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EFFICACY OF A TRAINING PRIORITIES MODEL IN AN ARMY ENVIRONMENT

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PERSONNEL AND MANPOWER TECHNICAL AREA

U. S. Army
Research Institute for the Behavioral and Social Sciences

October 1978

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The research explored the feasibility of a strategy for assigning training priorities in an Army Military Occupational Specialty (MOS 76V). Data were collected for each of the 183 tasks in the MOS from 80 supervisors and instructors on four rating scales: Task Learning Difficulty, Consequences of Inadequate Performance, Need for Immediate Performance, and most appropriate Type of Training. Additional data indicated the percentages of MOS members performing each task in the MOS.

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Data were analyzed in terms of the reliabilities of the four scales. Regression analyses were performed to establish the degree to which training priorities could be predicted from task learning difficulty, consequences of inadequate performance, need for immediate performance, and percentage of members performing. A multiple correlation coefficient of .87 was obtained between the Type of Training scale and the four predictor variables in the most parsimonious solution.

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FOREWORD

In 1975 the Army Research Institute for the Behavioral and Social Sciences (ARI) was requested by the Army Military Personnel Center (MILPERCEN) to examine for potential Army application a theoretical model of training priorities developed by the Air Force. ARI's Personnel and Manpower Technical Area tested the original model with enlisted personnel in a specific Military Occupational Specialty (MOS), as the initial research on the problem of task criticality now being investigated in ARI's Training Technical Area. The technological base research was done under Army Project 2Q762717A766.

The contents of this Technical Paper were presented at the 18th annual meeting of the Military Testing Association, October 1976.

JOSEPH ZEIDNER
Technical Director

EFFICACY OF A TRAINING PRIORITIES MODEL IN AN ARMY ENVIRONMENT

BRIEF

Requirement:

To determine whether a four-factor model for determining task criticality can be used to establish training priorities and preferred type of training for the separate tasks in an Army supply Military Occupational Specialty (MOS 76V). The four factors were Task Learning Difficulty, Task Delay Tolerance, Consequence of Inadequate Performance, and Percentage of Members of the MOS who perform the tasks.

Procedure:

Data were collected by asking 80 supervisors and instructors in MOS 76V to rate each of the 183 tasks in the MOS on task learning difficulty, task delay tolerance, and consequences of inadequate performance. These data were combined with previously collected information on the percentage of MOS personnel performing each task. Raters also judged the best type of training for each task from a list ranging from "resident school training" to "no training."

The four sets of factor data were tested to determine their efficiency in predicting supervisors' and instructors' opinions on the type of training most appropriate for each task. Statistical analysis established how well the different types of training were predicted from the four factors.

Findings:

The four-factor model can be used to develop task criticality indices for establishing training priorities in this MOS. The most parsimonious solution used the four factors to predict type of training at three levels (resident school training, other training at the unit, and no training). The most useful single variable in determining training priorities was task learning difficulty--the tasks considered hardest to learn should be taught in the most formal setting.

Utilization of Findings:

The general applicability of the model for MOS 76V, Equipment Storage Specialist, has been demonstrated in this research. Further research is needed prior to Army adaptation or implementation, in other MOS.

EFFICACY OF A TRAINING PRIORITIES MODEL IN AN ARMY ENVIRONMENT

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EFFICACY OF A TRAINING PRIORITIES MODEL IN AN ARMY ENVIRONMENT

INTRODUCTION

Deriving training priorities for different job tasks is essential to effective curriculum design. Thus, tasks are defined that should be included in, or excluded from, the instructional program. Training time and costs are reduced when only job-specific tasks are included. Another consideration is the level at which the knowledge should be imparted. The level should be related to the sophistication required for satisfactory job performance. Further savings in time and cost will result when the most favorable instructional setting for each of the various job tasks is specified.

The curriculum designer should have information on the instructional modality or combination of modalities most appropriate in each instance. Will the task be taught better in a resident school setting or in correspondence training? Is a combination of on-the-job training and correspondence appropriate? The timespan that elapses from the actual training to the point of application of the knowledge acquired has to be evaluated. If the timespan is such that the knowledge acquired in the training course is archaic, or forgotten by the job incumbent at the point of application, then it should be excluded from the training curriculum.

An adequate system of establishing training priorities will determine what should be included in the training curriculum and the level at which the training should be conducted. In addition, it should identify when the training should occur and what is the most advantageous training strategy. From a training viewpoint, an adequate system of establishing training priorities will determine what knowledge should be taught and at which level, and where and when the knowledge should be imparted. Technical training objectives can then be adequately assessed by such a system, under the seasoned judgment of training specialists, and reviewed according to given doctrine and training policies.

