DOCUMENT RESUME

ED 063 388 TM 001 715

TITLE	Dental Assistant (medical ser.) 079.378--Development of USES Aptitude Test Battery.
INSTITUTION	Manpower Administration (DOL), Washington, D.C. U.S. Training and Employment Service.
REPORT NO	TR-S-202
PUB DATE	Aug 66
NOTE	29p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Aptitude Tests; *Cutting Scores; *Dental Assistants; Evaluation Criteria; Health Services; Job Applicants; *Job Skills; Norms; Occupational Guidance; Paramedical Occupations; *Personnel Evaluation; Test Reliability; Test Validity
IDENTIFIERS	GATB; *General Aptitude Test Battery

ABSTRACT

The United States Training and Employment Service General Aptitude Test Battery (GATB), first published in 1947, has been included in a continuing program of research to validate the tests against success in many different occupations. The GATB consists of 12 tests which measure nine aptitudes: General Learning Ability; Verbal Aptitude; Numerical Aptitude; Spatial Aptitude; Form Perception; Clerical Perception; Motor Coordination; Finger Dexterity; and Manual Dexterity. The aptitude scores are standard scores with 100 as the average for the general working population, and a standard deviation of 20. Occupational norms are established in terms of minimum qualifying scores for each of the significant aptitude measures which, when combined, predict job performance. Cutting scores are set only for those aptitudes which aid in predicting the performance of the job duties of the experimental sample. The GATB norms described are appropriate only for jobs with content similar to that shown in the job description presented in this report. A description of the validation sample and a personnel evaluation form are also included. (AG)

Development of USES Aptitude Test Battery for

Dental Assistant

(medical ser.) 079.378

U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary
MANPOWER ADMINISTRATION
BUREAU OF EMPLOYMENT SECURITY
Washington, D.C. 20210

Technical Report on Development of USES Aptitude Test Battery

For .....

Dental Assistant (medical ser.) 079.378

S-202

U. S. Employment Service
in Cooperation with
California, Nebraska, Washington, and Wisconsin
State Employment Services

August 1966

GATB Study #2339, #2485
#2583, #2586

DEVELOPMENT OF USES APTITUDE TEST BATTERY

For

Dental Assistant (medical ser.) 079.378

S-202

This report describes research undertaken for the purpose of validating and cross-validating General Aptitude Test Battery (GATB) norms for the occupation of Dental Assistant (medical ser.) 079.378. The following norms were established:

GATB Aptitudes	Minimum Acceptable GATB, B-1002 Scores
G - General Learning Ability	90
S - Spatial Aptitude	90
Q - Clerical Perception	95
F - Finger Dexterity	90

RESEARCH SUMMARY - VALIDATION SAMPLE

Sample:

53 female students in the training course for Dental Assistants in Washington.

Criterion:

Instructors' ~~Supervisory~~ ratings

Design:

Longitudinal (tests were administered at the beginning of the course of study, and the criterion data was collected at the completion of the course).

Minimum aptitude requirements were determined on the basis of a job analysis and statistical analyses of aptitude mean scores, standard deviations, and selective efficiencies.

Predictive Validity:

Phi Coefficient = .53 ($P/2 < .0005$)

Effectiveness of Norms

Only 66 percent of the non-test-selected students used for this study were good students; if the students had been test-selected with the S-202 norms, 87 percent would have been good students. 34 percent of the non-test-selected students used for this study were poor students; if the students had been test-selected with the S-202 norms, only 13 percent would have been poor students. The effectiveness of the norms is shown graphically in Table 1:

TABLE 1

Effectiveness of Norms

	Without Tests	With Tests
Good Students	66%	87%
Poor Students	34%	13%

VALIDATION SAMPLE DESCRIPTION

Size: N = 53

Occupational Status: Students

Training Setting: Students were enrolled in the training course for Dental Assistants at Edison Technical School, Seattle, Washington.

