

DOCUMENT RESUME

ED 242 927

CE 038 748

**AUTHOR** Harman, Joan  
**TITLE** Training for Skill Qualification Testing. Technical Report 549.  
**INSTITUTION** Army Research Inst. for the Behavioral and Social Sciences, Alexandria, Va.  
**REPORT NO** ARI-TR-549  
**PUB DATE** Nov 81  
**NOTE** 33p.  
**PUB TYPE** Reports - Research/Technical (143)  
**EDRS PRICE** MF01/PC02 Plus Postage.  
**DESCRIPTORS** Comparative Analysis; \*Diagnostic Tests; Educational Needs; Measurement Techniques; \*Military Personnel; \*Military Training; Needs Assessment; Postsecondary Education; \*Pretesting; Program Effectiveness; \*Student Evaluation; \*Testing Programs; Test Validity; Trainees  
**IDENTIFIERS** Army; \*Skill Qualification Test

**ABSTRACT**

A study evaluated the effectiveness of pretesting infantry soldiers scheduled to take written Skill Qualification Tests (SQT) in order to determine their training needs prior to official testing. During the study, researchers developed and field-tested a pretest for the SQT that was based on the 11B1 Infantryman Soldier's Manual and the 1980 SQT Notice. They administered the validated pretest to enlisted personnel stationed at Fort Bragg and Fort Meyer. Upon completion of the project, participants received immediate feedback about their pretest performance and their units received summaries of troops' results. The pretested soldiers performed better on the written SQT than did the soldiers who were not pretested. Based on these results, it was concluded that developing and administering pretests as training for written SQTs could save training time devoted to tasks soldiers already know, could supplant post-SQT remedial training, and could reduce soldiers' test anxiety.  
(MN)

\*\*\*\*\*  
\* Reproductions supplied by EDRS are the best that can be made \*  
\* from the original document. \*  
\*\*\*\*\*

Technical Report 549

ED242927

# TRAINING FOR SKILL QUALIFICATION TESTING

Joan Harman

## TRAINING TECHNICAL AREA

U.S. DEPARTMENT OF EDUCATION  
NATIONAL INSTITUTE OF EDUCATION  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.



U. S. Army

Research Institute for the Behavioral and Social Sciences

November 1981

Approved for public release; distribution unlimited.

U. S. ARMY RESEARCH INSTITUTE  
FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the  
Deputy Chief of Staff for Personnel

JOSEPH ZEIDNER  
Technical Director

L. NEALE COSBY  
Colonel, IN  
Commander

---

NOTICES

DISTRIBUTION: Primary distribution of this report has been made by ARI. Please address correspondence concerning distribution of reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, ATTN: PERI-TST, 5001 Eisenhower Avenue, Alexandria, Virginia 22333.

FINAL DISPOSITION: This report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.



20. Developing and administering pretests as training for written Skill Qualification Testing could save training time devoted to tasks soldiers already know, could supplant post-SQT remedial training, and could reduce soldiers' test anxiety.

**Technical Report 549**

# **TRAINING FOR SKILL QUALIFICATION TESTING**

Joan Harman

Submitted by:

Stanley F. Bolin, Acting Chief  
TRAINING TECHNICAL AREA

Approved by:

Milton S. Katz, Acting Director  
TRAINING RESEARCH LABORATORY

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES  
5001 Eisenhower Avenue, Alexandria, Virginia 22333

Office, Deputy Chief of Staff for Personnel  
Department of the Army

November 1981.

---

Army Project Number  
2Q263743A794

Education and Training

Approved for public release; distribution unlimited.

ARI Research Reports and Technical Reports are intended for sponsors of R&D tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Brief. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or Disposition Form.

---

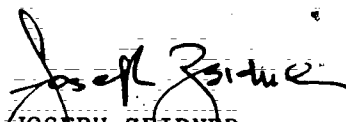
## FOREWORD

---

The Training Technical Area of the US Army Research Institute for the Behavioral and Social Sciences (ARI) has actively pursued a program of research in support of the systems engineering of training. A major focus of this research is to develop the fundamental data and technology necessary to field integrated systems for improving individual job performance. Such systems include Skill Qualification Testing, job performance aids, training courses in schools and in the field, performance criteria and management and feedback systems.

Training for the Skill Component, the written part of Skill Qualification tests, tends to vary widely from unit to unit. In addition, at the time this research was conducted (1981) it was on this component of Skill Qualification Tests that soldiers performed least successfully.

This report describes a method for training soldiers scheduled to take written Skill Qualification Tests. The method employs diagnostic pretests which can be developed and administered by battalion level training personnel. The pretest method resulted in superior test performance. Results of this research have implications for individuals concerned with preparation for a variety of written tests.

