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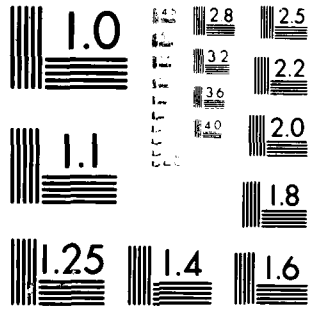
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FINAL REPORT

on

EVALUATION OF THE LEARNING STRATEGIES  
TRAINING PROGRAM

to

U.S. ARMY TRAINING  
DEVELOPMENTS INSTITUTE

April 1982

by

George Rosinger, Louis B. Myers and Girard W. Levy

APR 28 1982

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The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  The purpose of this study was to conduct a preliminary evaluation of the impact of a learning strategies program on soldier performance. The objectives of the study were to determine if Instrumental Enrichment (IE) has an influence on soldier BSEP performance, and the combined effect of IE and BSEP on soldier job performance and cognitive skills. The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation. (See reverse)		

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Qualifying Note:

Report addresses a prototype test of commercial curriculum, curriculum development, delivery and modification techniques applied under less than favorable, fully controlled evaluation circumstances in order to ascertain if immediate, large scale developmental tests should be undertaken in light of potential program costs. Additionally, early anecdotal insights concerning tested program adaptability in a military delivery context were to be acquired. Conclusions drawn in these circumstances and reported herewith should not be concluded as a fair appraisal of the curriculum and are indeed tendencious.

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INTRODUCTION

One of the major objectives of Army training is to strengthen the basic skills of soldiers who are deficient in this respect. In keeping with this objective, the Army Training Developments Institute funded an exploratory effort to evaluate a learning strategies concept developed by R. Feuerstein. Feuerstein identified 22 cognitive functions that he believed are critical to the learning process. With these cognitive functions as the basis, Feuerstein developed the Instrumental Enrichment (IE) Program. The program consists of 14 instruments which are in the form of paper and pencil exercises. Each instrument consists of exercises which are directed toward overcoming a specific cognitive deficiency (Hobbs, 1980). Another salient feature of IE is that it is designed to provide the basis for learning. The cognitive skills that the IE program is designed to teach include organizing, planning, synthesizing, problem definition, perceiving relationships, analytical thinking, and systematic searching. Experience with the program has indicated that it has had a positive impact on culturally deprived students who have had limited learning opportunities. For example, participation in the program has improved academic achievement and increased scores on standardized tests (Curriculum Development Associates).

To assess the applicability of the IE program to soldier performance, the Army introduced components of the IE program into its Basic Skills Education

Program (BSEP) at Fort Knox, Kentucky. On the basis of preliminary needs assessment work (Link, 1981), nine of Feuerstein's 14 IE instruments or workbooks were selected for incorporation into the BSEP program. In general, approximately two hours per day were spent each day throughout both the six and 12 week BSEP sessions. According to the teaching contractor\*, all but a few students completed four of the workbooks (i.e., Organization of Dots, Orientation in Space, Comparisons, and Analytical Perceptions). Some of the faster students completed additional workbooks (i.e., Instructions, Numerical Progressions, Illustrations and Categorization). To assess the value of incorporating the IE program into BSEP, the Army funded studies to evaluate its impact on soldier cognitive skills and on soldier job performance\*\*. The present study was designed to evaluate the latter.

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\* Elizabethtown Community College.

\*\* The cognitive skills study is being carried out by the American Institute for Research, Palo Alto, California under contract with the Army Research Institute for the Behavioral and Social Sciences.

### STUDY OBJECTIVES

The major purpose of the present study was to conduct a preliminary evaluation of the impact of IE materials on soldier performance. More specifically, the objectives of the study were:

- To determine whether IE has an influence on soldier BSEP performance. That is, if cognitive skills are improved during the course of BSEP, then there should be a positive influence on BSEP scores and on Post-BSEP TABE\* scores.
- To determine the combined effect of IE and BSEP on soldier job performance. It is hypothesized that IE will improve cognitive skills, which in turn will improve soldier performance on the job.

The methodology used in accomplishing these objectives is presented in the following section of this report.

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\* Test of Adult Basic Education.

## METHODOLOGY

The project consisted of two basic studies: (1) a comparison of the performance of soldiers who had BSEP that incorporated IE to soldiers who had BSEP without IE, and (2) a questionnaire survey of the supervisors of soldiers who had BSEP with IE concerning the soldiers' job performance. The two studies are discussed below.

### IE Effects on BSEP Performance

#### Study Design

The basic design of this study was the comparison of soldiers who took BSEP with IE to soldiers who took BSEP without IE. Two groups of soldiers who had BSEP with IE were identified at Fort Knox. One group participated from 8 September, 1981 to 2 November, 1981 (termed the first cohort) and the second group from 9 November, 1981 to 18 December, 1981 (termed the second cohort). A group of soldiers (termed the control group) who had BSEP *without* IE, took the course in the Fall of 1980, or about a year earlier than the first and second cohorts.

A second BSEP control group was also identified and used. Based on discussions with Army personnel, the BSEP program at Fort Sill, Oklahoma was deemed sufficiently comparable to BSEP at Fort Knox. Consequently, a group of soldiers who had taken BSEP without IE during the Fall of 1981 were used as the second control group.

Performance in BSEP is measured by the TABE test. Both Pre- and Post- measures are taken on each soldier with subscales on:

- Reading - Vocabulary
- Reading - Comprehension
- Mathematics - Computation
- Mathematics - Concepts and Problems
- Language - Mechanics and Expression
- Spelling

These subscales scores are then combined to yield totals for Reading and Mathematics, as well as Total Battery score. All scores are expressed as Grade Equivalent scores.

To measure the influence of IE on TABE scores, Post-BSEP TABE scores were compared for the combined first and second cohorts and each of the two control groups controlling for Pre-BSEP TABE scores. The hypothesis was that if IE, in fact, improves cognitive skills the two BSEP/IE cohorts will have higher scores after BSEP than either of the two control groups.

This study design does have limitations. From the outset, it was recognized that the control groups were not optimal. Ideally, the control group should have been a group of soldiers given BSEP without IE selected at the same time as the first and second cohorts and taught by the same teachers. However, this was not possible. Consequently, the most suitable approach was to select a group of soldiers for the control group having BSEP without IE taught by the same teachers as the BSEP/IE group. The basic difference (other than receiving IE) between the control group used and the two cohorts is that the control group received more BSEP material. The control group received four hours per day of basic skills material and MOS-related material. The two cohorts received two hours of basic skills material and MOS-related material and two hours of IE. Thus, it is conceivable that the control group may achieve higher gains on the TABE than the two cohorts simply because they had more BSEP material each day. But, if the two cohorts achieve higher gain scores than the controls, then it can be concluded that IE did have a positive influence. If there is no difference, then the addition of IE may have compensated for the decreased BSEP material.