School Enrollment Requirements:

Age: No upper age limit, but students under 45 preferred.

Education: High School graduation required, but exceptions are made in some cases for older applicants.

Tests: No tests used.

Other: Typing proficiency, as indicated by completion of a one-year course in typing with a grade of C or better, is required.

Principal Activities: The job duties of the occupation, and the subjects contained in the course of study are shown on the Fact Sheet in the Appendix.

TABLE 2

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

	Mean	SD	Range	r
Age (years)	21.3	7.3	16-45	.054
Education (years)	12.1	0.7	10-16	.148

EXPERIMENTAL TEST BATTERY

All the tests of the GATB, B-1002A, were administered to the validation sample during the period April 1958 to March 1960.

CRITERION

The criterion data consisted of instructors ratings made on a descriptive rating scale designed for the training course. Ratings and reratings were made for each student by the instructor after completion of the course. There was a time interval of two weeks between ratings and reratings.

Rating Scale:

The rating scale (see Appendix) consists of thirteen separate items with five alternatives for each item. Six items pertain to quantity of work, six items pertain to quality of work, and one item is based on overall performance.

Reliability:

The correlation between the two ratings was .91. The final criterion score consisted of the combined scores of the two sets of ratings.

Criterion Score Distribution:

Possible Range:	26-130
Actual Range:	37-130
Mean:	50.3
Standard Deviation:	18.9

Criterion Dichotomy: The criterion distribution was dichotomized into high and low groups by placing 34% of the sample in the low group to correspond with the percentage of students considered to be doing marginal or unsatisfactory work. Students in the high criterion group were designated as "good students" and those in the low group as "poor students." The criterion critical score is 44.

APTITUDES CONSIDERED FOR INCLUSION IN THE NORMS

Aptitudes were selected for tryout in the norms on the basis of a qualitative analysis of job duties involved and statistical analysis of test and criterion data. Aptitude Q which does not have a significant correlation with the criterion was considered for inclusion in the norms because the sample had a relatively high mean score and a relatively low standard deviation on this aptitude. Tables 3, 4, and 5 show the results of the qualitative and statistical analyses.

TABLE 3

Qualitative Analysis
(Based on the job analysis, the aptitudes indicated appear to be important to the work performed)

Aptitude	Rationale
G - General Learning Ability	Necessary in learning and understanding the procedure of chairside assisting, and laboratory and business procedures.
S - Spatial Aptitude	Necessary for visual inspection when casting inlays, crowns, and models.
P - Form Perception	Necessary for casting inlays, crowns, and models from impressions.
K - Motor Coordination	Necessary in positioning instruments in cooperation with the dentist, and assembling and disassembling equipment.
F - Finger Dexterity	Necessary in carving models, manipulating controls on equipment, preparing filling materials, and in manipulating instruments.
M - Manual Dexterity	Necessary in conveying instruments rapidly to dentist, assembling and disassembling larger pieces of equipment, loading and unloading sterilizers, and positioning X-ray equipment.

TABLE 4

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB; N = 53

Aptitude	Mean	SD	Range	r
G - General Learning Ability	99.7	10.7	76-123	.389**
V - Verbal Aptitude	100.4	11.5	76-121	.176
N - Numerical Aptitude	97.1	12.4	73-124	.385**
S - Spatial Aptitude	102.5	14.3	71-127	.301*
P - Form Perception	109.9	18.7	72-153	.301*
Q - Clerical Perception	112.0	13.9	84-157	.193
K - Motor Coordination	115.8	16.5	76-173	.472**
F - Finger Dexterity	104.8	17.0	65-139	.503**
M - Manual Dexterity	107.6	20.8	45-165	.597**

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

TABLE 5

Summary of Qualitative and Quantitative Data

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
Job Analysis Data									
Important	X			X	X		X	X	X
Irrelevant									
Relatively High Mean					X	X	X		
Relatively Low Standard Dev.	X	X	X			X			
Significant Correlation with Criterion	X		X	X	X		X	X	X
Aptitudes to be Considered for Trial Norms	G		N	S	P	Q	K	F	M