  
JOSEPH ZEIDNER  
Technical Director



## TRAINING FOR SKILL QUALIFICATION TESTING

### BRIEF

---

#### Requirement:

To determine the effects of administering a diagnostic pretest on soldiers' SQT performance.

#### Procedure:

A pretest entitled Skill Qualification Training Diagnostic was made up from the 11B1 Infantryman Soldier's Manual and 1980 SQT Notice. After field validation, locally developed Scorable Units were intermixed with Scorable Units drawn from the 1980 Skill Component for enlisted infantrymen. Within each 1980 Skill Component Scorable Unit, test questions were scrambled and answer choices for each question were scrambled to prevent test compromise. Participants were not informed that 1980 Skill Component material was part of the Skill Qualification Training Diagnostic. The pretest was administered to infantry soldiers at Ft. Myer and Ft. Bragg. They received immediate feedback about pretest performance and their units received summaries of their troops' results.

#### Findings:

1. Scorable Units developed from the SQT Notice and Soldier's Manual closely resembled Scorable Units in the 1980 Skill Component.
2. Soldiers performed at about the same level on locally-developed material as on 1980 Skill Component material.
3. Pretesting permitted trainers to distinguish tasks that needed concentrated training from tasks on which soldiers were already proficient.
4. Pretested soldiers performed better on the official 1980 Skill Component than did non-pretested soldiers.

#### Utilization of Findings:

Developing and administering pretests to troops scheduled to take Skill Qualification Tests could save training time spent on tasks soldiers already know, could supplant post SQT remedial training, and could reduce soldiers' test anxiety.

TRAINING FOR SKILL QUALIFICATION TESTING

CONTENTS

---

	Page
INTRODUCTION . . . . .	1
OBJECTIVES . . . . .	2
METHOD . . . . .	2
RESULTS . . . . .	4
CONCLUSIONS . . . . .	9
APPENDIX . . . . .	13

TABLES

Table 1. Percent of Soldiers Who Scored GO on Locally Developed and SC Questions on the SQTD . . . . .	5
2. Differences Between Pretest and SQT Performance . . . . .	8
3. Differences Between Pretested and Non-Pretest Soldiers who scored GO on the SC . . . . .	10
4. Differences Between Pretested Old Guard Soldiers and Non-Pretested Army-wide Infantrymen who scored GO on the SC . . . . .	11

FIGURES

Figure 1. Percent of Soldiers GO on the SQTD Pretest . . . . .	7
--	---

## TRAINING FOR SKILL QUALIFICATION TESTING

### INTRODUCTION

The Skill Qualification Test (SQT) program is a relatively new one. It was introduced in 1977 and is still undergoing development and revision. Its principal instruments are performance-based, criterion-referenced tests of tasks critical to soldiers' duty positions--tasks detailed in Soldier's Manuals. Test results are intended to be used to diagnose individual training needs, and to direct training and personnel management.

SQTs are typically broken down into three components: on-the-job testing called the Job Site Component, hands-on testing called the Hands-on Component, and written testing called the Skill Component. The Job Site Component includes such tasks as marksmanship and physical fitness. Supervisors judge their soldiers' proficiency after observing performance during normal practice sessions. The success rate for performance on this component has been remarkable, with scores of 100% commonly found. The Hands-on Component tests actual performance of selected critical tasks such as operating a field telephone or putting on a protective mask. Success on this component too has been widespread. The written portion of the test, the Skill Component, has achieved the lowest success rate of the three components. It is with the written component of the SQT that this research deals.

The Skill Component (SC) is made up of tasks that are impractical, and sometimes impossible, to test in a hands-on form. For example, map reading is a logical candidate for written testing and so is calculating the velocity of a stream. One way to account for the lower success rate for the SC may be by examining the way many soldiers prepare for it compared to the way they prepare for the Hands-on Component.

Sixty days prior to scheduled testing, soldiers are provided with an SQT Notice that informs them, in substantial detail, about the tasks that will be tested in all three components. For the Hands-on Component, SQT Project Officers are responsible for setting up and equipping test stations for each task listed. Soldiers who are to be tested practice the tasks at the stations at which they eventually will be tested. As they complete each task, proctors tell them if the performance was successful; i.e., if they scored GO or NO GO. When soldiers finally take this component for record, they are performing familiar tasks in a familiar environment.

To prepare for the SC, soldiers are encouraged to study their Soldier's Manuals. In some units they may also attend lectures about material to be tested or do hands-on practice for the SC. A better way, however, to prepare soldiers to take the written test may be to imitate the form of preparation for the Hands-on-Component--to prepare to perform familiar tasks in a familiar environment. The suggestion here is that the way to prepare to take a written test is by taking a written test.