The training priorities model used in this research was adapted from the task criticality model developed in the U.S. Air Force.[1] Research results indicated the potential utility of a four-factor model of establishing training priorities. These four factors were Task Learning Difficulty (TLD), Consequences of Inadequate Performance (CIP), Task Delay Tolerance (TDT), and Percentage of Members (PCT) who perform the task in a particular Military Occupational Specialty (MOS). These factors are

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[1]Mead, D. F. Determining Training Priorities for Job Tasks. Paper presented at the 17th Annual Conference of the Military Testing Association, Indianapolis, Ind., 16-19 September 1975.

similar to those recognized in designs for human engineering.[2] The purpose of this research was to explore the potential value of a revised version of the model for Army application.

PROCEDURE

As a result of an operational requirement, the MOS selected for a test of the utility of the four-factor model was 76V, Equipment Storage Specialist. A task list and rating scales were developed and administered to a representative sample of 80 supervisors and instructors in this MOS. This sample was used for exploratory purposes, and the collected judgments were assumed to be qualified responses based on direct experience and participation.

The task list consisted of 183 tasks defined by the Army Military Personnel Center (MILPERCEN) from the Comprehensive Occupational Data Analysis Program (CODAP) survey booklets (Appendix A). The task list contained only those tasks that were performed by personnel in grades up through E-5 and excluded those duties that were strictly military in nature.

Scales were developed to measure three of the four factors--TDT, TLD, and CIP--to obtain judgments on the type of training considered most appropriate for each task. Results of these measures, plus information on the fourth factor (PCT), constituted the variables used in analyzing the predictive effectiveness of the four-factor model.

Task Rating Scales

Four scales (Appendix B) were developed. One rating scale was the training priority criterion measure. The other three involved measurement of variables considered to be predictive of the training priority evaluation (i.e., TDT, TLD, CIP).

Type of Training. The type of training scale--the criterion measure --required the rater to evaluate the 183 tasks on a 5-point scale as to the type of training considered most appropriate for each task. The rating categories were as follows:

1. No training required,

2. On-the-job training (OJT),

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[2]Lintz, L. M., Loy, S. L., Hopper, R., & Potempa, E. W. Relationship Between Design of Avionics Subsystem Cost, Training Difficulty, and Job Performance (AD 759 583). St. Louis, Mo.: McDonnell Astronautics Company, 1972.

3. Formal unit training,

4. Nonresident school training, and

5. Resident school training.

The raters were informed that the scale was a measure of the most appropriate type of training for the successful performance of a task. Each rater was asked to select the one option of the five judged to be the best method of training for that task. The training categories are defined in terms of increasing levels of structured, well-developed teaching methods.

Task Learning Difficulty. This scale was defined as "measure of the need for lengthy systematic training before a new member of the appropriate Army specialty could perform the task adequately." The scale was defined further in terms of the "difficulty involved in picking up the task on the job without any systematic training." This scale was a 7-point scale.

Consequences of Inadequate Performance. This scale was defined as a measure of the probable consequences of inadequate performance of a task. The instructions stated that such consequences could be possible injury or death, wasted supplies, damaged equipment, or wasted man-hours of work. A 7-point scale was used. The scale value of 1 corresponded to the least serious consequences of inadequate performance defined as "extremely low--if the task is not done correctly, the possible consequences of inadequate performance are negligible." The high end of the scale, corresponding to a scale value of 7, was defined as "extremely high--if the task is not done correctly, the possible consequences of inadequate performance are disastrous."

Task Delay Tolerance. This scale was defined as a measure of how much delay of task performance can be tolerated between the time the soldier becomes aware that the task must be performed and the time at which he must start doing it. In other words, does he have to perform the task immediately? Does he have time to call his supervisor? Does he have time to read a field or technical manual? Or, will the time permit his actually being taught how to perform the particular task? The ratings were obtained on a 7-point scale; the scale value of 1 was defined as "extremely low--the task must be performed immediately whenever it is encountered." The scale value of 7 was defined as "extremely high--task performance is almost never urgent."

Subjects

Subjects were 80 noncommissioned officers (NCOs) in MOS 76V, Equipment Storage Specialist. These NCOs were instructors or supervisors. In the sampling plan, an attempt was made to obtain a sample as representative as possible in terms of both geographical location and type of unit

(i.e., operational type unit, or support unit such as a supply depot). Table 1 shows the number of subjects at each location. Overseas locations were not used because of the time constraints.

