those workers who are in the test study.

Workers who have not completed their training period, or who have not been on the job or under your supervision long enough for you to know how well they can perform this work should not be rated. Please inform the test technician about this if you are asked to rate any such workers.

In making ratings, don't let general impressions or some outstanding trait affect your judgment. Try to forget your personal feelings about the worker. Rate him only on the way he does his work. Here are some more points which might help you:

1. Please read all directions and the rating scale thoroughly before rating

2. For each question compare your workers with "workers-in-general" in this job. That is, compare your workers with other workers on this job that you have known. This is very important in small plants where there are only a few workers. We want the ratings to be based on the same standard in all the plants.

3. A suggested method is to rate all workers on one question at a time. The questions ask about different abilities of the workers. A worker may be good in one ability and poor in another; for example, a very slow worker may be very accurate. So rate all workers on the first question, than rate all workers on the second question, and so on.

4. Practice and experience usually improve a worker's skill. However, one worker with six months' experience may be a faster worker than another with six years' experience. Don't rate one worker as poorer than another merely because he has not been on the job as long.

5. Rate the workers according to the work they have done over a period of several weeks or months. Don't rate just on the basis of one "good" day, one "bad" day or some single incident. Think in terms of each worker's usual or typical performance.

6. Rate only on the abilities listed on the rating sheet. Do not let factors such as cooperativeness, ability to get along with others, promptness and honesty influence your ratings. Although these aspects of a worker are important, they are of no value for this study as a "yardstick" against which to compare aptitude test scores.

Please write your name, title, company, city, state, and date of rating on a separate sheet of paper for each set of ratings you make.

DESCRIPTIVE RATING SCALE
(For GATB Followup Study on Occupational Performance)

RATING SCALE FOR* _____ SCORE _____
DOT TITLE AND CODE (3rd Edition)

DIRECTIONS: Please read the sheet "Suggestions to Raters" and then fill in the items listed below. In making your ratings, only one box should be checked for each question.

NAME OF WORKER (print) _____
(Last) (First)

SOCIAL SECURITY NUMBER _____ SEX: Male ____ Female ____

COMPANY _____ LOCATION _____

WORKER'S EXPERIENCE ON PRESENT JOB _____ (Months) JOB TRAINING PERIOD _____ (Months)

RATED BY _____ TITLE _____

How often do you see this worker in a work situation?

- ☐ See him at work all the time.
- ☐ See him at work several times a day.
- ☐ See him at work several times a week.
- ☐ Seldom see him in work situation.

How long have you worked with him?

- ☐ Under one month.
- ☐ One to two months.
- ☐ Three to five months.
- ☐ Six months or more.

* ES Analyst should assign DOT Title and Code on the basis of a discussion of the job duties with the Supervisor

A. How much work can he get done? (Worker's ability to make efficient use of his time and to work at high speed.)

☐ 1. Capable of very low work output. Can perform only at an unsatisfactory pace.

☐ 2. Capable of low work output. Can perform at a slow pace.

☐ 3. Capable of fair work output. Can perform at an acceptable but not a fast pace.

☐ 4. Capable of high work output. Can perform at a fast pace.

☐ 5. Capable of very high work output. Can perform at an unusually fast pace.

B. How good is the quality of his work? (Worker's ability to do high-grade work which meets quality standards.)

☐ 1. Performance is inferior and almost never meets minimum quality standards.

☐ 2. The grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.

☐ 3. Performance is acceptable but usually not superior in quality.

☐ 4. Performance is usually superior in quality.

☐ 5. Performance is almost always of the highest quality.

C. How accurate is he in his work? (Worker's ability to avoid making mistakes.)

☐ 1. Makes very many mistakes. Work needs constant checking.

☐ 2. Makes frequent mistakes. Work needs more checking than is desirable.

☐ 3. Makes mistakes occasionally. Work needs only normal checking.

☐ 4. Makes few mistakes. Work seldom needs checking.

☐ 5. Rarely makes a mistake. Work almost never needs checking.

D. How much does he know about his job? (Worker's understanding of the principles, equipment, materials and methods that have to do directly or indirectly with his work.)

☐ 1. Has very limited knowledge. Does not know enough to do his job adequately.

☐ 2. Has little knowledge. Knows enough to "get by."

☐ 3. Has moderate amount of knowledge. Knows enough to do fair work.