#### Data Collection

The data collected for the two cohorts and the Fort Knox control groups were Pre- and Post-BSEP TABE scores and Pre-BSEP GT scores for each soldier. The scores were received for a total of 69 soldiers for the first cohort, 100 soldiers for the second cohort, and 58 soldiers for the control group. (Additional data collected, but not used were the Name, Rank, Social Security Number and Unit Classification for each soldier.) Data received from Fort Sill contained only the Pre- and Post-BSEP TABE scores for 69 soldiers. Fort Sill did not report the Total Battery scores. The data were obtained from Fort Knox and Fort Sill BSEP administrators.

## BSEP/IE Effects on Job Performance

### Study Design

It was hypothesized that if IE improves soldier cognitive skills, then certain aspects of the soldier's performance should also be improved. However, there is a confounding factor. BSEP should also improve cognitive skills, and since soldiers receive both BSEP and IE together there is no way to separate the effects of the two on job performance. Consequently, the study examined job performance as a result of IE and BSEP in combination.

Soldier job performance was evaluated through a questionnaire survey of the two cohorts' supervisors\*. The basic design was to have a soldier's job performance evaluated prior to BSEP/IE and six weeks or so after BSEP/IE. The six week length was selected as a compromise between the desire for the supervisors to have sufficient time to observe and interact with the soldier after BSEP/IE, and the short schedule for project completion. Also, because of the timing of the study, there was no way to distribute a questionnaire prior to a soldier's involvement in BSEP/IE. Consequently, both Pre-BSEP and Post-BSEP questionnaires had to be distributed after BSEP/IE completion.

The questionnaires were developed by first identifying job performance parameters which were representative of those cognitive skills that IE was expected to improve. Previous reports were used to identify those cognitive skills (Hobbs, 1980; Link, 1981). These were then translated into cognitive/performance parameters that were judged to be relevant to a soldier's job performance. The parameters identified were:

- Problem Solving
- Accuracy and Precision
- Verbal Naming
- Learning New Tasks
- Planning

---

\* Job performance as a result of BSEP without IE was not examined because of the probable lack of sufficient number of soldiers whose current or previous supervisor could make such a judgment.

- Spatial Orientation and Direction
- Following Instructions
- Relationships
- Checking Own Work
- Volunteering
- Attention and Concentration
- Independence
- Illustrations

For each of the parameters, a set of two to four behaviorally oriented job statements were developed. For example, the parameter "Spatial Orientation and Direction" had the following statements:

- Gets to parts of the Post without asking for directions
- Identifies North, South, East and West correctly
- Understands how parts of equipment used on the job fit or connect together
- Utilizes maps and/or diagrams correctly

Four statements that did not deal with job performance were also included in the questionnaire to check on the tendency of supervisors to rate all items higher (or lower) on the second administration. A total of 39 statements, 35 of which related to job performance, were prepared. The behavioral statements for all the parameters are included in Appendix I.

To rank the soldiers on each of the behavioral statements a seven point scale was developed. The scale ranged from 1 to 7, with 1 representing "Almost Never", 4 representing "Half the Time", and 7 representing "Almost Always". The other scale numbers were not labeled. The supervisors were asked to circle the number best describing the frequency with which the soldier met the behavioral statement.

To allow the supervisors an opportunity to voice an opinion on observed differences in the soldier's performance, an open-ended question was included in the Post-BSEP/IE questionnaire. The question was, "How would you describe the difference in this soldier's performance between a month before BSEP and the past few weeks? For example, what differences have you noticed in mental performance, and in job performance?" The question was placed at the end of the questionnaire.

Finally, a set of instructions were developed for the supervisors to explain procedures for completing the questionnaires. Another set of instructions were prepared for the Unit Commander's Office to explain distribution. These instructions and the questionnaires are presented in Appendix II.

#### Data Collection

The data collection entailed the distribution of the Pre-BSEP and Post-BSEP questionnaires to the supervisors of the two cohorts. The first distribution occurred mid-December, 1981, which was about six weeks after the first cohort had finished BSEP. The Pre-BSEP questionnaires were distributed to individuals (usually the Adjutant) at the Unit Commander Offices. They in turn distributed the questionnaires to the supervisors. The Post-BSEP questionnaires were distributed to the Commander's Office on the second day. All questionnaires were returned to the Education Office and then to Battelle. In early February 1982, the same approach was used to collect the questionnaire data for the second cohort. This was about six weeks after the second cohort had finished BSEP. The separate distribution of the Pre- and Post-BSEP questionnaires was intended to insure that the supervisors would not fill out both questionnaires side-by-side. However, there was no way to preclude this from occurring and because of the short project time schedule, there was no other cost-effective distribution approach to insure independent completion of the two questionnaires.

A total of 372 Pre- and Post-BSEP questionnaires were distributed and 228 were returned, i.e., about a 61% return rate. There were several reasons given for not returning a questionnaire:

- The soldier had left the post,
- The soldier had a new supervisor,
- The supervisor was on TDY,
- The supervisor chose not to fill out the questionnaire. (Questionnaire instructions indicated that completion was voluntary.)

The 61% return rate, however, did not represent the *useable* return. Many questionnaires were not useable for the following reasons:

- The soldier had left the post and the questionnaire was returned incomplete,
- The soldier's supervisor had changed and the questionnaire was returned incomplete,
- The Post-BSEP questionnaire was returned, but filled out by a different supervisor than the Pre-BSEP supervisor,
- The Pre-BSEP questionnaire was returned, but the Post-BSEP questionnaire was not and vice-versa.

For these reasons, about 41% of the returned questionnaires could not be used in the data analysis. A total of 66 pairs of questionnaires were used for purposes of data analysis.

The questionnaires were developed so that the data did not require editing before data processing. However, the open-ended question at the end of the Post-BSEP questionnaire did require editing. Two aspects of the supervisors' answers were examined. The first aspect was an indication that the soldier did or did not improve in performance as a result of BSEP/IE, and, second, if there was improvement, a determination of the associated cognitive or performance parameter. The following coding scheme was developed for each answer:

Indications of Improvement

- Blank or not enough opportunity to observe
- No difference
- Degraded performance or attitude
- Good comments only (no indication of change)
- Improvement from job experience only, otherwise no improvement as a result of BSEP/IE
- Improvement presumably due to BSEP/IE

Areas of Improvement\*

- Duty Performance/Increased Production
- Mental Performance
- Communication (writing, speaking)
- Reading
- Attitude/Interest/Enthusiasm

---

\* Up to three areas of improvement were considered.

- Confidence/Assertion/Taking Charge/Helping Others
- Planning/Use of Time
- Concentration/Attention to Details
- Accuracy
- Responsibility
- Understanding of Job and Equipment

## RESULTS

The analyses of the results are presented below in two main sections; IE effects on BSEP performance as measured with TABE, and BSEP/IE effects on job performance as measured by the job performance questionnaires.

### IE Effects on BSEP Performance

#### Comparison of First and Second Cohorts

The two cohorts who participated in the BSEP/IE program for six weeks at Fort Knox in the Fall of 1981 were compared on Pre-BSEP TABE scores, Post-BSEP TABE scores and Pre-BSEP GT scores. The groups were compared using Student's t-test. All comparisons were non-significant\*. Based on these results, the two cohorts were combined in subsequent analyses.