Table 1

Location and Presentation Group of Subjects

Location	Presentation Group 1	2	3	4	5	Total
Fort Ord	2	1	1	1	1	6
Fort Hood	2	2	2	2	2	10
Fort Devens	0	2	1	1	0	4
Fort Lee	5	5	5	5	5	25
Letterkenny Army Depot, Pa.	2	1	1	1	2	7
Fort McClellan	1	1	2	2	1	7
Fort Campbell	2	2	2	1	2	9
Fort Jackson	1	2	2	2	1	8
Fort Bragg	1	1	1	1	0	4
Total	16	17	17	16	14	80

Administration

Subjects were divided into five groups on the basis of order of administration of the scales. The orders of presentation of the scales are shown in Table 2. Subjects in four groups were required to rate the tasks on the four scales in the order shown and were not allowed to refer to the ratings given to a task on a scale completed earlier than the one which they were then completing. In the fifth group, all the scales were presented simultaneously, and subjects were required to rate each task on all four scales before proceeding to the next. After completion of the rating tasks, subjects were required to complete a questionnaire containing items dealing with training and personnel management.

Table 2

Order of Presentation of the Rating Scales to Each of the Five Groups of Subjects

Group	Order of presentation 1	2	3	4
1	TOT	TLD	TDT	CIP
2	TLD	TDT	CIP	TOT
3	TDT	CIP	TOT	TLD
4	CIP	TOT	TLD	TDT
5	(Each task rated on all scales before continuing to the next task)			

Note. TOT = Type of Training.
TLD = Task Learning Difficulty.
TDT = Task Delay Tolerance.
CIP = Consequences of Inadequate Performance.

After completing the rating tasks and questionnaire, the subjects were interviewed either individually or in groups. The interview was unstructured but focused on such issues as the adequacy of the task list, problems encountered in the rating task, personnel utilization practices, and possible improvement of training.

RESULTS

Data were first analyzed to determine the reliability or the amount of agreement among the raters for each of the three predictive scales. These reliabilities were computed using the data from all 80 subjects.

The reliability estimate was derived from the CODAP program. For the Task Learning Difficulty scale it was .92, the highest reliability estimate obtained. Reliability estimates of .75 and .72 were obtained for the Consequences of Inadequate Performance and the Task Delay Tolerance, respectively. A possible explanation of the relatively low reliabilities of these two scales is that the instructions may have been somewhat ambiguous. Also, values on the Task Delay Tolerance scale were reversed in comparison with the other two scales. In other words, 1 on

this scale was encoded for "extremely low--the task must be performed immediately whenever it is encountered." Thus the most important task on this scale had a value of 1 whereas the most important value was 7 on the other two scales.

After the reliability estimates among raters for each of the four scales were established, the mean rating given each task by those who rated that task was computed for each of the four scales. The mean rating for the Type of Training scale was computed for a 3-point scale in which a value of 3 was assigned to a rating corresponding to "resident school training." A value of 2 was assigned to those tasks for which the rater evaluated the training method most appropriate as being in one of the three following categories: on-the-job training, formal unit training, and nonresident school training. A value of 1 was encoded for the evaluative category corresponding to "no training required."

A second Type of Training scale was a 5-point scale. The scale values were derived by assigning a value of 5 to the category corresponding to "resident school training," a value of 4 to "formal unit training," a value of 3 to "nonresident school training," a value of 2 to "on-the-job training," and a value of 1 to "no training required."

A third Type of Training scale value was generated by assigning a value of 1 to those tasks where the majority of the raters felt that resident school training or formal unit training was most appropriate, and a value of 0 to all other tasks.

The fourth factor of the model and the final variable in the analyses was the percentage of members of the MOS who perform each task (PCT). These data were acquired from previously collected information processed by CODAP.

Three other variables were generated in accordance with the procedure outlined by Mead (Mead, 1975). These variables were the TLD percent values, the squared TDT values, and the squared PCT values. Generation of these new variables appeared desirable to investigate their possible utility in an Army setting. The correlation matrix resulting from the 10 variables is shown in Table 3.

Six analyses of regression were performed, using ratings on the Type of Training scale as the criterion (Table 4). In the first two analyses, as stated previously, the ratings were trichotomized; in the second two analyses, a 5-point scale was used; and in the third two analyses, a dichotomized scale was used as the criterion variable. The first analysis in each pair used four predictor variables: three of these variables were the average ratings of each task on the TLD scale, CIP scale, the TDT scale, and the fourth variable was the percentage of incumbents performing (PCT) each task in the MOS. The second analysis in each pair of analyses employed three generated variables. One of these generated variables was the value of the TLD variable if less than 5% of the members performed the task; otherwise, a value of zero was assigned to the value

Table 3

Correlation Among the Three Types of Training Scales and the Seven Predictor Variables