To explore this hypothesis, written pretests were administered to basic infantry soldiers. They were provided with immediate feedback about test performance and each participant was equipped with a record

of his performance. In addition, each unit was provided with a summary of their troops' results. The pretest administered was called Skill Qualification Training Diagnostic (SQT) because it was intended to diagnose training needs prior to formal Skill Qualification Testing.

#### OBJECTIVES

The objectives of this research were to test the effects of:

1. diagnosing training needs prior to SQT administration
2. shifting emphasis from remedial training (post SQT) to pretraining (pre SQT)
3. reducing artifactual error in the testing process
4. developing test items from SQT Notices and Soldier's Manuals.

#### METHOD

##### Subjects

More than 1000 11B noncommissioned officers (NCOs) and enlisted men stationed at Ft. Bragg and Ft. Myer participated in this research. NCOs participated in order to become familiar with testing procedures and to learn in which areas their troops needed training. The data analysis in this report includes only those enlisted personnel for whom official SQT scores were made available.

##### Test Development

Using SQT Notice 11B 2180(AC)TR1/2N and Soldier's Manual FM 7-11B1/2 dated 7 July 1978, test items were developed that covered all 12 tasks to be included in the 1980 Skill Component for 11B1 soldiers. Every effort was made to duplicate style, format, and language common to prior years' written SQTs for basic infantry soldiers. Items developed were used during the validation phase of this research and, after minor revision, during the main data-gathering phase.

Field SOPs were developed for both validation and SQT construction phases of the research (see appendix). Answer sheets for validation were locally developed (see appendix). Mark sense answer sheets, the same answer sheets used for the official SQT, were obtained from the Army Training Support Center for use during the data gathering phase.

##### Test Validation

Sixty-nine soldiers assigned to the 11B10 Military Occupational Specialty (MOS) participated in this effort. Test items were typed individually on 5 x 8 index cards. In an interview format, the items were presented to

soldiers one at a time and each was asked to comment on the content of the item and whether it tapped information critical to the 11B1 MOS. At the end of the interview, each soldier was presented with a record of his performance (see appendix) that could be used to direct his training for the SC. An item analysis was performed on these data and items were modified in accordance with indicators that emerged.

#### SQTD Construction

The twelve Scorable Units (groups of questions under single task headings) locally developed from the SQT Notice and Soldier's Manual were intermixed with twelve Scorable Units taken from the 1980 Skill Component. Besides intermixing the task groupings, 1980 Skill Component items under each task heading were scrambled and the answer choices following each item were scrambled to prevent test compromise. Participants were not informed that that SC questions were included in the SQTD. Official SC questions were included to permit a comparison of locally developed questions with official SC questions in terms of effects on 1980 SC performance.

The 24 Scorable Units (12 locally developed and 12 official) were separated into 4 test booklets each of which included half of the tasks to be tested in the 1980 written SQT. Booklets 1 and 2, therefore, covered exactly the same tasks, but, generally, included different questions on those tasks (in some cases, questions developed from the Notice and Soldier's Manual turned out to be the same questions included in the 1980 SC). The same was true of booklets 3 and 4. The decision to use only half of the full number of tasks for each session was based on the desire to confine sessions to one hour each (15 min. introduction, 30 min. testing, 15 min. feedback). Each booklet was made up in the Skill Component format. Each was headed by a cover sheet that was followed by a sheet providing instructions about the way to take the test, sample questions, and a sample answer sheet.

The following tasks were included in the 1980 SC for Track 1 infantrymen:

- 1 - Perform mouth-to-mouth resuscitation and external heart massage
- 2 - Apply first-aid for wet or cold injuries
- 3 - Identify a chemical agent using ABC-M8 Detector Paper
- 4 - Administer antidote to blood-agent casualty
- 5 - Move as a member of a fire team
- 6 - Select temporary battlefield positions
- 7 - Use visual signals to control movement (dismounted)
- 8 - Identify terrain features (natural and manmade) on the map
- 9 - Determine the grid coordinates of a point on a military map using the military grid reference system

- 10 - Conduct a preoperational inspection of the Dragon tracker and round
- 11 - Perform immediate action procedures for a Dragon misfire
- 12 - Neutralize enemy mines

In future sections, these tasks will be identified by number.

## RESULTS

### Pretest Development

Test questions developed by using the SQT Notice and Soldier's Manual proved to be a good match with questions in the 1980 Skill Component. In the case of tasks 3, 7, 8 and 9, description of material to be tested which was offered in the SQT Notice was detailed enough to permit both sets of questions to be essentially identical. Therefore, one-third of a locally developed pretest prepared without exposure to the 1980 SC exactly matched the SC. Questions developed to pretest tasks 1, 2, 4, 5, and 12 were similar to those in the SC. That is, they tended to tap the same information needed to answer SC questions. Questions developed for tasks 6, 10 and 11 were substantially different from questions on these tasks in the SC. It seems reasonable to assume, however, that if soldiers were unable to answer questions on any part of a task, a thorough review of the whole task would be needed before record testing. That is, the assumption was made that good or poor performance on locally developed Scorable Units which differed from Units in the SC would be a valid indicator of preparation needs. Table 1 compares soldiers' performance on ARI-developed questions with those of the 1980 SC used in the SOTD.