DERIVATION AND VALIDITY OF NORMS

Final norms were derived on the basis of a comparison of the degree to which trial norms consisting of various combinations of aptitudes G, N, S, P, Q, K, F and M at trial cutting scores were able to differentiate between the 66% of the sample considered good students and the 34% of the sample considered poor students. Trial cutting scores at five point intervals approximately one standard deviation below the mean are tried because this will eliminate about 1/3 of the sample with three-aptitude norms. For two-aptitude trial norms, minimum cutting scores slightly higher than one standard deviation below the mean will eliminate about 1/3 of the sample; for four-aptitude trial norms, cutting scores slightly lower than one standard deviation below the mean will eliminate about 1/3 of the sample. The Phi Coefficient was used as a basis for comparing trial norms. Norms of G-90, S-90, Q-95, and F-90 provided the highest degree of differentiation for the occupation of Dental Assistant (medical ser.) 079.378. The validity of these norms is shown in Table 6 and is indicated by a Phi Coefficient of .53 (statistically significant at the .0005 level).

TABLE 6

Predictive Validity of Test Norms
G-90, S-90, Q-95, F-90

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Students	8	27	35
Poor Students	14	4	18
Total	22	31	53

Phi Coefficient (ϕ) = .53 Chi Square (X^2) = 14.89
Significance Level = $P/2 < .0005$

DETERMINATION OF OCCUPATIONAL APTITUDE PATTERN

The data for this study did not meet the requirements for incorporating the occupation studied into any of the 36 OAP's included in Section II of the Manual for the General Aptitude Test Battery. The data for this sample will be considered for future groupings of occupations in the development of new occupational aptitude patterns.

S-202 GATB Study #2485

Dental Assistant (medical ser.) 079.378

Check Study #1 Research Summary

Sample:
85 female students enrolled in training course for Dental Assistants in California.

TABLE 7

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age and Education - Cross-Validation Sample #1.

	Mean	SD	Range	r
Age (years)	21.6	5.3	18-42	-.141
Education (years)	12.4	.9	9-15	.267*

*Significant at the .05 level

Criterion:
~~Supervisory~~ ratings
Instructors

Design:
Longitudinal (tests were administered at the beginning of the course of study and the criterion data was collected at the completion of the course).

Principal Activities:
The job duties of the occupation and the subjects contained in the course of study are shown in the Appendix and are comparable to the duties and course of study of the validation sample. The rating scale is the same as that shown for the validation sample except that items C.I., C.II., E.I., and E.II. were omitted.

Predictive Validity:
Phi Coefficient = .22 ($P/2 < .025$)

Effectiveness of Norms:
Only 67% of the non-test-selected students in this sample were good students; if the students had been test-selected with the S-202 norms, 75% would have been good students. 33% of the non-test-selected students used in this study were poor students; if the students had been test-selected with the S-202 norms, only 25% would have been poor students. The effectiveness of the norms when applied to this independent sample is shown graphically in Table 8:

TABLE 8

Effectiveness of S-202 Norms on Check Study Sample #1

	Without Tests	With Tests
Good Students	67%	75%
Poor Students	33%	25%

Check Study #1 Research Summary contd.

