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NAVAL PERSONNEL PROGRAM SUPPORT ACTIVITY
PERSONNEL RESEARCH LABORATORY

WASHINGTON, D.C. 20390

WRM 66-6

SEPTEMBER 1965

TECHNIQUES FOR CONDUCTING
RATING QUALIFICATIONS SURVEYS

BY
ROY W. GETTINGS

Qualified requesters may obtain
copies of this report from DDC

AN ACTIVITY OF THE BUREAU OF NAVAL PERSONNEL

803924

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PERSONNEL SYSTEMS DEPARTMENT
PERSONNEL RESEARCH LABORATORY
NAVAL PERSONNEL PROGRAM SUPPORT ACTIVITY
WASHINGTON, D. C. 20390

FOREWORD

This study was accomplished under Objective Number PF016.01.05.02.

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RELATIONSHIP TO OTHER REPORTS

Other reports which relate to and precede the present report include:

1. Theodore A. Coulombis, Roy W. Gettings "Report on Systems Analysis of Advancement Qualifications" (RS-62-18) May 1962
2. Wm. A. Fitzpatrick, Roy W. Gettings "Application of EDP Techniques to Enlisted Qualifications Review and Development" (RS-63-16) June 1963
3. Roy W. Gettings "Practical Factor Analysis of the ET Rating by EDP Techniques" (RS-64-37) June 1964
4. Roy W. Gettings "Analysis of Practical Factors Performance by Sonar Technicians (ST)" (WTB-65-1) May 1965
5. Raymond Architzel, Bradley T. Litton "Feasibility Research Study on EDP Applications to Performance and Knowledge Requirements for Interior Communications Electricians (IC)" (WTB-65-2) June 1965

ABSTRACT

This memorandum reports on one phase of research directed toward the development of improved management tools for reducing cost of reviewing the "Manual of Qualifications for Advancement in Rating" (NavPers 18068) while increasing the validity of the end product.

Specifically, this memorandum presents guidelines for conducting rating qualifications surveys. These guidelines provide a degree of standardization in surveys and survey techniques which permit development of criteria for the evaluation of survey results and allow cross comparison of results between ratings.

TABLE OF CONTENTS

	Page
Abstract	iv
I. INTRODUCTION	1
II. SURVEY FORM DEVELOPMENT	2
III. MAILING PROCEDURES	4
IV. PROCESSING RETURNS AND RECORDS CONTROL	5
V. EDP PROCESSING REQUESTS	6
Appendix A - Sample Production Run Request Form for Data	
Extracts	7
Appendix B - Sample Production Run Request Form for Mailing	
Labels	8
Appendix C - Sample Production Run Request Form for Rating	
Qualifications Survey Summary	9

I. INTRODUCTION

A complete systems analysis of the procedures for updating rating advancement qualifications was conducted in 1962. One of the primary findings of this analysis was a need for systematic collection of information from a large sample of operating personnel. The rating qualifications survey has been designed to fill this need.

This research memorandum presents a generalized approach to the techniques for conducting a rating qualifications survey for use by qualifications analysts. A subsequent research memorandum will contain guidelines for the interpretation and analysis of survey results.

The present rating qualifications survey evolved from an original format which sought recommendations for changes to qualifications from senior personnel. The present format is designed to obtain performance data in addition to recommendations for changes and, therefore, surveys all levels of rated personnel. Research in and development of new procedures for qualifications analysis is continuing.

The basis purpose of the rating qualifications survey is to identify specific problem areas within the qualifications. This procedure has been designed to aid the qualifications analyst by focusing his attention on those aspects of his rating which most need attention. The survey has been designed to give a reasonably accurate over-view of the condition of a rating for a minimum investment of the analyst's time. A number of modifications to give further information were considered but discarded since they would have greatly increased the analyst's workload.

II. SURVEY FORM DEVELOPMENT

The rating survey makes use of three basic forms: A machine processable enlisted form; a manually processed, open-ended officer form; and a covering letter. Each of these forms will be discussed in some detail.

The covering letter will be directed to the commanding officer, or officer in charge, of the activity being surveyed. It should cover five basic points:

- (1) Justification for conducting the survey;
- (2) Planned use of the results;
- (3) Recommendations for method of conducting the survey;
- (4) Instructions for return of results; and
- (5) An expression of appreciation for assistance in conducting the survey.