#### Comparison of BSEP/IE Participants with Fort Sill BSEP Participants

The TABE scores of soldiers who participated in BSEP/IE at Fort Knox in the Fall of 1981 were compared with the scores of soldiers who participated in the BSEP program at Fort Sill in the same time period. At the onset, it was recognized that the two groups differed in several respects (notably rank and MOS). In addition, the BSEP programs and selection criteria also differed. Nevertheless, there was interest in using the Fort Sill group as a possible control group.

The groups were compared using the analysis of covariance (ANCOVA). This powerful form of analysis compares the Post-BSEP TABE means of the two groups after adjusting for the corresponding Pre-BSEP TABE means. The analysis assumes that the relationship between Pre- and Post-BSEP TABE scores is the same for both groups. Table 1 presents the results of the ANCOVA's for each subscale\*\*.

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\* In all analyses, the five percent level of significance was used as the minimum significance level.

\*\* The Fort Sill data did not include the Total Battery TABE scores.

TABLE 1. COMPARISON OF GRADE EQUIVALENT SCORES ON TABE TEST BATTERY FOR FORT SILL AND FORT KNOX BSEP PARTICIPANTS (FALL, 1981)

Test	Group	N	Pre-BSEP Means	Post-BSEP Means	Post-BSEP Means (Adjusted for Pre-BSEP Means)	Unnormalized Slopes of Regression Lines	Post-BSEP Means (Adjusted for Pre-BSEP Means and Interaction)
Reading Vocabulary	Ft. Sill	50	7.05***	8.07NS	8.54***	.85069NS	-----
	Ft. Knox	163	7.91	8.09NS	7.94	.68969	-----
Reading Comprehension	Ft. Sill	42	7.35***	7.99NS	8.51NS	.89060NS	-----
	Ft. Knox	163	8.34	8.42NS	8.28	.62098	-----
Reading Total	Ft. Sill	40	6.97***	7.93NS	8.65***	1.13011**	8.90***
	Ft. Knox	163	8.04	8.21NS	8.03	.78291	8.04
Mathematics Computation	Ft. Sill	60	7.13NS	9.50***	9.54***	1.17674**	9.56***
	Ft. Knox	163	7.20	8.50	8.49	.70440	8.48
Mathematics Concepts and Problems	Ft. Sill	56	7.09*	8.21NS	8.46***	1.01799***	8.58***
	Ft. Knox	163	7.58	7.93NS	7.84	.59495	7.85
Mathematics Total	Ft. Sill	54	6.97NS	8.59NS	8.75***	1.23072***	8.85***
	Ft. Knox	163	7.25	8.23NS	8.18	.66469	8.18
Language Mechanics and Expression	Ft. Sill	62	6.61NS	7.80NS	7.84NS	1.13695***	7.87***
	Ft. Knox	163	6.70	7.50NS	7.48	.61843	7.49
Spelling	Ft. Sill	54	6.60NS	6.94NS	7.12NS	.71803NS	-----
	Ft. Knox	163	6.96	7.24NS	7.17	.69545	-----

N.S. - not significant

\* - p < .05

\*\* - p < .01

\*\*\* - p < .001

Prior to BSEP, the groups differed significantly on the three Reading subscales, and on the Mathematics Concepts and Problems subscale, with the Fort Knox participants showing higher average Pre-BSEP TABE scores. After BSEP, the groups differed significantly on the Mathematics Computation subscale, with the Fort Sill participants showing higher average Post-BSEP TABE scores.

When the Post-BSEP TABE means are adjusted for the corresponding Pre-BSEP TABE means (the covariate control), the Fort Sill participants had significantly higher means on Reading Vocabulary, Reading Total, Mathematics Computation, Mathematics Concepts and Problems, Mathematics Total, and Language Mechanics and Expression subscales (see Table 1). However, the relationship between Pre- and Post-BSEP TABE scores was not the same for both groups. The Fort Sill participant scores showed significantly higher correlation between Pre- and Post-BSEP on five subscales, as shown in Table 1. This effect appears as an interaction of groups with the covariate.

A form of the Johnston-Neyman test was used to test whether the means on these five subscales differed significantly for an average Pre-BSEP TABE subscale score after adjustment for Pre-BSEP TABE means and the interaction of groups with the covariate. The five pairs of adjusted means were significantly different from each other (see Table 1), with the Fort Sill participants showing significantly higher means. Thus, only in the areas of Reading Comprehension and Spelling were the adjusted TABE means not significantly different.

The ANCOVA's presented in Table 1 indicate that the Fort Sill and Fort Knox participants were quite different, both before participating in BSEP and in the amount of gain after BSEP. These differences probably reflect differences in BSEP selection procedures between the two posts, as well as differences in the BSEP programs themselves. For these reasons, the Fort Sill participants do not appear to be an acceptable control group. Certainly the comparison does not support the superiority of BSEP with IE.

#### Comparison of BSEP/IE Participants with Earlier Fort Knox BSEP Participants

The TABE scores of soldiers who participated in BSEP/IE at Fort Knox in the Fall of 1981 were compared with the scores of soldiers who participated in the BSEP program at Fort Knox in the Fall of 1980. The groups were compared using the ANCOVA. Table 2 presents the results of the ANCOVA's for each subscale and the Total Battery. Prior to BSEP, the groups differed significantly

TABLE 2. COMPARISON OF GRADE EQUIVALENT SCORES ON TABE TEST BATTERY FOR FORT KNOX, FALL 1981 AND FORT KNOX, FALL 1980 BSEP PARTICIPANTS

Test	Group	N	Pre-BSEP Means		Post-BSEP Means		Post-BSEP Means (Adjusted for Pre-BSEP Means)
			Fall, 1980	Fall, 1981	Fall, 1980	Fall, 1981	
Reading Vocabulary	Fall, 1980	58	8.10 <sup>NS</sup>		8.29 <sup>NS</sup>		8.19 <sup>NS</sup>
	Fall, 1981	163	7.91		8.09 <sup>NS</sup>		8.12
Reading Comprehension	Fall, 1980	58	8.86 <sup>*</sup>		8.76 <sup>NS</sup>		8.51 <sup>NS</sup>
	Fall, 1981	163	8.34		8.42		8.51 <sup>NS</sup>
Reading Total	Fall, 1980	58	8.45 <sup>NS</sup>		9.10 <sup>*</sup>		8.86 <sup>NS</sup>
	Fall, 1981	163	8.04		8.21		8.29 <sup>NS</sup>
Mathematics Computation	Fall, 1980	58	7.24 <sup>NS</sup>		8.50 <sup>NS</sup>		8.48 <sup>NS</sup>
	Fall, 1981	163	7.20 <sup>NS</sup>		8.50		8.51 <sup>NS</sup>
Mathematics Concepts and Problems	Fall, 1980	58	7.56 <sup>NS</sup>		7.91 <sup>NS</sup>		7.92 <sup>NS</sup>
	Fall, 1981	163	7.58		7.93 <sup>NS</sup>		7.92 <sup>NS</sup>
Mathematics Total	Fall, 1980	58	7.33 <sup>NS</sup>		8.26 <sup>NS</sup>		8.22 <sup>NS</sup>
	Fall, 1981	163	7.25 <sup>NS</sup>		8.23		8.25 <sup>NS</sup>
Language Mechanics and Expression	Fall, 1980	58	7.21 <sup>*</sup>		7.00 <sup>*</sup>		6.77 <sup>***</sup>
	Fall, 1981	163	6.70		7.50		7.58
Spelling	Fall, 1980	58	6.87 <sup>NS</sup>		7.36 <sup>NS</sup>		7.41 <sup>NS</sup>
	Fall, 1981	163	6.96 <sup>NS</sup>		7.24		7.22 <sup>NS</sup>
Total Battery	Fall, 1980	58	7.35 <sup>NS</sup>		7.73 <sup>NS</sup>		7.56 <sup>*</sup>
	Fall, 1981	163	7.07 <sup>NS</sup>		7.76		7.82