TABLE 7A

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB

Aptitude	Mean	SD	Range	r
G - General Learning Ability	100.0	14.5	72-138	.365**
V - Verbal Aptitude	103.8	12.6	78-139	.349**
N - Numerical Aptitude	97.7	13.9	63-140	.299**
S - Spatial Aptitude	103.5	17.2	65-137	.295**
P - Form Perception	115.0	15.6	79-149	.264*
Q - Clerical Perception	119.1	14.1	93-156	.359**
K - Motor Coordination	112.1	14.2	70-144	.254*
F - Finger Dexterity	112.1	17.1	68-163	.140
M - Manual Dexterity	118.2	16.1	74-159	.123

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

TABLE 7B

Predictive Validity of Test Norms
G-90, S-90, Q-95, F-90

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Students	16	41	57
Poor Students	14	14	28
Total	30	55	85

Phi Coefficient (ϕ) = .22
Chi Square (X^2) = 3.97
Significance Level = P/2 <.025

S-202 GATB Study #2583

Dental Assistant (medical ser.) 079.378

Check Study #2 Research Summary

Sample:

121 female students enrolled in a training course for Dental Assistants in Wisconsin.

TABLE 9

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, and Education-Cross-Validation Sample #2

	Mean	SD	Range	r
Age (years)	18.3	1.9	17-22	.366**
Education (years)	12.1	0.4	12-15	.046

**Significant at the .01 level

Criterion:

~~Supervisory~~ Instructors' ratings

Design:

Longitudinal (tests were administered at the beginning of the course of study; criterion, after completion).

Principal Activities:

The job duties and the subjects contained in the course of study are shown on the Fact Sheet in the Appendix and are comparable to the duties and course of study of the validation sample. The rating scale is the same as that shown for the validation sample except that items F.I. and F.II. were omitted.

Predictive Validity:

Phi Coefficient = .37 (P/2 < .0005)

Effectiveness of Norms:

Only 70% of the non-test-selected students in this sample were good students; if the students had been test-selected with the S-202 norms, 78% would have been good students. 30% of the non-test-selected students used in this study were poor students; if the students had been test-selected with the S-202 norms, only 22% would have been poor students. The effectiveness of the norms when applied to this independent sample is shown graphically in Table 10:

TABLE 10

Effectiveness of S-202 Norms on Check Study Sample #2

	Without Tests	With Tests
Good Students	70%	78%
Poor Students	30%	22%

Check Study #2 Research Summary contd.

TABLE 9A

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB

Aptitude	Mean	SD	Range	r
G - General Learning Ability	108.6	12.0	80-142	.571**
V - Verbal Aptitude	107.2	12.0	78-147	.317**
N - Numerical Aptitude	106.9	12.6	72-138	.395**
S - Spatial Aptitude	110.3	13.9	81-153	.514**
P - Form Perception	119.6	16.1	63-154	.276**
Q - Clerical Perception	117.6	11.8	87-152	.220*
K - Motor Coordination	113.5	13.8	76-146	.143
F - Finger Dexterity	114.7	17.2	81-159	.206*
M - Manual Dexterity	116.1	18.0	66-159	.123

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

TABLE 9B

Predictive Validity of Test Norms
G-90, S-90, Q-95, F-90

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Students	5	80	85
Poor Students	13	23	36
Total	18	103	121

Phi Coefficient (ϕ) = .39
Chi Square (X^2) = 18.21
Significance Level = $P/2 < .0005$

S-202 GATB Study #2586

Dental Assistant (medical ser.) 079.378

Check Study #3 Research Summary

Sample:

31 female workers employed as Dental Assistants in Nebraska.

TABLE 11

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education, and Experience-Cross-Validation Sample #3

	Mean	SD	Range	r
Age (years)	28.0	8.5	19-49	-.400*
Education (years)	12.5	1.5	9-16	.298
Experience (mos.) (present employer)	16.6	18.2	7-96	.149

*Significant at the .05 level

Criterion:

Supervisory ratings

Design:

Concurrent (test and criterion data were collected at approximately the same time).

Principal Activities:

The job duties are shown in the Appendix and are comparable to the duties of the validation sample. The rating scale is the same as that shown for the validation sample except that items C.I., C.II, D.I., F.I., and F.II, were omitted.