The covering letter should be prepared on stencil or multilith mat. Before copies are produced the Director should sign the master unless he prefers to sign each letter. The addressee's name and address will be typed in individually.

The officer form will be directed to the officer immediately responsible for conducting the actual survey. It will outline the reasons for the survey and the projected use of the completed officer and enlisted forms. Further, it should recommend detailed procedures for conducting the survey. It should request specifically additional qualifications items needed and justification for such items, and recommendations for changes to present items with justifications for such changes. Finally it will include a personal data section to include the officer's name, grade, billet title, and activity name.

The enlisted form will be directed to the individual petty officer of the appropriate rating at the activities being surveyed. The enlisted form will consist of four basic sections:

- (1) Statement of reason for the survey;
- (2) Personal data section;
- (3) Instructions for completion of the form; and
- (4) Specific query items.

In addition sections may be included to query individuals on such areas as Navy Enlisted Classifications, training courses, or rating structure.

The statement of the reason for the survey should refer to the responsibility of this Laboratory for keeping the "Manual of Qualifications for Advancement in Rating" up to date, should explain the part the survey plays in this, and should outline briefly the relationship between the officer form and the enlisted form.

The personal data section will request the individual's name, service number, rate and rating, and name of activity to which attached.

The instructions for completion of the enlisted form must be as specific as possible. For each query item in the survey form the responder will be asked to reply to two questions*: First, do you perform or need to know this item (yes or no) and; Second, for what paygrade level should this be a minimum qualification for advancement in your rating (E-4 through E-9 or none).

Perform or need to know may be defined in numerous ways. Two aspects must be defined, however. First, what is the period of responder should consider (total experience in rating, in grade, at present activity, or in present billet)? Second, what level of performance is to be considered (performance under instruction, independent performance, supervision of performance, or instruction in performance)? Analysis of results will be possible with any set of the above answers, as long as there is internal consistency.

The individual query items will be developed from the qualification items or from proposed qualification items. In many cases a given qualification item may generate a number of query items. For example a qualification item reading "Operate and perform maintenance on radio receivers and transmitters." might be developed into the following survey items:

- (1) Operate radio receivers.
- (2) Operate radio transmitters.
- (3) Maintain radio receivers.
- (4) Maintain radio transmitters.

The individual survey items should be clear statements of a single function for which the responder can easily select the proper alternative listed above.

*This format, currently being tested, supercedes the tested format outlined in "Feasibility Research Study on EDP Applications to Performance and Knowledge Requirements for Interior Communications Electricians," WTB-65-2.

III. MAILING PROCEDURES

The Statistical Department will prepare mailing labels for the activities to be covered by the survey. In certain cases the Statistical Department file may be incomplete. In such cases it will be necessary to refer to the Standard Navy Distribution List (Vols. I and II).

When the mailing labels are prepared, the covering letters should be addressed and the survey forms assembled. If the covering letters are to be individually signed they should be addressed and sent, as a package, to the Director, with a covering memorandum.

Once the covering letters have been signed the packages may be assembled. The mailing labels for the activities to be surveyed, provided by the Statistical Department, will include the number of personnel on board in the rating being surveyed. In general, one extra enlisted survey form should be included for every ten persons on board, or fraction thereof. For example: If 15 persons are shown on board, send 17 forms; if 23 persons are shown on board, send 26; etc. If ten or less enlisted personnel are shown on board, include one officer form; if eleven to twenty enlisted personnel are shown on board, include two officer forms; if twenty-one to forty enlisted personnel are shown on board, include three officer forms; and if more than forty enlisted personnel are shown on board, include four officer forms.

As the forms are assembled for mailing the activity should be checked off on the individual activity log and the number of enlisted forms included should be noted. At this time the packages should also be separated into those for regular mailing and those for air-mailing (primarily overseas shore activities). The actual date of mailing should be recorded. In view of the relatively large volume of the mailings, they should be delivered directly to the mail-room.

IV. PROCESSING RETURNS AND RECORDS CONTROL

While the enlisted survey form has been specifically designed for machine processing certain records control and other processing function will remain the responsibility of the qualifications analyst.