N.S. - not significant

\* - p < .05

\*\*\* - p < .001

on only one subscale, Language Mechanics and Expression. Following BSEP, the groups differed significantly on Reading Total and Language Mechanics and Expression.

When the Post-BSEP TABE means are adjusted for the corresponding Pre-BSEP TABE means (the covariate control), the BSEP/IE participants had significantly higher means than the control group on Language Mechanics and Expression, and Total Battery (see Table 2). No significant interactions of group with the covariate were found, indicating that the regression with the covariate did not differ significantly in the two groups.

The ANCOVA's presented in Table 2 indicate a significant Total Battery TABE difference between the groups following BSEP, with the difference favoring those participants who received IE. Based on the lack of appreciable differences in Pre-BSEP TABE means and the absence of significant interactions of group with covariate, it is concluded that the Fall, 1980 Fort Knox group provided a suitable control group. Thus, it appears that IE had some small but reliable impact on Total Battery TABE scores. The impact was largely in the area of Language Mechanics and Expression.

It should be noted that the BSEP/IE participants achieved equal or higher means than the control group, even though the amount of time devoted to BSEP in the Fall of 1981 was only about half of what was spent on BSEP in the Fall of 1980.

#### Comparison of Fort Knox Groups When GT Scores Are Included

The inclusion of the Pre-BSEP GT scores as a second covariate in the ANCOVA's presented in Table 2 did not change any of the results reported, but did improve the sensitivity of the analyses. Pre-BSEP GT scores are significantly correlated with Pre- and Post-BSEP TABE scores. Pre-BSEP GT scores are also significantly correlated with Post-BSEP TABE scores, after adjusting these latter scores for (partialling out) the correlation with the corresponding Pre-BSEP TABE scores, for Reading Vocabulary, Reading Comprehension, Mathematics Concepts and Problems, Mathematics Total and Total Battery scores. Thus, Pre-BSEP GT scores can provide an additional pre-treatment control in future studies.

It has been hypothesized that the GT score is predictive of the gains a soldier will experience in BSEP. There is some statistical truth in the hypothesis, for as noted above, the Pre-BSEP GT scores are significantly

correlated with Post-BSEP TABE scores, even after adjusting for Pre-BSEP TABE scores. The relationship is slight, however. Pre-BSEP GT scores, for example, account for only 16 percent of the variance in Post-BSEP Total Battery scores. Pre-BSEP GT scores are not significantly correlated with TABE gain scores (Post-BSEP TABE scores minus Pre-BSEP TABE scores) on any subscale or for the Total Battery score.

#### BSEP/IE Effects on Job Performance

The effects of BSEP with an IE component on soldiers' job performance were evaluated through a questionnaire survey of the participants' supervisors. No control group was involved\*. The survey consisted of 39 behaviorally-oriented job performance statements that were rated by the supervisors on a seven-point scale. Two sets of ratings were obtained; one set representing Pre-BSEP job performance, and one set representing job performance about six weeks after BSEP completion.

#### Description of the Ratings

The obtained ratings were highly skewed toward the favorable end of the scale. The mean Pre-BSEP rating was 5.62. This allowed little room for improvement on subsequent ratings. This type of leniency error is common in supervisor's ratings.

The ratings on the 39 statements showed substantial intercorrelations. The Pre-BSEP questionnaire and the Post-BSEP questionnaire were subjected to factor analyses to determine if there were significant grouping of statements. The results indicated that the first factor extracted in the analysis of the Pre-BSEP statements accounted for 61 percent of the total variance among statements, whereas the first factor extracted in the analysis of the Post-BSEP statements accounted for 68 percent of the total variance among statements. Other factors each accounted for less than six percent of the total variance. These results preclude any empirical grouping of statements and suggest a strong halo effect in the ratings.

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\* An appropriate control group would consist of soldiers who were eligible for BSEP but who had not participated. It was Battelle's judgment that an insufficient number of these soldiers would be available. Further, sufficient time was not available to identify these soldiers and collect job performance data for them.

### Formation of Subscales and Total Score

The 39 statements were grouped into 14 areas or subscales (see Appendix I), including a subscale of four irrelevant (non-job-performance) statements. Each subscale consisted of two to four statements. A supervisor's ratings on statements assigned to a subscale were averaged to provide a Pre-BSEP and Post-BSEP subscale score. The ratings on the 35 job performance statements (i.e., not including the ratings on the four irrelevant items) were averaged to provide a Pre-BSEP and a Post-BSEP total score.

### Comparison of First and Second Cohorts

The job performance ratings of the two cohorts who participated in the BSEP/IE program were compared using Student's t-test. The groups were compared statement by statement, on subscales, and on total score. All comparisons were non-significant. Based on these results, the two cohorts were combined in subsequent analyses.

### Comparison of Pre- and Post-BSEP Job Performance Ratings

The average Pre- and Post-BSEP ratings and the rating gain (Post-BSEP ratings minus Pre-BSEP ratings) are presented in Table 3. Although 38 statements showed some gain, only 15 were statistically significant using Student's t-test. The four irrelevant statements did not show significant gains, indicating that the supervisors were using some differentiation in their ratings.

The five statements with the largest gains (starting with the largest) were:

- Volunteers to help others who are having difficulties in tasks requiring mental abilities (rather than mechanical or physical abilities).
- Volunteers for job assignments that require mental abilities (rather than mechanical or physical abilities).
- Uses more than one source of information when useful for performing job assignments or tasks.
- Utilizes maps and/or diagrams correctly.