Concurrent Validity:

Phi Coefficient = .44 ($P/2 < .01$)

Effectiveness of Norms:

Only 68% of the non-test-selected workers in this sample were good workers; if the workers had been test-selected with the S-202 norms, 84% would have been good workers. 32% of the non-test-selected workers in this study were poor workers; if the workers had been test-selected with the the S-202 norms, only 16% would have been poor workers. The effectiveness of the norms when applied to this independent sample is shown graphically in Table 12:

TABLE 12

Effectiveness of S-202 Norms on Check Study Sample #3

	Without Tests	With Tests
Good Workers	68%	84%
Poor Workers	32%	16%

Check Study #3 Research Summary contd.

TABLE 11A

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB

Aptitude	Mean	SD	Range	r
G - General Learning Ability	106.0	17.7	61-133	.574**
V - Verbal Aptitude	108.7	15.1	70-133	.543**
N - Numerical Aptitude	97.3	16.0	59-125	.569**
S - Spatial Aptitude	107.1	17.8	61-133	.406*
P - Form Perception	111.3	18.8	66-141	.525**
Q - Clerical Perception	112.1	12.3	79-128	.566**
K - Motor Coordination	115.4	19.5	37-140	.695**
F - Finger Dexterity	112.1	24.0	67-156	.467**
M - Manual Dexterity	108.5	23.3	60-147	.232

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

TABLE 11B

Predictive Validity of Test Norms
G-90, S-90, Q-95, F-90

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Workers	5	16	21
Poor Workers	7	3	10
Total	12	19	31

Phi Coefficient (ϕ) = .44
Significance Level = $P/2 < .01$

Chi Square (X^2) = 6.08

A-P-P-E-N-D-I-X

DESCRIPTIVE RATING SCALE
for
Dental Assistant
079.378

Score _____

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)

Sex: Male_____ Female_____

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.

Organization:
Address:
Rated By:
Rater's Position:
Date of Rating:

☐ 1st Rating

☐ 2nd Rating

(9-58)

DESCRIPTIVE RATING SCALE
for
Dental Assistant
079.378

Person to be Rated

A. Dental Office Management

I. Quantity?

☐ 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.

A. Dental Office Management

II. Quality?

☐ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.

☐ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.

☐ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.

☐ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.

☐ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

B. Chairside Assisting: Assisting the Dentist in Operative Dentistry.

I. Quantity?

- ☐ 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. Chairside Assisting: Assisting the Dentist in Operative Dentistry

II. Quality?

- ☐ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.
- ☐ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior to quality.
- ☐ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.
- ☐ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.
- ☐ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

C. Chairside Assisting: Assisting the Dentist in Oral Surgery

I. Quantity?

☐ 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. Chairside Assisting: Assisting the Dentist in Oral Surgery

II. Quality:

☐ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.

☐ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.

☐ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.

☐ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.

☐ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

D. Dental Laboratory Assisting

I. Quantity?

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

D. Dental Laboratory Assisting

II. Quality?

☐ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.

☐ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.

☐ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.

☐ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.

☐ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

E. Equipment Maintainence

I. Quantity?

- ▱ 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.

II. Quality?

- ▱ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.
- ▱ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.
- ▱ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.
- ▱ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.
- ▱ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

F. Radiography

I. Quantity?

☐ 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.

II. Quality?

☐ 1. Very poor. Does work of unsatisfactory grade. Performance is inferior and almost never meets minimum quality standards.

☐ 2. Not too bad, but the grade of his work could stand improvement. Performance is usually acceptable but somewhat inferior in quality.

☐ 3. Fair. The grade of his work is mediocre. Performance is acceptable but usually not superior in quality.

☐ 4. Good, but the grade of his work is not outstanding. Performance is usually superior in quality.

☐ 5. Very good. Does work of outstanding grade. Performance is almost always of the highest quality.

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

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

☐ 2. Not completely satisfactory. Of limited value to the organization. Performance somewhat inferior.

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

☐ 4. Good. A valuable worker. Performance usually superior.