Variable	TOT 3	TOT 5	TOT 1	TLD	CIP	TDT	PCT	TLD PCT	TDT SQ	PCT SQ
TOT 3	1.00	.97**	.62**	.87**	.51**	-.11	-.32**	.13*	-.12	-.27**
TOT 5		1.00	.67**	.88**	.52**	-.12	-.38**	.14*	-.12	-.34**
TOT 1			1.00	.50**	.30**	-.01	-.22**	.18*	-.01	-.21**
TLD				1.00	.56**	-.11	-.39**	.15*	-.13*	-.33**
CIP					1.00	-.59**	-.16*	.02	-.61**	-.19**
TDT						1.00	-.17*	.18**	-.99**	.09
PCT							1.00	-.35	-.16*	.94**
TLD PCT								1.00	.17*	-.20**
TDT SQ									1.00	-.08
PCT SQ										1.00

Note. TOT 3 = Three-point Type of Training Scale.
TOT 5 = Five-point Type of Training Scale.
TOT 1 = Two-point Type of Training Scale.
TLD = Task Learning Difficulty.
CIP = Consequences of Inadequate Performance.
TDT = Task Delay Tolerance.
PCT = Percent of Members Performing.
TLD PCT = Task Delay Tolerance value if PCT < 5% of PCT; otherwise 0.
TDT SQ = Task Delay Tolerance Squared.
PCT SQ = Percent of Members Performing Squared.

*p < .05.
**p < .01.

of the variable for that task. The two other variables were the squared TDT ratings and the squared PCT values for each task.

The beta weights obtained in each of the six analyses are shown in Table 4 accompanied by the corresponding multiple correlation coefficients and the squared multiple correlation coefficients.

The highest multiple correlation coefficient was obtained using the 5-point Type of Training scale as the criterion, and using all seven predictor variables. However, there was only a negligible increase in this instance, as compared with the result obtained in using the four original variables. Also, a negligible difference existed between the multiple correlation of the 3-point Type of Training scale and the 5-point Type of Training scale, and the difference in predicting the former from the four or the seven predictor variables was not of substantial importance. A substantial difference was evident when attempts were made to predict the dichotomized Type of Training rating from either the four or from the seven prediction variables. It appears that the most parsimonious solution can be achieved by predicting the trichotomized Type of Training scale from the four original variables.

The results of the interviews indicated that the task listing and instructions for the use of the scales were adequate. However, there appeared to be some problem with the scale reflecting Task Delay Tolerance. As noted previously, this scale was reversed in terms of importance from the direction of the other scales. The problem of being assigned to duty in an MOS other than their primary MOS was of concern to some of the NCOs, particularly in view of the fact that they were required to take their proficiency test in their primary MOS. Many NCOs were trained in this MOS by on-the-job training (OJT). Some of these NCOs were partial to the OJT training strategy. Some NCOs felt that school-acquired training was not as well utilized as it should be, because of locally developed procedures or because supervisors were not fully aware of the school curriculum. Another reason for not fully utilizing school-acquired information was that supervisors were not aware of the current curriculum in the school.

DISCUSSION

Results of this research indicated that the four-factor model of determining training priorities can have reasonable application to MOS 76V, Equipment Storage Specialist. The single most useful variable in determining training priorities was the Task Learning Difficulty scale. Tasks that are rated as difficult to learn are judged better taught in a more formal environment. Again, the most parsimonious approach to assessing tentative training priorities appears to result from segmenting Type of Training into a 3-point scale that corresponds to resident school instruction, other types of training, and no training. The four basic variables (Task Learning Difficulty, Consequences of Inadequate Performance, Task Delay Tolerance, and Percentage of Members Performing) are highly

Table 4

Beta Weights of the Different Variables in the Six Regression Analyses for Predicting Training Priorities

Variable	Type of Training 3-point scale		Type of Training 5-point scale		Type of Training 2-point scale	
TLD	.85644	.85186	.83094	.83393	.44552	.46658
CIP	.04597	.05615	.05028	.07647	.11853	.11459
TDT	.01765	-.35526	-.00236	1.25900	.10873	-.48737
PCT	.01909	-.07334	-.04890	-.08289	-.00728	.35399
TLD PCT		-.00576		-.00380		.14626
TDT SQ		.37276		1.27285		.60386
PCT SQ		.09161		.02835		-.32794
R	.87330**	.87393**	.88019**	.88392**	.51012**	.53106**
R^2	.76266	.76375	.77473	.78131	.26022	.28203

Note. TLD = Task Learning Difficulty.
CIP = Consequences of Inadequate Performance.
TDT = Task Delay Tolerance.
PCT = Percentage of Members Performing.
TLD PCT = TLD of $\leq$ 5%; otherwise TLD.
TDT SQ = TDT Squared.
PCT SQ = Percentage of Members Performing, Squared.

*p < .05.
**p < .01.

predictive of the Type of Training when categorized in this fashion. There is no apparent need for the three generated variables, since they do not add sufficiently to the prediction equation.