TABLE 3. COMPARISON OF PRE- AND POST-BSEP  
JOB PERFORMANCE RATINGS FOR ALL STATEMENTS

Statement	N	Pre-BSEP Mean*	Post-BSEP Mean*	Gain	Significance Level Of Difference
1	65	5.77	5.94	0.17	N.S.
2	65	5.75	5.94	0.18	N.S.
3	65	6.03	6.20	0.17	N.S.
4	65	5.49	5.65	0.15	N.S.
5	65	5.20	5.54	0.34	<.05
6	65	5.32	5.58	0.26	<.05
7	65	6.29	6.43	0.14	N.S.
8	65	5.77	5.95	0.18	N.S.
9	65	5.94	6.05	0.11	N.S.
10	65	5.35	5.57	0.22	N.S.
11	64	4.75	5.22	0.47	<.01
12	65	5.51	5.92	0.42	<.01
13	65	5.74	5.98	0.25	<.05
14	65	5.15	5.49	0.34	<.05
15	64	5.78	5.86	0.08	N.S.
16	65	6.23	6.29	0.06	N.S.
17	65	5.98	6.00	0.02	N.S.
18	65	5.80	5.91	0.11	N.S.
19	65	6.31	6.22	-0.09	N.S.
20	64	5.53	5.84	0.31	N.S.
21	64	5.05	5.42	0.38	<.05
22	61	6.03	6.25	0.21	N.S.
23	65	5.75	6.02	0.26	<.05
24	65	5.80	6.05	0.25	N.S.
25	60	5.37	5.80	0.43	<.01
26	57	6.26	6.40	0.14	N.S.
27	63	5.44	5.75	0.30	<.05
28	64	5.73	5.86	0.12	N.S.
29	62	5.29	5.79	0.50	<.05

TABLE 3. COMPARISON OF PRE- AND POST-BSEP  
 JOB PERFORMANCE RATINGS FOR ALL STATEMENTS  
 (Continued)

Statement	N	Pre-BSEP Mean*	Post-BSEP Mean*	Gain	Significance Level Of Difference
30	64	5.80	6.02	0.22	N.S.
31	64	5.48	5.72	0.23	N.S.
32	64	5.42	5.88	0.45	<.01
33	63	5.67	5.94	0.27	<.05
34	64	5.56	5.78	0.22	N.S.
35	64	5.62	6.00	0.38	<.01
36	64	5.77	5.80	0.03	N.S.
37	64	5.83	6.00	0.17	N.S.
38	64	5.78	6.00	0.22	N.S.
39	64	5.77	6.05	0.28	<.05

N.S. - not significant

\* - based on 7-point scale

- Completes job assignments and tasks without constant supervision.

Without a control group, it is impossible to determine if the reliable gains obtained are due to repeated measurement, increased job experience, increased maturity, historical artifacts, BSEP, or BSEP with IE.

#### Comparison of Pre- and Post-BSEP Job Performance Subscales and Total Scores

The average Pre- and Post-BSEP subscales and total scores, and the gains (Post-BSEP means minus Pre-BSEP means) are presented in Table 4. All subscales and the total score showed some gain. Most gains were statistically significant using Student's t-test. For the total score, 38 individual ratings showed a positive gain (58%), 11 showed no gain (17%), and 16 showed a negative gain (25%). The total score showed a significant gain, whereas the irrelevant items subscale did not show a significant gain.

The five subscales with the largest gains (starting with the largest) were:

- Confidence with Mental Activities
- Planning
- Working Independently
- Concentration
- Spatial Orientation

As previously noted, it is difficult to interpret these gains without a control group. However, these subscales represent areas to which IE is addressed.

#### Analysis of the Open-Ended Question

Responses to the open-ended question at the end of the Post-BSEP questionnaire indicated both the presence or absence of performance differences, and the area of improvement. Table 5 presents the supervisor's judgments of performance differences. A majority of supervisors that responded indicated "general improvement". Table 6 presents the areas of improvement. Job performance and Confidence were most often mentioned. This agrees with the more detailed questionnaire results.

TABLE 4. COMPARISON OF PRE- AND POST-BSEP JOB PERFORMANCE RATINGS FOR SUBSCALES AND TOTAL SCORE

Subscale	N	Pre-BSEP Mean	Post-BSEP Mean	Gain	Significance Level Of Difference
Problem Solving	64	5.61	5.82	0.21	<.05
Concentration	64	5.57	5.83	0.26	<.05
Verbal Expression (Categorization/ Naming)	64	5.62	5.84	0.22	<.05
Learning New Material	65	5.75	5.88	0.13	N.S.
Planning (Time Orientation)	63	5.26	5.59	0.33	<.01
Spatial Orientation	57	5.89	6.14	0.25	<.01
Following Instructions	65	5.76	5.98	0.22	N.S.
Understanding Relationships (Comparisons)	64	5.78	6.02	0.24	<.01
Checking Own Work	64	5.53	5.70	0.17	N.S.
Confidence with Mental Activities (Volunteering for Mental Tasks)	61	5.03	5.52	0.49	<.01
Working Accurately	63	5.79	5.81	0.02	N.S.
Using Information (Illustrations)	64	5.70	5.93	0.23	<.05
Working Independently	63	5.68	5.94	0.26	<.05
Total Score	65	5.62	5.86	0.24	<.01
Irrelevant Items	57	6.05	6.18	0.13	N.S.

TABLE 5. SUPERVISORS' JUDGMENT OF PERFORMANCE DIFFERENCES

Judged Change in Soldier's Performance	Number of Supervisors	Percent of Supervisors (N = 65)	Percent of Supervisors Responding (N = 54)
No Difference	15	23.1	27.8
Degraded Performance or Attitude	4	6.2	7.4
Improvement Due to Job Experience	1	1.5	1.9
General Improvement.	28	43.1	51.8
No Indication of Change	6	9.2	11.1
No Response	11	16.9	----
Total	65	100.0	100.0

TABLE 6. SUPERVISORS' JUDGMENTS OF AREAS OF IMPROVEMENT

Area of Improvement	Number of Responses*	Percent Of Responses
Job Performance/Productivity	7	17.9
Confidence/Helping Others	7	17.9
Understanding of Job/Equipment	5	12.8
Attitude/Interest	4	10.3
Mental Performance	4	10.3
Communication (Writing/Speaking)	3	7.7
Reading	3	7.7
Planning/Use of Time	2	5.1
Accuracy	2	5.1
Responsibility	2	5.1
Total	39	100.0

\* 26 supervisors responded, 13 gave two responses

Comparison of Supervisors' Judgments  
with Job Performance Ratings

The supervisors were divided into two groups; those who judged that the soldier's job performance hadn't changed or was degraded compared to Pre-BSEP performance (N=19) and those who judged that the soldier's job performance had shown general improvement (N=28).

The gains in job performance subscales and total score (Post-BSEP means minus Pre-BSEP means) were compared for these two groups of supervisors. The purpose of the analysis was to determine if the ratings reflected the supervisors' overall judgments of performance differences. Generally, job performance ratings were lower after BSEP/IE if the supervisors judged that performance was unchanged or degraded (i.e., mean gains were usually negative), and ratings were higher after BSEP/IE if the supervisors judged that performance was improved (i.e., mean gains were positive). The statistical significance of the differences between the two groups of supervisors was evaluated using Student's t-test. Gains were significantly different between the two groups of supervisors on 11 of the 14 subscales (including the irrelevant items subscale) and on total score. These findings indicate that the supervisors' job performance ratings agreed with their subsequent judgments of overall job performance change.