☐ 4. Has broad knowledge. Knows enough to do good work.

☐ 5. Has complete knowledge. Knows his job thoroughly.

E. How much aptitude or facility does he have for this kind of work? (Worker's adeptness or knack for performing his job easily and well.)

☐ 1. Has great difficulty doing his job. Not at all suited to this kind of work.

☐ 2. Usually has some difficulty doing his job. Not too well suited to this kind of work.

☐ 3. Does his job without too much difficulty. Fairly well suited to this kind of work.

☐ 4. Usually does his job without difficulty. Well suited to this kind of work.

☐ 5. Does his job with great ease. Exceptionally well suited for this kind of work.

F. How large a variety of job duties can he perform efficiently? (Worker's ability to handle several different operations in his work.)

☐ 1. Cannot perform different operations adequately.

☐ 2. Can perform a limited number of different operations efficiently.

☐ 3. Can perform several different operations with reasonable efficiency.

☐ 4. Can perform many different operations efficiently.

☐ 5. Can perform an unusually large variety of different operations efficiently.

G. How resourceful is he when something different comes up or something out of the ordinary occurs? (Worker's ability to apply what he already knows to a new situation.)

☐ 1. Almost never is able to figure out what to do. Needs help on even minor problems.

☐ 2. Often has difficulty handling new situations. Needs help on all but simple problems.

☐ 3. Sometimes knows what to do, sometimes doesn't. Can deal with problems that are not too complex.

☐ 4. Usually able to handle new situations. Needs help on only complex problems.

☐ 5. Practically always figures out what to do himself. Rarely needs help, even on complex problems.

H. How many practical suggestions does he make for doing things in better ways? (Worker's ability to improve work methods.)

☐ 1. Sticks strictly with the routine. Contributes nothing in the way of practical suggestions.

☐ 2. Slow to see new ways to improve methods. Contributes few practical suggestions.

☐ 3. Neither quick nor slow to see new ways to improve methods. Contributes some practical suggestions.

☐ 4. Quick to see new ways to improve methods. Contributes more than his share of practical suggestions.

☐ 5. Extremely alert to see new ways to improve methods. Contributes an unusually large number of practical suggestions.

I. Considering all the factors already rated, and only these factors, how acceptable is his work? (Worker's "all-around" ability to do his job.)

☐ 1. Would be better off without him. Performance usually not acceptable.

☐ 2. Of limited value to the organization. Performance somewhat inferior.

☐ 3. A fairly proficient worker. Performance generally acceptable.

☐ 4. A valuable worker. Performance usually superior.

☐ 5. An unusually competent worker. Performance almost always top notch.

APPENDIX 4

282R75

Nurse Aid (medical ser.) 355.878

JOB DUTIES

Provides routine personal and nursing care to patients, maintains and issues supplies and equipment and performs related clerical duties under the direction of nursing and medical staff

*Provides personal care to patients following daily assignment sheet and verbal instructions: Escorts or transports patients to room or treatment unit using wheelchairs and stretchers. Lists and stores patients' clothes and possessions. Bathes, dresses and undresses patients. Serves and collects food trays and feeds patients requiring help. Provides drinking water and nourishment between meals. Dusts and cleans patient's room. Changes bed linen. Assists patients with bedpans and urinals. Cleans bedpans and urinals. Removes trash such as sputum cups and refuse bags from bedside.

*Provides nursing care to patients following daily assignment sheet and verbal instructions: Answers signal lights and bells and determines patient's needs. Observes patient and reports unfavorable conditions to nursing or medical staff. Takes and records patient's blood pressure, temperature, pulse, and respiration. Collects specimens. Administers douches and enemas. Records solid and liquid intake and output. Applies hot or cold treatment. Assists in examination and treatment by performing such duties as draping patients, holding instruments and adjusting lights.

*Maintains and issues supplies and equipment: Cleans, sterilizes, and stores equipment and supplies. Prepares and issues treatment trays and dressing packs. Maintains or assists in maintaining perpetual inventory of supplies.

Performs related clerical duties: Schedules and records appointments. Retrieves and files record folders. Answers telephone and delivers messages.

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*These duties were designated as critical because they must be performed competently if the job is to be done in a satisfactory manner. Nurse Aids spend about 75% of their working hours performing these job duties.

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