The relatively low correlations of the Task Delay Tolerance scale with the Type of Training criterion scales may be attributed to possible rater confusion because this scale had step values that were reversed in comparison with the Task Learning Difficulty scale and the Consequences of Inadequate Performance scale. Further research could be conducted to determine whether this scale has greater utility when the step values are in the same direction as the other scales.

Other analyses of the data obtained in this research will aim toward isolating the differences in the ratings provided by supervisors and instructors, as well as differences that may be attributable to the order of presentation of the scales. It would be interesting to explore the increase in prediction that may result from different scaling strategies. It is recommended that the utility of the four-factor model be examined in other MOS before the system is recommended for operational use in the Army.

SUMMARY

The purpose of this research was to explore the feasibility of a strategy for assigning training priorities in an Army supply MOS. Data were collected from 80 supervisors and instructors for each of the 183 tasks in the MOS on four rating scales: Task Learning Difficulty, Consequences of Inadequate Performance, Need for Immediate Performance, and the most appropriate Type of Training. Additional data were obtained for the tasks that reflected the percentage of members performing each task in the MOS.

Data were analyzed in terms of the reliabilities of the four scales, and regression analyses were performed to establish the degree to which different types of training could be predicted from the four variables, i.e., Task Learning Difficulty, Consequences of Inadequate Performance, Need for Immediate Performance, and Percentage of Members Performing. A multiple correlation coefficient of .87 was obtained between the Type of Training scale and these four variables in the most parsimonious solution.

Additional analyses of these data will be performed to isolate certain effects that may lead to increased utility of the model. Further research will involve exploring the value of the model in other Army MOS and examining the feasibility for operational use for Army-wide application in diagnosing training or work design problems.

TASK INVENTORY	MOS 76V	PAGE 1 OF 12 PAGES

A. PERFORM SUPPLY/EQUIPMENT RECEIVING DUTIES		
1 DETERMINE RECEIVING OPERATIONS PERSONNEL REQUIREMENTS		
2 DETERMINE MATERIAL HANDLING EQUIPMENT (MHE) REQUIREMENTS		
3 ASSIGN WORK CREWS		
4 REQUEST MHE		
5 SPOT CARRIER		
6 CHECK CARRIER CONDITION		
7 CHECK/VERIFY CARRIER SEAL SERIAL NUMBER		
8 PALLETIZE INCOMING SUPPLIES		
9 UNLOAD INCOMING SUPPLIES		
10 SUPERVISE PERSONNEL UNLOADING INCOMING SUPPLIES		
11 INSPECT INCOMING SUPPLIES FOR DAMAGE		
12 TALLY-IN SUPPLIES		
13 SEGREGATE SUPPLIES		
14 REPACKAGE DAMAGED CONTAINERS		
15 REMARK DAMAGED CONTAINERS		
16 CHECK/VERIFY SHIPPING RECEIPT DOCUMENTS		
17 FORWARD RECEIPT DOCUMENTS TO DOCUMENT CONTROL		
18 MOVE SUPPLIES TO STORAGE AREA		
19 CLEAN EMPTY CARRIERS		
20 PREPARE REPORT OF ITEM DISCREPANCY		
21 PROCESS PARCEL POST RECEIPTS		

B. PERFORM SUPPLY STORAGE AND HANDLING DUTIES		
1 ASSIGN STORAGE LOCATIONS		
2 SUPERVISE PERSONNEL OPERATING MHE		
3 VERIFY STORAGE LOCATION		
4 COMPUTE MHE AND MANPOWER REQ FOR STORAGE FUNCTIONS		
5 STORE SUPPLIES IN ASSIGNED AREAS		
6 SUPERVISE PERSONNEL STORING SUPPLIES		
7 PLACE SUPPLIES ON DUNNAGE		
8 STACK PALLETIZED SUPPLIES		
9 CONSOLIDATE SIMILAR ITEMS		
10 INSPECT SUPPLIES FOR CONTAMINATION		
11 REQUEST INSECT/RODENT CONTROL MEASURES		
12 SAFEGUARD SUPPLIES		
13 SPOT-CHECK SUPPLIES FOR DAMAGE		
14 REMOVE DAMAGED ITEMS		
15 COVER SUPPLIES IN OPEN STORAGE		
16 REPORT STOCK DISCREPANCIES		
17 PREPARE BIN REPLENISHMENT REQUEST		
18 RECEIVE BIN REPLENISHMENT STOCK		
19 PREPARE STOCK LOCATION CHANGE NOTICE		
20 FORWARD CHANGE NOTICE TO STOCK LOCATOR FILE		
CONTINUED ON NEXT PAGE		