## CONCLUSIONS AND RECOMMENDATIONS

Based on a comparison of Fall, 1980 and Fall, 1981 Fort Knox BSEP participants, it appears that IE resulted in a small but reliable difference in Total Battery TABE scores. This difference was largely due to improved performance in the area of Language Mechanics and Expression, compared to the control group without IE. The lack of an experimental and control group formed through *random* assignment makes this conclusion tentative.

Only about two hours per day for six weeks was devoted to IE by the BSEP/IE participants in this study. Each participant did not spend that same amount of time on IE activities nor complete all IE books. Instrumental enrichment is intended to be of much longer duration. In future evaluations, consideration should be given to increasing the amount and duration of IE activities, and monitoring and recording these activities more systematically.

No firm conclusions about the effects of IE on job performance can be made, due to the absence of a control group, and the subjective and retrospective nature of the job performance measures themselves. The job performance measures (supervisor ratings) suggest that improvements occurred in confidence with mental activities, planning, working independently, concentration, and spatial orientation. These are areas to which IE is addressed.

Firm conclusions about the learning strategies training program will not be possible without a more carefully planned and controlled evaluation study. The present study was preliminary in nature. Since it appears that IE had some impact on BSEP performance, it is important to conduct a more rigorously controlled study. A conceptual plan for such a study is described in the next section.

## SUGGESTED PLAN FOR EVALUATING FUTURE IE PROGRAMS

The evaluation of IE presented in this report was hampered by the lack of an adequate control group and a short project time schedule. To overcome these problems a plan was developed to evaluate future IE programs. This plan is presented below.

### Purpose

The purpose of the study would be to determine the effect of IE on BSEP performance and subsequent job performance. If IE, in fact, improves cognitive skills, then BSEP performance as measured by TABE, should be improved. Further, if cognitive skills are improved, then changes in certain aspects of job performance should also be improved. This study would determine if IE improves soldier BSEP scores and job performance.

### Study Design

The basic design of the study would be a comparison of soldiers who complete BSEP with IE with soldiers who complete BSEP without an IE component. Two, six- or eight-week BSEP programs would be run concurrently. These two programs would be taught under essentially identical conditions except one program would include IE material. How the IE is to be incorporated into BSEP and scheduled should be determined through consultation with IE specialists. Ideally, the two BSEP courses would contain the same amount of BSEP material with one having the additional IE material. However, this will mean that one course may be four hours per day and the other five to six hours per day. Other alternatives are possible and how these courses are to be composed and administered will have to be determined through discussions with BSEP administrators and IE specialists. It is suggested, however, that consideration be given to presenting IE over a longer duration than in the recent Fort Knox programs. As created by Feuerstein, the IE program consists of 15 instruments that provide material for three to five one-hour lessons per week for two to three years (Hobbs, 1980).

Soldiers eligible to take BSEP would be randomly assigned in equal numbers to the two courses. These groups would also be separated into classes to adjust to typical teacher-student loads.

Prior to beginning the BSEP program, supervisors of all the soldiers in both groups would be identified and surveyed using a questionnaire much like the one used in the study reported herein. The questionnaire would instruct the supervisors to rate the soldier on a series of behavioral statements related to job performance. Approximately eight weeks after completing BSEP, the same questionnaire would be sent to the same supervisors to obtain a judgment of the soldiers' Post-BSEP job performance. The questionnaire would include some open-ended questions relevant to change versus no change in job performance as a result of BSEP or BSEP plus IE. Finally, objective measures of job performance such as the Enlisted Evaluation Report (EER) or SQT (Skill Qualification Test) would also be collected for both groups.

Pre- and Post-BSEP TABE scores (as well as other data) would be collected for soldiers in both groups and comparisons made. The questionnaire data and objective measures of job performance would also be compared for the two groups and all sets of data would be compared to each other with respect to logical interrelationships.

The advantages of this study design are that all soldiers would receive essentially the same amount of BSEP, the control group would provide a technically sound basis for comparison, and the supervisors could make judgments about the soldiers at the appropriate points in time (i.e., Pre- and Post-BSEP).

#### Data Collection

The data to be collected would be Pre- and Post-BSEP TABE scores and Pre-BSEP GT scores for all soldiers, as well as basic demographic and service data. In addition, for each soldier receiving IE, a record would be kept of the amount of class time devoted to IE and the IE instruments completed or partially completed. These data are needed to assess the implementation of IE and would be obtained from the BSEP administrators.

For data collection concerning job performance, the Pre- and Post-BSEP questionnaires would be distributed to the soldiers' supervisors. The Pre-BSEP questionnaire would be distributed just prior to the soldiers' participation in the program. The Post-BSEP questionnaire would be distributed approximately eight weeks after the soldier finishes BSEP. Objective measures of job performance would be obtained from MILPERCEN (Military Personnel Center) or EREC (Enlisted Records Evaluation Center).

The procedure for distributing the questionnaires should be closely coordinated with the involved Unit Commanders in order to achieve the best return rate.

#### Data Analysis Plans

The data analysis would consist of a statistical comparison of Post-BSEP TABE scores for the BSEP group and the BSEP/IE group, while controlling GT and Pre-TABE scores. Analysis of covariance or regression models would be used to analyze the data.

The questionnaire analysis would consist of comparing the results of the Pre- and Post-BSEP questionnaires to determine whether statistically significant improvement in job performance had occurred between the two groups. In addition, areas of improved cognitive skill and job performance would be identified. The two groups would also be compared through a statistical analysis of the objective measures of performance.

Finally, cross comparisons between the questionnaire data and the TABE data would be made to determine whether TABE subscale scores are related or predictive of areas of improved job performance, and to identify other interrelationships.

## REFERENCES

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APPENDICES

## APPENDIX I

### JOB STATEMENTS FOR COGNITIVE/PERFORMANCE PARAMETERS\*

#### Problem Solving

- Performs job assignments and tasks carefully and completely.
- Performs job assignments and tasks in a systematic, logical and efficient sequence.
- Performs job assignments and tasks correctly.
- Solves unexpected problems that occur while performing job assignments or tasks.
- Uses more than one source of information when useful for performing job assignments or tasks.
- Selects and uses the correct information, tools, and equipment that is needed to perform the job assignments or tasks.
- Is flexible in handling new situations and job assignments.

#### Accuracy and Precision

- Tries to be precise when needed to carry out job assignments and tasks.
- Tries to be accurate in spelling, arithmetic, and following instructions.

#### Verbal Naming

- Expresses thoughts adequately about job activities and problems.
- Uses correct names for Army equipment, tasks, and places.

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\* These statements were used as the basis for developing the Pre- and Post-BSEP questionnaires completed by the supervisors.

### Learning New Tasks

- Learns material from TMs, SMs, and FMs and other written/visual sources like TEC.
- Learns from job experiences.

### Planning

- Thinks through and prepares for job assignments carefully and completely.
- Thinks through and prepares for job assignments systematically and logically.
- Prepares for job assignments well ahead of schedule.