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

Organization:
Address:
Rated By:
Rater's Position:
Date of Rating:

☐ 1st Rating

☐ 2nd Rating

A-P-P-E-N-D-I-X

Job Description for Check Study #1, California

Job Title: DENTAL ASSISTANT (medical ser.) 079.378

Job Summary: Prepares patients and room of dentist's office for examination, treatment, or dental surgery and assists dentist at chair or in office work, performing such duties as taking and developing X-rays, mixing cements and amalgam, and keeping patients' records.

Work Performed: Prepares office for day of appointments: Wipes office equipment and furniture with cloth to remove dust. Arranges magazines in neat pile and cleans ash trays. Opens windows to permit air in office. Turns on sterilizing equipment and Hydrocolloid Conditioner. Cleans cuspidor bowl, wiping it with antiseptic, cologne, and lotion. Dusts bur blocks to keep them clean. Examines medicine bottles and supplies' containers to see that they are filled and accessible to dentist. Removes patients' record cards and X-rays from file.

Prepares patient for dentist: Greets patient and seats him in chair. Changes covering on head rest, raises or lowers head rest, and adjusts back of chair. Changes table cover, and lays out dental instruments, according to type of treatment scheduled. Prepares patient for treatment or surgery. Places towel or bib on patient and fastens it at neck. Covers patient's clothes with apron. Hands female patients tissue to wipe off lipstick.

Takes X-rays of patient's mouth: Seats patient in chair and turns on X-ray Machine. Turns cone away, presses timer, and observes Milliammeter gauge for proper operation. Asks patient to remove glasses and dentures. Checks patient's jawbone structure and occlusion to determine position of head and to detect malocclusion. Positions patient's head so that bone arch of maxillae is parallel to floor. Tells patient to hold X-ray film in position against face or teeth for taking X-ray. Determines placement of X-ray cone against patient's face to obtain clear, complete exposure of teeth, roots, and gum area. Sets timing indicator to specified time. Presses timer button firmly to make exposure on film. Repeats operation until X-rays of all teeth are taken.

Develops X-ray films: Checks level of solution in developer and fixer tanks. Writes patient's name and date films were taken on hanger. Examines thermometer to determine temperature of solution. Turns off lights to insure that room is dark. Removes paper wrapping from exposed film and clips film to hanger. Immerses film in developer tank and sets timer. Removes film after required length of time, and rinses film in water tank. Places films in fixer tank for specified time. Removes films from fixer tank and places films in circulating water bath for specified time. Removes film, shakes off excess water and dries film in airy place. Mounts film on plastic or cardboard frames. Cleans tanks by draining solution and scrubbing tank with long-handled brush.

Assists dentist at chair: Turns on Saliva Ejection Equipment and places mouthpiece in patient's mouth. Explains operation of equipment, if patient is unfamiliar with equipment. Observes patient during treatment and prepares sedatives, anesthetic, or inhalant, when instructed, for administration by dentist. Hands dental instruments to dentist, anticipating his needs, or as directed. Holds water and air spray over tooth dentist is working on to keep tooth clean and dry. Watches patients for signs of illness. Sterilizes and

disinfects mouthpiece and instruments in Autoclave, dry heat, hot oil, boiling water, or chemicals, following procedures for sterilization.