B. PERFORM SUPPLY STORAGE AND HANDLING DUTIES (CONT)		
21 STORE SENSITIVE MATERIAL		
22 STORE SPECIAL COMMODITIES		
23 PERFORM HOUSEKEEPING DUTIES		
24 PERFORM COSIS		

C. PERFORM PRESERVATION/PACKAGING DUTIES		
1 DISASSEMBLE/REASSEMBLE MINOR EQUIPMENT FOR CLEANING		
2 SELECT CLEANING PROCESS		
3 DETERMINE MATERIALS/EQUIPMENT REQUIRED FOR CLEANING		
4 DETERMINE REQUIRED CLEANING PROCESS SAFETY PRECAUTIONS		
5 CLEAN ITEMS FOR PRESERVATION/PACKAGING		
6 SUPERVISE PERSONNEL CLEANING ITEMS		
7 CHECK SOLVENT CONDITION		
8 SUPERVISE PERSONNEL HANDLING SOLVENTS		
9 TEST ITEMS FOR CLEANLINESS		
10 SELECT DRYING PROCEDURE		
11 DRY ITEMS FOR PRESERVATION/PACKAGING		
12 SUPERVISE PERSONNEL DRYING ITEMS		
13 SELECT PRESERVATION METHOD		
14 APPLY TEMPORARY TYPE PRESERVATIVES		
15 APPLY PERMANENT TYPE PRESERVATIVES		
16 SUPERVISE PERSONNEL APPLYING PRESERVATIVES		
17 INSPECT PRESERVED ITEMS		
18 COMPUTE CONTAINER MATERIAL REQUIREMENTS		
19 SELECT CUSHIONING AND DUNNAGE MATERIALS FOR PACKING		
20 APPLY PACKING CUSHIONING AND DUNNAGE MATERIALS		
CONTINUED ON NEXT PAGE		

C. PERFORM PRESERVATION/PACKAGING DUTIES (CONT)		
21 SUPERVISE PERSONNEL APPLYING PACKING/CUSHIONING DUNNAGE		
22 SELECT SHIPPING CONTAINER FOR PACKING		
23 CONSTRUCT/REPAIR CONTAINERS		
24 SUPERVISE PERSONNEL CONSTRUCTING/REPAIRING CONTAINERS		
25 REPACK SHIPPING CONTAINERS		
26 SUPERVISE PERSONNEL PACKING CONTAINERS		
27 CUT STENCILS FOR MARKING REQUIREMENTS		
28 APPLY LABELS FOR SHIPPING		
29 INSPECT LABELING OF CONTAINERS		
30 SELECT BLOCKING/BRACING MATERIAL		
31 APPLY BLOCKING/BRACING MATERIAL		
32 APPLY IDENTIFICATION MARKINGS		
33 WEATHERPROOF SHIPPING CONTAINERS		
34 SUPERVISE PERSONNEL WEATHERPROOFING SHIPPING CONTAINERS		
35 COMPUTE STRAPPING REINFORCEMENT REQUIREMENTS		
36 STRAP ITEMS FOR SHIPMENT		
37 SUPERVISE PERSONNEL STRAPPING ITEMS		
38 PERFORM ROUGH HANDLING TESTS		

D. PERFORM SHIPPING AND ISSUING DUTIES		
1 PLAN SHIPPING OPERATIONS		
2 COORDINATE SHIPPING INFO WITH OTHER STORAGE ACTIVITIES		
3 SELECT SUPPLIES FOR SHIPPING		
4 ASSEMBLE AND PREPARE LOAD FOR SHIPPING		
5 COMPUTE CUBE OF SHIPPING CONTAINERS		
6 WEIGH ITEMS TO BE SHIPPED		
7 ADDRESS SHIPPING CONTAINERS		
8 PALLETIZE SUPPLIES FOR SHIPMENT		
9 SUPERVISE PERSONNEL PALLETIZING SUPPLIES		
10 CONSOLIDATE SHIPMENTS		
11 SUPERVISE PERSONNEL CONSOLIDATING SHIPMENTS		
12 MOVE SUPPLIES TO HOLDING AREA		
13 SUPERVISE PERSONNEL MOVING SUPPLIES TO HOLDING AREA		
14 TALLY-OUT SUPPLIES		
15 CHECK CONDITION OF CARRIER		
16 LOAD CARRIER		
17 BLOCK AND BRACE SUPPLIES ON CARRIER		
18 SUPERVISE PERSONNEL LOADING CARRIER		
19 PREPARE CARGO LOAD FOR HELICOPTER MOVEMENT		
20 ANNOTATE SHIPPING DOCUMENT ENTRIES		
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D. PERFORM SHIPPING AND ISSUING DUTIES (CONT)		
21 CHECK SHIPPING DOCUMENTS		
22 DISTRIBUTE SHIPPING DOCUMENTS		
23 SPOT CHECK SUPPLIES AGAINST ISSUE DOCUMENTS		