### Spatial Orientation and Direction

- Gets to parts of the Post without asking directions.
- Identifies North, South, East and West correctly.
- Understands how parts of equipment used on the job fit or connect together.
- Utilizes maps and/or diagrams correctly.

### Following Instructions

- Follows supervisor's instructions the first time in carrying out job assignments and tasks.
- Follows procedures given in TMs, SMs, and FMs.

### Relationships

- Understands how parts of equipment used on the job work together.
- Understands why job assignments and tasks are performed to achieve an objective or goal.
- Understands relationships and responsibilities of the different duty positions of the unit.

### Checks Own Work

- Checks own work upon completion of a job or task using an appropriate method.
- Makes sure that the quality of his or her work is adequate.

### Volunteers

- Volunteers for job assignments that require mental abilities (rather than mechanical or physical abilities).
- Volunteers to help others who are having difficulties in tasks requiring mental abilities (rather than mechanical or physical abilities).

### Attention and Concentration

- Completes job assignments and tasks without constant supervision.
- Completes job assignments without daydreaming, excessive work breaks, talking with others, etc.
- Concentrates while working on job assignments or tasks.
- Pays attention to detail in performing job assignments or tasks.

### Independence

- Performs individual job assignments or tasks with minimum help.
- Tries to perform job assignments or tasks before asking for help.

Irrelevant

- Maintains a neat and well groomed appearance.
- Gets along well with soldiers in his or her unit.
- Keeps quarters clean and orderly.
- Shows high morale.

## APPENDIX II. QUESTIONNAIRES

### UNIT COMMANDER/OFFICE INSTRUCTIONS

Battelle Laboratories is under contract with the Army to study the effects of educational programs on soldier job performance. To do this we are surveying supervisors of a sample of soldiers. Each of the enclosed questionnaires is identified with a soldier's name. Please distribute the attached questionnaires to those in your unit who were the immediate supervisors of these soldiers from October, 1981 through February, 1982. It is important that the questionnaires be distributed only to supervisors who had an opportunity to observe the soldier's performance from October, 1981 through February, 1982. In other words, each soldier's questionnaire should be completed by his or her immediate supervisor who was in charge of the soldier during this period.

Please distribute the questionnaires early this morning. The questionnaires should be returned to you and you should send them to Jim Jones at the Education Center. A second and final questionnaire (similar in content and length) will also be distributed tomorrow to the same group of supervisors. Please keep all completed questionnaires in confidence.

SOLDIER SUPERVISOR'S QUESTIONNAIRE: I

Soldier: \_\_\_\_\_ cc 1-3

Unit: \_\_\_\_\_ cc 4-6

\_\_\_\_\_  
Supervisor (please print): \_\_\_\_\_ cc 7-9

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INSTRUCTIONS

As the supervisor of the soldier identified above you are being asked to make judgements about this soldier during October, 1981. When making your judgements, be sure to think back to the soldier's performance during October, 1981. First, print your name above. Then please make judgements about the soldier's performance on a scale of 1 to 7. On the next page read the statement in the left column and then circle one of the seven numbers depending on your judgement. Please judge the soldier on every statement to the best of your knowledge of the soldier's performance. You will be given the remainder of the day to complete this questionnaire. Please return the questionnaire to the Unit Office by 3:00 p.m. Tomorrow you will receive one more questionnaire of similar content and length.

Your completion of this questionnaire is voluntary. Your answers will be kept in complete confidence and will not become a part of any permanent record. The information will be used for research purposes only. This is not a test of you or the soldier you are rating.

It is very important that you complete this questionnaire as soon as possible and send it back to the Unit Office immediately.

	Rating of Performance in October, 1981						
	Almost Never			Half the Time			Almost Always
	1	2	3	4	5	6	7
1. Performs job assignments and tasks correctly.	1	2	3	4	5	6	7
2. Concentrates while working on job assignments or tasks.	1	2	3	4	5	6	7
3. Maintains a neat and well groomed appearance.	1	2	3	4	5	6	7
4. Expresses thoughts adequately about job activities and problems.	1	2	3	4	5	6	7
5. Learns material from TMs, SMs, and FMs and other written/visual sources like TEC.	1	2	3	4	5	6	7
6. Thinks through and prepares for job assignments carefully and completely.	1	2	3	4	5	6	7
7. Gets to parts of the Post without asking for directions.	1	2	3	4	5	6	7
8. Follows supervisor's instructions the first time in carrying out job assignments and tasks.	1	2	3	4	5	6	7
9. Understands how parts of equipment used on the job work together.	1	2	3	4	5	6	7
10. Checks own work upon completion of a job or task using an appropriate method.	1	2	3	4	5	6	7

cc 10

cc 15

	Rating of Performance in October, 1981						
	Almost Never			Half the Time			Almost Always
	1	2	3	4	5	6	7
11. Volunteers for job assignments that require mental abilities (rather than mechanical or physical abilities).	1	2	3	4	5	6	7
12. Completes job assignments and tasks without constant supervision.	1	2	3	4	5	6	7
13. Performs individual job assignments or tasks with minimum help.	1	2	3	4	5	6	7
14. Solves unexpected problems that occur while performing job assignments or tasks.	1	2	3	4	5	6	7
15. Tries to be accurate in spelling, arithmetic, and following instructions.	1	2	3	4	5	6	7
16. Gets along with soldiers in his or her unit.	1	2	3	4	5	6	7
17. Selects and uses the correct information, tools, and equipment that are needed to perform job assignments and tasks.	1	2	3	4	5	6	7
18. Performs job assignments and tasks carefully and completely.	1	2	3	4	5	6	7
19. Learns from job experiences.	1	2	3	4	5	6	7
20. Is flexible in handling new situations and job assignments.	1	2	3	4	5	6	7

cc 20

cc 29

	Rating of Performance in October, 1981							
	Almost Never			Half the Time			Almost Always	
	1	2	3	4	5	6	7	
21. Prepares for job assignments well ahead of schedule.	1	2	3	4	5	6	7	cc 30
22. Identifies directions such as North, South, East and West correctly.	1	2	3	4	5	6	7	
23. Follows procedures given in TMs, SMs, and FMs.	1	2	3	4	5	6	7	
24. Understands the relationships and responsibilities of the different duty positions in the unit.	1	2	3	4	5	6	7	
25. Utilizes maps and/or diagrams correctly.	1	2	3	4	5	6	7	
26. Keeps quarters clean and orderly.	1	2	3	4	5	6	7	
27. Thinks through and prepares for job assignments systematically and logically.	1	2	3	4	5	6	7	
28. Makes sure that the quality of his or her work is adequate.	1	2	3	4	5	6	7	
29. Volunteers to help others who are having difficulties in tasks requiring mental abilities (rather than mechanical or physical abilities).	1	2	3	4	5	6	7	
30. Understands how parts of equipment used on the job fit or connect together.	1	2	3	4	5	6	7	cc 39