Performs other duties as directed by dentist: Prepares Rubber Dam for use in restoration work. Washes rubber dam with soap and water. Places rubber dam in holder and holds dam for dentist to punch holes. Spreads lubricant on underside of dam and places dam over tooth to be worked on. Places clamps on dam and positions rubber dam napkin on patient to protect patient's face and absorb moisture. Prepares and mixes Amalgam or other restorative for filling cavities in teeth. Takes specified amount of metal Alloy and liquid, and mixes material with mortar and pestle, or in Amalgamator. Gives mixture to dentist. Mixes powder and liquid chemicals of dental bases or cements on glass slab or treated paper pad, following manufacturer's instructions, and hands mixture to dentist. Prepares Hydrocolloid impression material in conditioner for daily use. Fills impression trays with Hydrocolloid impression material from Hydrocolloid conditioner. Places tray into tempering unit and attaches water hoses to cold water faucet of conditioner unit. Attaches other end of water hoses to tray, and hands tray to dentist. Turns on cold water faucet to cool Hydrocolloid material in tray after dentist has impression tray seated in patient's mouth. Sets timer for specified time. May prepare Alginate immediately before use, following manufacturer's instructions. Mixes stone powder in specified proportion with water and chemicals, using mechanical mixer, and pours mixture into impression on Vibrator, adding stone mixture in small increments to remove air bubbles and form model of patient's teeth and mouth (oral cavity). Assists dentist and patient in selecting shade and mold of teeth, visually comparing color and shape of patient's teeth with Shade and Mold Guides. Records shade and mold of patient's teeth on patient's records. Stores patient's models and dies in box with name of patient, shade and mold, and date of work recorded on box. Records all work performed during each visit on patient's record card.

Invests wax patterns and casts inlays and crowns: Removes wax pattern from tooth dies or full mouth models with sprue. Places sprue and wax pattern in Casting Ring. Mixes Investment powder, water, and chemicals in proportions specified by manufacturer. Pours mixture into casting ring, placed on vibrator to prevent air bubbles in mold. Allows mold to harden. Places mold in Burn-out oven for specified time to melt wax pattern out of mold. Positions mold in Centrifugel Casting Machine. Places pieces of gold metal in crucible of machine and melts metal with acetylene torch. Turns on switch to start machine that forces molten metal into interior of mold. Allows metal to harden and immerses mold in cold water. Removes gold piece from plaster and rough-finishes it, using Dental Lathe with grinding wheel.

Performs office and clerical duties: Makes appointments with patients and records day, time, patient's name, and work to be done in appointment book. Keeps record of charges made to patients, and totals each account. Posts payments to appropriate accounts. Deposits money received in bank, and records deposits. Writes checks for payment of outstanding bills and posts to expense accounts. Adds ledger columns to obtain totals for various income and expense accounts. Types and mails out monthly statements, collection letters, and other correspondence for dentist. Reconciles bank statement with records. Draws up loan agreements and makes arrangements for patients to pay for dental work. Keeps inventory of materials and supplies, noting quantity of each item in stock. Orders materials and supplies, as required, from various supply houses.

Course Description

The course in Dental Assisting consists of 420 hours, covering 24 weeks, half-days. The curriculum includes theory and practice in the technical and psychological skills necessary to become a competent Dental Assistant. The course is divided into five areas:

1. Operatory — 10 weeks (175 hrs.)
   Covers the techniques for seating and preparing patients; chairside assisting, terminology, history of dentistry, names and surfaces of teeth, dental anatomy, dental pathology, Pharmacology, dental laws, dental instruments, Anesthesia, sterilization procedures, care of equipment, setup for dental surgery, mixing plastics, cements, porcelains, amalgams, preparing Hydrocolloid for impressions, and prophylaxis.

2. Laboratory — 2 weeks (35 hrs.)
   Covers techniques of making models from impressions, mixing stone and plastics, trimming models, investing wax patterns, use of ovens for burn-out of wax patterns, and casting inlays.

3. X-ray Operations — 6 weeks (105 hrs.)
   History of X-rays, parts of X-ray machine, care of equipment, terminology, placement of films, taking the picture, developing and mounting X-ray film, and care of darkroom equipment.

4. Office Procedures — 6 weeks (105 hrs.)
   Covers reception techniques, patient relations, setting up appointment book, keeping patients' record cards, charts, diagnosis, and estimates, bookkeeping, letter writing, credit and collections, inventory, and purchasing.

5. Professional and Personal Development
   Lectures on poise, personality, nutrition, charm, make-up, grooming, and telephone techniques interspersed throughout the 6 months.