E. PERFORM LOCATION/INVENTORY DUTIES		
1 PREPARE/FILE LOCATOR CARDS		
2 MAINTAIN LOCATOR FILE IN FIN SEQUENCE		
3 FILE LOCATOR CARDS		
4 POST LOCATOR CARDS		
5 MAINTAIN CENTRALIZED STOCK LOCATOR FILE		
6 INSTRUCT PERSONNEL IN STOCK LOCATOR NUMBERING SYSTEM USE		
7 SUPERVISE PERSONNEL MAINTAINING STOCK LOCATOR FILE		
8 POST STORAGE LOCATIONS ON DD 1348-1		
9 POST STORAGE LOCATIONS ON DD 250		
10 POST STORAGE LOCATIONS ON DA 2765		
11 POST STORAGE LOCATIONS ON DOD MAT REC DOCU (DD 1486)		
12 POST STORAGE LOCATIONS ON MAT TRANS RECORD		
13 POST STOCK DATA CHANGES TO BIN/BULK STOCKS		
14 POST STOCK DATA CHANGES TO LOCATOR RECORDS		
15 PLAN FOR INVENTORIES		
16 INVENTORY SUPPLIES		
17 SUPERVISE PERSONNEL CONDUCTING INVENTORY		
18 CONDUCT PHYSICAL LOCATION SURVEY		
19 REPORT LOCATION DISCREPANCIES		
20 REPORT INVENTORY RESULTS		
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E. PERFORM LOCATION/INVENTORY DUTIES (CONT)		
21 COMPLETE DOD PHYSICAL INVENTORY DOCUMENT (DD 1485)		
22 VERIFY NUMBER OF COUNT CARDS TO BE COMPLETED		
23 VERIFY COUNT CARD INFORMATION		
24 COMPLETE INVENTORY COUNT CARD (DA 2000)		
25 POST STORAGE LOCATIONS ON DA 2000		
26 COMPLETE INSTALLATION INVENTORY COUNT CARD (DA 2000-3)		

F. PERFORM SUPPLY STORAGE ADMINISTRATIVE/MANAGEMENT DUTIES		
1 ASSIST IN SELECTING STORAGE FACILITY		
2 ESTABLISH SUPPLY RECEIVING/ISSUING SOP		
3 COORDINATE WAREHOUSING ACTIVITIES		
4 COMPUTE NET STORAGE SPACE AVAILABLE		
5 COMPUTE SPACE REQUIREMENTS		
6 DETERMINE TYPE OF STORAGE AREA REQUIRED		
7 DETERMINE STACKING HEIGHTS		
8 COMPUTE SPACE UTILIZED		
9 PREPARE SPACE UTILIZATION REPORT		
10 PREPARE/MAINTAIN PLANOGRAPH		
11 MAINTAIN PUBLICATIONS LIBRARY		
12 MAINTAIN DOCUMENT CONTROL		
13 IMPLEMENT STORAGE PROCEDURE CHANGES		
14 COMPILE TONNAGE DATA		
15 PREPARE TONNAGE REPORTS		
16 PREPARE LINE ITEM REPORTS		
17 COMPILE STATISTICAL WORKLOAD INFORMATION		
18 MAINTAIN DOCUMENT SUSPENSE FILE		
19 FORWARD RECEIVING DOCUMENTS TO STOCK CONTROL ACTIVITY		
20 ANNOTATE DOD SINGLE LINE ITEM REL/REC DOCU (DD 1348-1)		
CONTINUED ON NEXT PAGE		

F. PERFORM SUPPLY STORAGE ADMIN/MANAGEMENT DUTIES (CONT)		
21 COMPLETE MAT INSPECTION AND RECEIVING REPORT (DD 250)		
22 COMPLETE REQUEST FOR ISSUE/TURN-IN (DA 2765)		
23 PROCESS DOD MATERIAL RECEIPT DOCUMENT (DA 1486)		
24 PREPARE MATERIAL TRANSFER RECORD		
25 FORWARD DA 3785 TO LOCATOR CONTROL ACTIVITY		
26 INITIATE REPORT OF PACKAGING AND HANDLING DEFN (DD 6)		
27 COLLECT DATA FOR STORAGE REPORTS		
28 INSTRUCT PERSONNEL IN STORAGE/MATERIAL HANDLING PROCEDURES		
29 INSTRUCT PERSONNEL IN SAFEGUARDING PROCEDURES		