	Rating of Performance in October, 1981							
	Almost Never			Half the Time			Almost Always	
	1	2	3	4	5	6	7	
31. Completes job assignments without daydreaming, excessive work breaks, talking with others, etc.	1	2	3	4	5	6	7	cc 4C
32. Uses more than one source of information when useful for performing job assignments or tasks.	1	2	3	4	5	6	7	
33. Tries to perform job assignments or tasks before asking for help.	1	2	3	4	5	6	7	
34. Pays attention to detail in performing job assignments or tasks.	1	2	3	4	5	6	7	
35. Understands why job assignments and tasks are performed to achieve an objective or goal.	1	2	3	4	5	6	7	
36. Tries to be precise when needed to carry out job assignments and tasks.	1	2	3	4	5	6	7	
37. Shows high morale.	1	2	3	4	5	6	7	
38. Performs job assignments and tasks carefully and completely.	1	2	3	4	5	6	7	
39. Uses correct names for Army equipment, tasks and places.	1	2	3	4	5	6	7	cc 4E
<p>-----</p> <p>Thank you for your cooperation. Please go back and make certain that you have answered every question.</p>								

UNIT COMMANDER/OFFICE INSTRUCTIONS - DAY II

Please distribute this second and last group of questionnaires to the same supervisors as the first group of questionnaires.

Please distribute the questionnaires this morning, if possible. The questionnaires should be returned to you and you should send them to Jim Jones at the Education Center. Please keep all completed questionnaires in confidence.

It is important that you collect all questionnaires as soon as possible and send them to Jim Jones at the Education Center.

THANK YOU FOR YOUR HELP AND COOPERATION

SOLDIER SUPERVISOR'S QUESTIONNAIRE: II

Soldier: \_\_\_\_\_

Unit: \_\_\_\_\_

Supervisor (please print) \_\_\_\_\_

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INSTRUCTIONS

As the supervisor of the soldier identified above, you are being asked to make judgements, and answer a question, about this soldier's current performance. Fill out this questionnaire just as you did the previous one, plus answer the question at the end. Be sure to judge the soldier's behavior on his or her current performance. You will be given the remainder of the day to complete the questionnaire. Please return this questionnaire to the Unit Office by 3:00 p.m.

As in the previous questionnaire, your completion of the questionnaire is voluntary. Your answers will be kept in complete confidence and will not become a part of any permanent record. The information will be used for research purposes only. This is not a test of you or the soldier you are rating.

It is very important that you complete this questionnaire as soon as possible and send it back to the Unit Office immediately.

	Rating of Current Performance							
	Almost Never			Half the Time			Almost Always	
	1	2	3	4	5	6	7	
1. Performs job assignments and tasks correctly.	1	2	3	4	5	6	7	cc 50
2. Concentrates while working on job assignments or tasks.	1	2	3	4	5	6	7	
3. Maintains a neat and well groomed appearance.	1	2	3	4	5	6	7	
4. Expresses thoughts adequately about job activities and problems.	1	2	3	4	5	6	7	
5. Learns material from TMs, SMs, and FM's and other written/visual sources like TEC.	1	2	3	4	5	6	7	
6. Thinks through and prepares for job assignments carefully and completely.	1	2	3	4	5	6	7	
7. Gets to parts of the Post without asking for directions.	1	2	3	4	5	6	7	
8. Follows supervisor's instructions the first time in carrying out job assignments and tasks.	1	2	3	4	5	6	7	
9. Understands how parts of equipment used on the job work together.	1	2	3	4	5	6	7	
10. Checks own work upon completion of a job or task using an appropriate method.	1	2	3	4	5	6	7	cc 59

	Rating of Current Performance						
	Almost Never			Half the Time			Almost Always
	1	2	3	4	5	6	7
11. Volunteers for job assignments that require mental abilities (rather than mechanical or physical abilities).	1	2	3	4	5	6	7
12. Completes job assignments and tasks without constant supervision.	1	2	3	4	5	6	7
13. Performs individual job assignments or tasks with minimum help.	1	2	3	4	5	6	7
14. Solves unexpected problems that occur while performing job assignments or tasks.	1	2	3	4	5	6	7
15. Tries to be accurate in spelling, arithmetic, and following instructions.	1	2	3	4	5	6	7
16. Gets along with soldiers in his or her unit.	1	2	3	4	5	6	7
17. Selects and uses the correct information, tools, and equipment that are needed to perform job assignments and tasks.	1	2	3	4	5	6	7
18. Performs job assignments and tasks carefully and completely.	1	2	3	4	5	6	7
19. Learns from job experiences.	1	2	3	4	5	6	7
20. Is flexible in handling new situations and job assignments.	1	2	3	4	5	6	7

cc 60

cc 65

	Rating of Current Performance						
	Almost Never			Half the Time			Almost Always
	1	2	3	4	5	6	7
21. Prepares for job assignments well ahead of schedule.	1	2	3	4	5	6	7
22. Identifies directions such as North, South, East and West correctly.	1	2	3	4	5	6	7
23. Follows procedures given in TMs, SMs, and FMs.	1	2	3	4	5	6	7
24. Understands the relationships and responsibilities of the different duty positions in the unit.	1	2	3	4	5	6	7
25. Utilizes maps and/or diagrams correctly.	1	2	3	4	5	6	7
26. Keeps quarters clean and orderly.	1	2	3	4	5	6	7
27. Thinks through and prepares for job assignments systematically and logically.	1	2	3	4	5	6	7
28. Makes sure that the quality of his or her work is adequate.	1	2	3	4	5	6	7
29. Volunteers to help others who are having difficulties in tasks requiring mental abilities (rather than mechanical or physical abilities).	1	2	3	4	5	6	7
30. Understands how parts of equipment used on the job fit or connect together.	1	2	3	4	5	6	7

cc 7C

cc 7S

	Rating of Current Performance						
	Almost Never			Half the Time			Almost Always
	1	2	3	4	5	6	7
31. Completes job assignments without daydreaming, excessive work breaks, talking with others, etc.	1	2	3	4	5	6	7
32. Uses more than one source of information when useful for performing job assignments or tasks.	1	2	3	4	5	6	7
33. Tries to perform job assignments or tasks before asking for help.	1	2	3	4	5	6	7
34. Pays attention to detail in performing job assignments or tasks.	1	2	3	4	5	6	7
35. Understands why job assignments and tasks are performed to achieve an objective or goal.	1	2	3	4	5	6	7
36. Tries to be precise when needed to carry out job assignments and tasks.	1	2	3	4	5	6	7
37. Shows high morale.	1	2	3	4	5	6	7
38. Performs job assignments and tasks carefully and completely.	1	2	3	4	5	6	7
39. Uses correct names for Army equipment, tasks and places.	1	2	3	4	5	6	7

cc 8C

cc 8E

Question:

How would you describe the difference in this soldier's performance between October of 1981 and the past few weeks? For example, what differences have you noticed in mental performance, and in job performance?

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cc90-

cc92-

cc94-

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Thank you for your cooperation. Please go back and make certain that you have answered every question.

END

DATE  
FILMED

6-82

DTIC