As each package of returns is received by the analyst he should open it and review each enlisted form to eliminate blank forms and to insure that the identification information is complete. If additional sections have been added to the form to query responders on NEC's, training courses, or other areas they should be detached and properly identified at this time unless special arrangements have been made to machine process the answers.

At this time the activity log (containing the name, BuPers Activity Code, and PRL processing code in addition to the on board count from the EDP run) should be completed by noting the number of returns received by personnel category and the date the returns were received. Also at this time the PRL processing code should be noted on each enlisted form.

Next the officer form should be reviewed. All comments on specific items in the enlisted form should be summarized by item number. In this manner all comments pertinent to a given item will be drawn together and may be analyzed readily. Similarly, all general comments should be drawn together for ease of analysis. Finally, all comments recommending new items should be collected and categorized as to subject matter or functional area. After all comments have been extracted, the officer form should be filed for permanent reference.

A daily summary log and a running summary log should also be maintained. The daily summary log should contain the following information:

- (1) Date
- (2) Number of returns, in terms of activities, received on that day.
- (3) On board count by personnel category (from EDP run).
- (4) Number of returns received by personnel category.

The running summary log is simply a summary of the daily summary log.

Review of the activity log, in terms of types of activities responding, and the running summary log in terms of numbers of responses from various personnel categories will determine time for initiating processing of returns.

V. EDP PROCESSING REQUESTS

The initial request for all ratings to be updated will be for Personnel Data Extracts and for a Billet Data Extract. The only data necessary for this request will be the rating name and abbreviation. See Appendix A for an example of this request.

At this point a decision must be made either to survey the entire rating or to survey a sample of the rating. Ratings having relatively few personnel (generally less than 500 to 600) or located at relatively few ships and/or activities (generally less than 75 to 100) should be surveyed "in toto" rather than sampled.

For those ratings which are to be sampled, a suitable sample design must be developed. The sampling technique developed in PRL Report RS-63-16 produces comparatively large sized samples of relatively high validity. However, due to the desire of higher echelons to reduce the paper work imposed on the fleet it may be necessary to reduce sample sizes. This may be done in either of several ways, e.g., increasing allowable standard error or encouraging increased rate of return.

The next request will be for a "Summary Mailing List" of ships and/or shore activities to be surveyed and a set of gummed mailing labels. See Appendix B for an example of this request. The only data necessary for this request will be a list of the BuPers 10 digit Activity Codes for the activities to be surveyed.

The final request will be for a listing of survey results. The only data necessary for this request will be the title and abbreviation of the rating, the approximate number of returns to be processed, and a copy of the questionnaire with item identification information entered. The format for this request is shown in Appendix C.

C

7

PRODUCTION RUN REQUEST FORM

Machine Program Name: SNDL

Job # Used to Develop Program 000

Originator of Request J. J. Mihall

Input Data Source Attached lists of BuPers Activity Codes and SNDL

Master File.

Return Results to J. J. Mihall

8

APPENDIX C

PRODUCTION RUN REQUEST FORM

FOR: _____ Personnel Measurement Date of Request 1 September 1965
 x _____ Personnel Systems Date Received by CAD _____
 _____ New Developments Time Machined Processed
 _____ Other IN _____
 OUT

T.A. # 410000000W1

Date Returned to
Consumer

Machine Program Name: Rating Qualifications Survey Summary

Job # Used to Develop Program 14607

Originator of Request J. J. Mihall

Input Data Source Hard - copy survey forms for Damage Controlman (DC approx. 480), Electronics Technician (ET approx. 640), Radarman (RD approx. 540), Radioman (RM approx. 520), and Sonar Technician (ST approx. 800).

Number of Printed Copies 2

Return Results to J. J. Mihall

Disposition of: (a) Tapes

(b) Cards

(c) Program

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13. ABSTRACT

This memorandum reports on one phase of research directed toward the development of improved management tools for reducing cost of reviewing the "Manual of Qualifications for Advancement in Rating" (NavPers 18068) while increasing the validity of the end product.

Specifically, this memorandum presents guidelines for conducting rating qualifications surveys. These guidelines provide a degree of standardization in surveys and survey techniques which permit development of criteria for the evaluation of survey results and allow cross comparison of results between ratings.

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