Table 1

Percent of Soldiers Who Scored GO on Locally  
Developed and SC Questions on the SQTD

TASK No.	ARI % GO	N	SC % GO	N	z
Old Guard					
1	66	(99)	51	(83)	+2.05*
2	84	(56)	87	(114)	-.53
3	50	(114)	41	(56)	+1.09
4	4	(99)	6	(83)	-.62
5	10	(99)	22	(83)	-2.22*
6	93	(83)	75	(99)	+3.27*
7	91	(56)	94	(114)	-.71
8	31	(99)	43	(83)	-1.69
9	48	(114)	45	(56)	+.37
10	25	(114)	34	(56)	-1.22
11	47	(83)	38	(99)	+1.23
12	32	(56)	20	(114)	+1.71

$\bar{X} = 48$   
SD = 30

$\bar{X} = 46$   
SD = 27

82d Airborne

1	65	(51)	62	(42)	+.29
2	89	(63)	75	(68)	+2.09*
3	38	(68)	40	(63)	-.24
4	14	(42)	10	(51)	+.60
5	26	(42)	18	(51)	+.94
6	80	(51)	88	(42)	-1.04
7	92	(63)	87	(68)	+.94
8	48	(42)	47	(51)	+.10
9	44	(68)	29	(63)	+1.78
10	43	(68)	46	(63)	+.35
11	63	(51)	59	(42)	-.40
12	6	(63)	9	(68)	-.65

$\bar{X} = 51$   
SD = 28

$\bar{X} = 47$   
SD = 28

\*  $p < .05$

$z = 1.96$  (2 tailed)



The top half of Table 1 displaying performance by Old Guard soldiers shows no significant differences between locally developed and SC questions for the majority of tasks ( $r = .94$ ). The lower half of the Table showing performance by 82d Airborne soldiers shows a similar correspondence between ARI and SC tasks ( $r = .97$ ). However, scoring procedures for ARI-developed questions were calibrated, on the basis of Old Guard data, so that performance on both locally developed and official SC questions would correspond. That is, scoring for 82d Airborne soldiers was relaxed for ARI questions that had been shown to be more difficult than SC questions and made more rigorous for ARI questions that were easier. Nonetheless, both halves of Table 1 show correlations close to the same values. The point here is that a pretest developed from information gathered from a SQT Notice and Soldier's Manual can predict performance on a Skill Component with a high degree of accuracy.

### Diagnostic Effects

The SQT was developed to diagnose training needs prior to formal testing. As Table 1 shows, performance by soldiers on locally developed test items closely resembles performance on the SC items. Figure 1 displays a ranking of ARI-developed scorable units from easiest to hardest for both groups of infantry soldiers.

The tasks tend to fall into 3 groups. The three tasks at the top of the figure are those on which both groups are proficient and to which little training time need be devoted. The six tasks in the center of the graph require an intermediate amount of training, and the three tasks at the bottom of the graph require the greatest concentration of training effort. The intermingling of subgroup percentages stresses the similarity of performance by both groups of soldiers with two exceptions. 82d Airborne soldiers performed better on tasks covering the medium antitank assault weapon called Dragon than did Old Guard soldiers. This outcome is not surprising, however, since Old Guard infantry soldiers do not work in their MOS and are not equipped with Dragons. Figure 1 also shows ranges of performance restricted enough so that subgroups pretested (for example, platoon level groups) fall into a ranking close to that of the mean performance values computed for the cumulated group. The indication here is that performance by small numbers of soldiers might be used effectively to predict the performance of a larger group.

### SQT Effects

It was expected that a substantially greater number of soldiers whose training needs were diagnosed by pretesting would perform better on the SC of the 1980 SQT than they had on SQT. Table 2 shows z values for these correlated proportions (these computations deal with changes from NO GO to GO corrected for changes from GO to NO GO).

The expectation was met by the great majority of the groups being analyzed. In some cases, for example tasks 2, 6, and 7 no great improvement was anticipated since most soldiers had already achieved GO on these tasks. In the case of tasks 3 and 8, a greater percentage of soldiers changed from NO GO to GO than from GO to NO GO but these percentages are not statistically significant.