FACT SHEET
(VALIDATION SAMPLE)

Job Title. Dental Assistant (medical ser.) 079.378

Job Summary: Performs a combination of the following tasks to assist Dentists and conduct business of dental laboratory and office: Interviews new patients to obtain medical history and ascertain allergies to dental drugs or existence of complicating illnesses. Positions patient in chair, lays out dental instruments according to type of treatment scheduled. Takes and processes X-rays.

Work Performed: Manipulates saliva ejection equipment and swabs operative area to keep it clean during treatment. Observes patients during treatment and administers sedatives or inhalants as prescribed by Dentist. Mixes amalgam or other restorative materials according to manufacturer's formulae, using glass slab, mortar and pestle. Assists Dentist to condense annealed gold foil pellets in tooth cavity by tapping condensing instrument with mallet as Dentist places foil and manipulates condenser to form filling. Sterilizes instruments in autoclave, dry heat, oil or boiling water at given temperature for prescribed length of time. Casts gold inlays and crowns from wax impressions using such equipment and materials as burn-out furnace, gas-air blowpipe, inlay wax, sprue former and investment powder. Casts models from impressions of oral cavity, using plaster, silicons, rubber base or other materials. Instructs patients in oral hygiene and need for and value of preventive deotistry. Keeps record of treatments administered and prostheses manufactured. May prepare statements, schedule appointments, order supplies and maintain financial and other records of dental office.

Course Description: The course in Dental Assisting is designed to give the student an opportunity to acquire basic scientific knowledge and practical application of the fundamentals of dental assisting, and to adopt desirable work habits to effectively serve in positions as assistants to dentists in private practice, clinics, hospitals, or the Federal Government. Lectures and demonstrations are given by members of the dental profession from general practice and each of the specialties in dentistry, as well as members of the faculty at the State University. Dental manufacturers' representatives, authorities on nutrition, accounting and telephone usage, and commercial laboratory technicians have an important place in the program.

> The course contains 1,080 hours of classroom instruction on practices in dental offices. Distribution of training is in the following areas: Personal Hygiene, Ethics, Dental Terminology, Diet and Nutrition, Dental Pathology, Bacteriology, Sterilization, Dental Anatomy and Physiology, First Aid, Anesthesia, Chairside Assisting, Dental Health Education, Applied Psychology, Pharmacology, X-Ray Procedures and Laboratory Procedures.

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S-202 August 1966

FACT SHEET
(CHECK STUDY #2)

Job Title: Dental Assistant (medical ser.) 079.378

Job Summary: Performs a variety of tasks to assist the Dentist in the operation of his office.

Work Performed: Interviews new patients to obtain medical history and ascertain allergies to drugs. Records the information obtained. Positions patient, adjusts dental chair and drapes patient with clean covering. Lays out dental instruments, and materials such as rubber dams, clamps, separators and wedges according to treatment schedules. Positions suction equipment and swabs operative areas to remove accumulations of secretions during treatment. Takes and processes X-rays. Prepares mixtures used for filling and for impressions. Casts inlays, crowns, and models from impressions. Observes patient during treatment and informs Dentist if necessary. Sterilizes instruments and equipment as prescribed. Instructs patient in oral hygiene. Keeps record of treatment administered. Prepares statements, schedules appointments in person or by telephone and maintains financial and other records of dental office.

Course Description

The two semester course in Dental Assisting is planned to give students the basic knowledge needed to carry out the duties of the Dental Assistant from general office work to the technical phases of chairside assisting, laboratory techniques and radiology.

Thirty six credits are required for graduation. The curriculum is as follows:

Communication Skills		6 credits
Dental Office Management		4 credits
Dental Lab Procedures		8 credits
Dental Theory		6 credits
Dental Assisting		8 credits
Professional Orientation		2 credits
Psychology of Human Relations		2 credits
	Total	36 credits

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