G. PERFORM OPERATOR MAINTENANCE DUTIES		
1 PERFORM PREOPERATION CHECKS/SERVICES ON WAREHOUSE CRANES		
2 PERFORM DURING OPERATION CHECKS/SERVICES ON WHSE CRANES		
3 PERFORM AFTER OPERATION CHECKS/SERVICES ON WHSE CRANES		
4 PERFORM PREOPERATION CHECKS/SERVICES ON TRUCKS		
5 PERFORM DURING OPERATION CHECKS/SERVICES ON TRUCKS		
6 PERFORM AFTER OPERATION CHECKS/SERVICES ON TRUCKS		
7 PERFORM PREOPERATION CHECKS/SERVICES ON WAREHOUSE TRACTORS		
8 PERFORM DURING OPERATION CHECKS/SVCS ON WAREHOUSE TRACTORS		
9 PERFORM AFTER OPERATION CHECKS/SVCS ON WAREHOUSE TRACTORS		
10 PERFORM PREOPERATION CHECKS/SERVICES ON CONVEYORS		
11 PERFORM DURING OPERATION CHECKS/SERVICES ON CONVEYORS		
12 PERFORM AFTER OPERATION CHECKS/SERVICES ON CONVEYORS		
13 PERFORM PREOPERATION CHECKS/SERVICES ON HAND TOOLS		
14 PERFORM DURING OPERATION CHECKS/SERVICES ON HAND TOOLS		
15 PERFORM AFTER OPERATION CHECKS/SERVICES ON HAND TOOLS		
16 PERFORM PREOPERATION CHECKS/SERVICES ON OFFICE EQUIPMENT		
17 PERFORM DURING OPERATION CHECKS/SERVICES ON OFFICE EQUIP		
18 PERFORM AFTER OPERATION CHECKS/SERVICES ON OFFICE EQUIP		
19 SUPERVISE PERSONNEL PERFORMING CHECKS/SERVICES ON MHE		
20 ASSIST IN PERFORMING ORGANIZATIONAL MAINTENANCE ON MHE		
21 POST EQUIPMENT UTILIZATION RECORD (DA 2400)		
22 POST DAILY/MONTHLY EQUIPMENT LOG (DA 2408-1) 22		

APPENDIX B

TASK RATING SCALES

Subjects were given a copy of the task inventory. Subjects in Groups 1-4 were given one rating scale at a time, on separate sheets, and asked to rate each task of the inventory according to instructions on the scale. Subjects in Group 5 were given all rating scales at once and asked to rate each task on all four scales before going on to the next task. Answers were marked on separate answer sheets.

TYPE OF TRAINING

This scale is a measure of the most appropriate type of training for the successful peformance of a task. Each task is to be assigned one of the following five options which in your judgment seems best:

1. No training required
2. On-the-job training
3. Formal unit training
4. Nonresident school training
5. Resident school training

TASK LEARNING DIFFICULTY

This scale is a measure of the need for lengthy, systematic training before a new member of the appropriate Army specialty could perform the task adequately. It may be thought of as the difficulty involved in "picking up" the task on the job without any systematic training. Each task is to be rated on a scale from 1 (Least Difficult to Learn) to 7 (Most Difficult to Learn) with intermediate levels defined as follows:

1. Extremely Low--No training is required to perform the task.
2. Low
3. Somewhat below average
4. Average
5. Somewhat above average
6. High
7. Extremely high--Lengthy, systematic training is essential to perform the task.

CONSEQUENCES OF INADEQUATE PERFORMANCE

This scale is a measure of the seriousness of probable consequences of inadequate performance of a task. It is defined in terms such as possible injury or death, wasted supplies, damaged equipment, and wasted man-hours of work. Each task is to be rated on a scale from 1 (Least Serious Consequences of Inadequate Performance) to 7 (Most Serious Consequences of Inadequate Performance) with intermediate levels defined as follows:

1. Extremely low--If the task is not done correctly, the probable consequences of inadequate performance are negligible.
2. Low
3. Somewhat below average
4. Average
5. Somewhat above average
6. High
7. Extremely high--If the task is not done correctly, the probable consequences of inadequate performance are disastrous.

TASK DELAY TOLERANCE

This scale is a measure of how much delay of task performance can be tolerated between the time the soldier becomes aware that the task must be performed and the time he must begin doing it. Must the soldier begin immediately, or does he have time to consult a manual, seek guidance, or even be taught to do it? Each task is to be rated on a scale from 1 (Least Task Delay Tolerance) to 7 (Most Task Delay Tolerance) with intermediate levels defined as follows:

1. Extremely low--The task must be performed immediately whenever it is encountered.
2. Low
3. Somewhat below average
4. Average
5. Somewhat above average
6. High
7. Extremely high--Task performance is almost never urgent.

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