Table 2

## Differences Between Pretest and SQT Performance

Task No.	ARI Items			SC Items		
	Go to No-Go	No-Go to Go	N	Go to No-Go	No-Go to Go	N
	<u>Old Guard</u>					
1	18	26	(83)	11	28	(99)
2	2	11	(26)	3	10	(114)
3	17	36	(56)	9	34	(114)
4	1	42	(83)	0	52	(99)
5	4	51	(99)	5	52	(83)
6	5	6	(83)	1	18	(99)
7	5	5	(56)	3	3	(114)
8	13	31	(99)	18	22	(83)
9	10	25	(114)	9	20	(56)
10	4	44	(114)	11	46	(56)
11	7	35	(83)	8	29	(99)
12	4	68	(56)	3	62	(114)
	$\bar{X} = 7$	$\bar{X} = 32$		$\bar{X} = 7$	$\bar{X} = 31$	
	SD = 6	SD = 19		SD = 5	SD = 18	

<u>82 Airborne</u>								
Task No.	Go to No-Go	No-Go to Go	N	z	Go to No-Go	No-Go to Go	N	z
1	23	12	(51)	+1.86	2	29	(42)	-4.84*
2	11	6	(63)	+1.21	4	19	(68)	-3.12*
3	19	22	(68)	-.31	19	29	(63)	-1.44
4	9	33	(42)	-3.70*	0	37	(51)	-6.08*
5	17	29	(42)	-1.77*	0	39	(51)	-6.24*
6	2	25	(51)	-4.42*	5	12	(42)	-1.70*
7	2	8	(63)	-1.89*	4	8	(68)	-1.16
8	17	26	(42)	-1.37	20	27	(51)	-1.02
9	13	26	(68)	-2.08	6	43	(63)	-5.29*
10	10	31	(68)	-3.28*	9	32	(63)	-4.84*
11	10	29	(51)	-3.04*	7	29	(42)	-3.67*
12	0	49	(63)	-7.00*	4	35	(68)	-4.97*
	$\bar{X} = 11$	$\bar{X} = 25$			$\bar{X} = 7$	$\bar{X} = 28$		
	SD = 7	SD = 12			SD = 6	SD = 11		

\*  $p < .05$   $z = 1.64$  (one tailed)

Another approach to measuring SQT effects is to compare the percent of pretested soldiers who scored GO on each task with the percent of soldiers who were not pretested but scored GO. Table 3 shows these comparisons. These data represent performance by 82d Airborne soldiers only, since the arrangement to pretest Old Guard soldiers included an agreement to completely pretest all infantry enlisted soldiers and NCOs. There is, then, no non-pretested Old Guard comparison group. The notable point about these data is that the non-pretested groups consist of soldiers assigned to the same battalions as the pretested groups. Insofar as the SQT drove training for all enlisted infantrymen within each battalion, any comparative effects would be a function of SQT experience alone. That is, they would result from increased familiarity with the SQT testing materials and procedures (reduction of artifactual error in the testing process), and immediate feedback about performance. In the great majority of cases more pretested soldiers scored GO on the SC tasks than did non-pretested soldiers, and in eight instances these differences are significant.

The principal focus of this research was to determine whether diagnostic pretesting would improve soldiers' performance on written SQTs.

Table 4 compares official SC performance by SQT pretested Old Guard soldiers with performance by the whole population of enlisted infantrymen. Values for the Army population are adjusted to exclude pretested soldiers.

With one exception, more pretested soldiers scored GO on the SC tasks than did the population of infantry soldiers, and in 16 instances, these differences are statistically significant. The single exception is a task on which both groups of pretested soldiers were proficient prior to SQT training on the task.

In summary, this research demonstrated that diagnostic pretests developed by trainers can predict soldiers training needs even if only a sample of soldiers scheduled to take written SQTs are pretested. Most importantly, it showed that pretesting can promote better performance on written SQTs.

#### CONCLUSIONS

The use of diagnostic pretests may be the most efficient and effective way to prepare soldiers to take written SQTs. First, they can allow trainers to distinguish tasks soldiers already know from those that need intensive training and so avoid squandering limited training time. Second, these pretests shift emphasis to individual training before testing rather than posttest, remedial training, which may be difficult to schedule because of delays in receiving test results or interference resulting from cycling to collective field training. Finally, if the pretest is set up to mimic the SC environment as closely as possible, soldiers may acquire a greater feeling of mastery of the test situation which might result in better performance on the SC.

Table 3

Differences Between Pretested and Non-Pretested  
Soldiers Who Scored GO on the SC

ARI Scorable Units

Task No.	Pretested		Not Pretested		z
	% GO	N	% GO	N	
1	55	(51)	62	(444)	.97
2	87	(63)	79	(363)	+1.48
3	43	(68)	45	(363)	-.31
4	43	(42)	38	(444)	+.64
5	38	(42)	25	(444)	+1.83*
6	98	(51)	89	(444)	+2.00*
7	95	(63)	93	(363)	+.59
8	59	(42)	45	(444)	+1.75*
9	57	(68)	57	(363)	--
10	63	(68)	60	(363)	--
11	84	(51)	73	(444)	+1.69*
12	56	(63)	23	(363)	+5.50*

$\bar{X} = 65$   
SD = 21

$\bar{X} = 57$   
SD = 23

SC Scorable Units

1	88	(42)	62	(444)	+3.38*
2	87	(68)	79	(363)	+1.54
3	49	(63)	45	(363)	+.60
4	47	(51)	38	(444)	+1.29
5	51	(51)	25	(444)	+3.61* <sup>9</sup>
6	95	(42)	89	(444)	+1.22
7	96	(68)	93	(363)	+.94
8	53	(51)	45	(444)	+1.08 <sup>11</sup>
9	65	(63)	57	(363)	+1.27
10	68	(63)	60	(363)	+1.23
11	83	(42)	73	(444)	+1.41
12	40	(68)	23	(363)	+2.98*

$\bar{X} = 69$   
SD = 20

$\bar{X} = 57$   
SD = 23

\* p < .05      z = 1.64 (one tailed)

Table 4

Differences Between Pretested Old Guard Soldiers and Non-Pretested Army-wide Infantrymen Who Scored GO on the SC

Task No.	Old Guard % GO (N=56-114)	Army-Wide % GO (N=6910)	z
<u>ARI Scorable Units</u>			
1	76	63	+2.60*
2	93	82	+2.20*
3	73	47	+5.20*
4	45	41	+ .80
5	58	24	+8.50*
6	94	89	+1.67*
7	91	93	- .67
8	53	37	+3.20*
9	61	51	+2.00*
10	65	54	+2.20*
11	76	59	+3.40*
12	77	27	+8.33*

$\bar{X} = 72$   
SD = 16

$\bar{X} = 56$   
SD = 23

SC Scorable Unit

1	71	61	+2.00*
2	94	81	+3.25*
3	66	41	+2.71*
4	58	40	+3.60*
5	70	24	+9.02*
6	92	90	+ .67
7	94	93	+ .50
8	47	39	+1.60
9	54	51	+1.43
10	61	54	+1.00
11	65	60	+1.00
12	55	29	+6.50*

$\bar{X} = 69$   
SD = 16

$\bar{X} = 56$   
SD = 23

\*  $p < .05$  z = 1.65 (one tailed)

Trainers who make up diagnostic pretests would have an opportunity to review tasks less frequently practiced in their units. Also, they would be reminded of differences between local and Soldier's Manual procedures on some tasks. In addition, trainers can trade off remedial training time against time invested in making up diagnostic pretests.

## SQTD (DEVELOPMENTAL)

- Introduce self
- Identify Organization
- Describe purpose of Mini-SQT
- Describe task(s) to be performed
- Emphasize "for research, not for record"
- Fill out identifying data on Record Sheet
- Fill in task identification on participant's take-away sheet
- Display cards one by one and question participant while filling out Record Sheet:
  - "Would you please read the General Situation and try to answer the question printed on this card?" INTERVIEWER: RECORD ANSWER BY LETTER OR RECORD O IF PARTICIPANT CAN'T ANSWER
  - 1. "Is the General Situation clear/confusing?" RECORD YES OR NO
  - 2. "Is the question clear/confusing?" RECORD YES OR NO
  - 3. "Are the answers clear/confusing?" RECORD YES OR NO
  - 4. IF PARTICIPANT IS UNABLE TO ANSWER QUESTION, ASK "why not?" DESCRIBE BRIEFLY
  - 5. IF PARTICIPANT ANSWERED QUESTION, ASK "How sure are you that the answer you chose is the right one?"
    - a. I'm completely sure that's the answer
    - b. I'm pretty sure
    - c. I'm not really sure
    - d. I just guessed
  - 6. "In your opinion, is the material that this question is based on CRITICAL to your MOS? That is, do you think it's a question that should be included in your test?"
    - RECORD PARTICIPANT'S CHOICE
    - RECORD YES OR NO
  - RECORD ANY RELEVANT COMMENTS
- Provide or confirm correct answer (back of each card, lower right corner). Review question, if necessary.
- Check appropriate response category on participant's take-away sheet.
- After 6 Scorable Units are surveyed, explain information in take-away sheet to participant.
- Thank participant.

Third, also try not to skip any questions. Fill in an answer for each question as you come to it. For just about everyone taking the test, there will be more than enough time to review all of the questions.

Fourth, there is one and only one correct answer for each question. You'll know you made an error if you see that you filled in more than one circle in any row.

Finally, all of the questions in the test booklet are numbered consecutively, so that each question number exactly corresponds to the same number on the answer sheet.

Today is your opportunity to learn how to fill out the answer sheet correctly. If you have any questions about how to fill it out, don't hesitate to ask. Just signal one of the people administering or proctoring the exercise.

After you have had 30 minutes to take this exercise, we'll distribute Results Sheets like this.

#### DISPLAY RESULTS SHEET

On these sheets you can mark which questions you answered correctly or incorrectly. Take the marked up sheet with you when you leave here today.

#### DISTRIBUTE BLACK PENCILS

#### DISTRIBUTE ANSWER SHEETS

Look at the front of your answer sheet. You can see that it is arranged in blocks with large blue numbers.

#### DISPLAY FRONT OF ANSWER SHEET--POINT TO BLOCK 1.

Look along the top row of block 1. Print the letters of your last name in the white squares along the top row starting all the way over to your left.

In the column below each letter of your last name, blacken the circle containing that letter. For example, if the name I had written in along the top row were SMITH, I'd blacken the "S" circle in the first blue column, the "M" circle in the white column next to it, the "I" circle in the next blue column, and so forth. If you have any questions, please signal a proctor to help you to fill in the answer sheet.

#### WAIT FOR LAST NAMES TO BE ENCODED

Look along the top row of block 1. At the right end fill in the two white squares with your first and middle initials. Then blacken the corresponding circles in the columns below.

#### WAIT FOR INITIALS TO BE ENCODED



Look at block 2. Write your social security number in the top row and blacken the corresponding number circles underneath.

WAIT FOR SS NUMBERS TO BE ENCODED

For block number 3, fill in test number \_\_\_\_\_ in the leftmost white square in the top row and blacken the corresponding circle underneath.

WAIT FOR BLOCK 3 TO BE FILLED IN

Leave block 4 blank. For block 5, along the top row fill in 80 for the year, \_\_\_\_\_ for the month, and \_\_\_\_\_ for the day.

WAIT FOR DATE TO BE FILLED IN

Leave block 6 blank. For block 7, write your primary MOS beside the letters PMOS; for example, 11B10.

Then write your duty MOS beside the letters DMOS. Even if it is the same as your primary MOS, write it in.

At the bottom of block 7 in the space under the letters P-R-O-M-O write a number which represents your total years of formal education.

In block 8, blacken the circle beside AA.

In block 9, write your pay grade in the white blocks at the top and blacken the corresponding circles underneath.

For block 10, fill in your Unit Identification Code along the top row and blacken the circles in the columns below.

DISTRIBUTE TEST BOOKLETS

Turn to the booklet page with the heading "Skill Qualification Training Diagnostic for MOSC11B10 How to Take the Training Diagnostic."

Read along with me:

This is a multiple-choice exercise similar to those you have seen before. The booklet is divided into UNITS. There may be as many as 8 questions in each UNIT. Most of the time there will be fewer than 8 questions in a UNIT.

Only one alternative is to be selected for each question in this exercise. You are to select the best answer for each question and blacken the circle on the answer sheet that matches your selection. PLEASE DO NOT MAKE ANY MARKS IN THIS BOOKLET. Mark all answers on your answer sheet.

Look at the sample questions and the sample answer sheet at the bottom of the page. Just above the first question is a General Situation. Each set of questions covering a task in your Skill Component will be headed by a General Situation. Sample question number 1 is followed by four answer choices. As you can see from the circle filled in on row 1 of the sample answer sheet, the correct answer is C.

Questions 2 through 5 are set up in a way that it is important to become familiar with because it is the way some questions will be set up in your Skill Component. The instructions read "answer either "A" (TAKE) or "B" (NOT TAKE) to questions 2 through 5." You remember taking true/false tests in school. Well this is very much the same thing except that the Army is action oriented, so the choices involve actions you should take or not take. The sample answer sheet shows that question number 2's answer is B-NOT TAKE. Answers to questions 3 and 4 are also B-NOT TAKE and question number 5's answer is A-TAKE. Do you have any questions about how to choose an answer for questions set up like 2 through 5?

ANSWER ANY QUESTIONS

You'll have 30 minutes to work on this exercise. You can turn your answer sheet over to the side marked SC, open your booklet to the first question and start now.

TIME FOR 30 MINUTES

COLLECT BLACK PENCILS

DISTRIBUTE RED PENCILS

DISTRIBUTE RESULTS SHEETS

Look at the Results Sheet you've just received. Notice that each task that appeared in the exercise just completed is listed on the results sheet: Beside each task is a row of numbers. Each number stands for a question on the exercise--you'll notice that the numbers are consecutive. I'm going to read each question and then tell you which answer choice is correct. You'll compare the choice you selected for that question number with the one I tell you is correct. If they are the same, draw a circle around the question number on your Results Sheet. If they are different, mark an X on the question number on your Results Sheet. When we finish, you'll be able to tell from the pattern of X's and circles where you want to spend more training time. Are there any questions about marking the results sheet?

ANSWER ANY QUESTIONS

READ ALOUD:

Task Title

Question Number

Question

Correct answer and phonetic letter for that answer

AFTER THE CORRECT ANSWER FOR THE FIRST QUESTION:

"if you filled in (Phonetic Letter) on your answer sheet, draw a circle around number 1 on your results sheet. If you filled in any other letter, mark 1 with an X"

COLLECT BOOKLETS

COLLECT ANSWER SHEETS

COLLECT RED PENCILS

Keep in mind that even if you were very successful on this exercise, you can't be completely confident that you'll be equally successful on the for-record Skill Component. Only half of the for-record Skill Component TASKS were tested here, many of the questions are not exactly the same questions you'll see in the real test. We want to encourage you to be sure to get an SQT Notice and study the Soldier's Manual tasks which your SQT Notice indicates will be tested. Remember that the SQT tests the information in your Soldier's Manual. In any case in which the Soldier's Manual information is different from the way you learned to perform a task in the field, answer SQT questions according to Soldier's Manual information. Another thing your SQT Notice will tell you is how your Skill Component is scored. Your score represents the percent of Scorable Units you passed--that is, on which you got GO. Your Notice points out that it isn't always necessary to answer every question about a task correctly to score GO for that Unit. The rule is that, for Scorable Units composed on only 1, or 2, or 3 questions, all questions must be answered correctly. In the case of more than three questions in a Scorable Unit, however, the rule is any 3 out of 4, any 4 out of 5, any 5 out of 6, any 5 out of 7 and any 6 out of 8 questions in a Scorable Unit must be answered correctly to be scored GO on a particular task. Any questions?

ANSWER ANY QUESTIONS

THANK PARTICIPANTS

SQTD RECORD SHEET

DATE \_\_\_\_\_ INTERVIEWER \_\_\_\_\_

SS# \_\_\_\_\_ MOS \_\_\_\_\_ UNIT \_\_\_\_\_ TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

TASK# \_\_\_\_\_ ITEM# \_\_\_\_\_

1. (GS) \_\_\_\_\_ 2. (QUES) \_\_\_\_\_ 3. (ANS) \_\_\_\_\_ 4. (WHY NOT) \_\_\_\_\_

6. (CRITICAL) \_\_\_\_\_ COMMENTS \_\_\_\_\_

BEST COPY AVAILABLE

MINI SQT RESULTS

ry tells you about your present level of preparation on some of the tasks which will be tested in your  
 . The categories below indicate different degrees of training needs and suggest ways to continue your  
 QT.

emphasize that success in the Mini SQT does not in any way guarantee success in your for-record SQT.  
 ise serves the purpose of alerting you to training shortfalls. We urge you to study vigorously those  
 ch you feel uncertain, and thoroughly review those about which you feel confident.

A S K

CONFIDENCE/CORRECTNESS CATEGORIES

	ANSWERED INCORRECTLY		ANSWERED CORRECTLY	
	SURE OF ANSWER	UNSURE OF ANSWER	UNSURE OF ANSWER	SURE OF ANSWER
SIS	DISTINGUISH CORRECT FROM INCORRECT INFOR- MATION--STUDY/ REHEARSE CORRECT TASK INFORMATION	STUDY/REHEARSE CORRECT TASK INFORMATION	STUDY/REHEARSE TASK INFORMATION	STRENGTHEN KNOWLEDGE OF TASK

R E S U L T S

SKILL QUALIFICATION TRAINING DIAGNOSTIC #1

The brief exercise you have taken is intended to alert you to training shortfalls. We wish to emphasize that in this simulated SQT does not in any way guarantee success in your for-record SQT. We urge you to study those tasks on which you check off a substantial number of items answered incorrectly, and thoroughly those tasks on which you answered all or most items correctly.

<u>TASK #</u>	<u>TASK TITLE</u>	<u>ITEM #s</u>						
081-381-1004	PERFORM MOUTH-TO-MOUTH RESUSCITATION AND EXTERNAL HEART MASSAGE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
081-831-1017	ADMINISTER ANTIDOTE TO BLOOD-AGENT CASUALTY	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>			
071-326-0513	SELECT TEMPORARY BATTLEFIELD POSITIONS	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>		
071-329-1001	IDENTIFY TERRAIN FEATURES (NATURAL AND MANMADE) ON THE MAP	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>		
071-317-3306	PERFORM IMMEDIATE ACTION PROCEDURES FOR A DRAGON MISFIRE	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>		
071-326-0501	MOVE AS A MEMBER OF A FIRE TEAM	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>			

Answer Selected

Not Answer Selected

31  33 etc

33