

ST7-186 FY 80
UNITED STATES ARMY

USAIS WRITER'S HANDBOOK

VOLUME II
THE STAFF STUDY



UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA

STAFF STUDY TEXTBOOK



THE STAFF STUDY A SELF-INSTRUCTIONAL LESSON

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THE STAFF STUDY

A SELF INSTRUCTIONAL LESSON

The following instructional material explains principles and procedures for the preparation of staff studies. At future duty assignments check local policy regarding format, organization and length prior to preparing a staff study.

TRAINING OBJECTIVE

TASK: Identify the principles and procedures for the preparation of a staff study.

CONDITION: Given a self instructional text on the preparation of a staff study.

STANDARD: Correctly answer all questions in Book V, Post Test.

TURN TO NEXT PAGE AND READ: INTRODUCTION.

INTRODUCTION

This lesson is designed to introduce you to the military staff study. It describes both a general procedure for the conduct of a staff study and a format for the staff study report. While specific staff study assignments may call for changes in procedure or reporting, the guidelines provided here are designed to help you to avoid serious oversights and wasted effort.

The lesson also includes discussion of several key decision rules or criteria that apply not only to the staff study, but to military decision-making in general.

Following a brief text introduction (in this book) to each phase of the staff study process, you will be directed to answer a series of brief questions in the Question Book (Book I). The questions are designed to give you practice in applying general rules to specific examples. You will be permitted to check your answers on a check page after each item. Complete each item carefully before checking the answers given on the check page. As you work on the questions, keep this Textbook and the Procedural Guide (Book II) opened to the appropriate pages for quick reference.

You should have, in addition to this Textbook, one copy of each of the following:

- a Staff Study Question Book (Book I),
- a Staff Study Procedural Guide (Book II),
- a Sample staff Study Format (Book III),
- an Illustrative Staff Study (Book IV),
- a Posttest (Book V), and
- a Posttest Scoring Key (Book VI)

You will notice that the Question Book (Book I) includes a top and a bottom row of items. They are to be answered in the order in which they are numbered. Having completed the top row, you will return to the front of the book and work through the bottom row. You will be directed out of and back to the Question Book (Book I) at several points during the lesson.

THE PURPOSE AND NATURE OF STAFF STUDIES

Commanders are called upon to solve a wide range of military problems demanding more time than is available to a single individual. One of the functions of his staff is to assist the commander in selecting and executing effective solutions to these problems. In order to obtain an accurate picture of a problem, the commander assigns it to one of his staff officers. Such an assignment is called a staff study. It requires the staff officer (the "action" officer) to research the problem area in detail in order to identify the key problem and to recommend effective action based upon all the relevant facts and an informed discussion of alternative solutions. In most instances, the completed study is submitted by the action officer to his superior in the form of a written report. Separate staff studies are sometimes conducted on component aspects of a larger problem. A staff study may sometimes be initiated and conducted by a staff officer who is particularly interested in a problem.

A staff study has a fixed format that provides for a systematic solving of the problem. The format mirrors the decision making process; thus a full understanding of the process is helpful in preparing a staff study.

In some instances the staff study assignment will come in the form of a clearly stated problem for which you must determine the feasibility. For example: "To determine whether each branch of the service should establish and operate a separate officer candidate school in order to meet the requirements for junior officers in the Army." More commonly it will come in the form of a generalized description of a problem or a set of related problems which requires the determination of the best course of action. The first step, then, is to identify and state the key problem. In order to insure that your study will be appropriate in direction and scope, a statement of the problem is submitted to the commander for his approval. Following approval, your job is to seek solutions based upon relevant facts. Planning guidance which includes constraints, unusual conditions, suspense dates, related studies, etc. must also be provided or sought.

As you study the problem, it will become clear that there is rarely ever one "obviously best" solution. Thus, you must consider and record all the reasonable alternatives and select the one that, based upon your judgment of all the available facts, seems to be superior. Starting with an open mind, consideration of even the wildest idea offers a greater probability of choosing the best solution. Since your decisions will always involve judgment, you must be prepared to defend them with documented facts and, where necessary, valid assumptions.

Usually, you will be required to solicit concurring opinions from other staff members. Individuals who do not agree with your conclusions or with any aspect of your study are thus provided an opportunity to specify their nonconcurrence. When this happens, you must either attach a section to the report in which the nonconcurrence is rebutted or, if the criticism cannot be rebutted, you may have to revise the entire study. The prudent procedure, then, is to anticipate nonconcurrences. This is done by determining possible sources of disagreement as you conduct the study and by providing a firm factual basis for your conclusions.

Before consulting information sources, prepare a work plan. It should specify what information is required, include a plan for assembling the information, list coordinating agencies and outline a time schedule. Studying the plan facilitates selecting a pattern for developing the topic. For example, the historical, indicating the background of the problem; the geographical, which places the problem in spatial relationship; the statistical, with required tables; or the experimental (field study) approach are commonly used structural patterns.

PHASE I: IDENTIFICATION AND STATEMENT OF THE PROBLEM

A crucial step in the conduct of most staff studies is the identification of the specific problem implied by the assignment from the commander. Most frequently, you will be given a general description of a problem area from which you must determine exactly what it is your superior wants to know. Often, he may not be certain what the key problem is and wants you, as a first step in the staff study, to determine the key problem. Unless you are expert in the area, some investigation will be necessary before you can make that determination. Once you have made it, you will then draft a statement of the problem and submit it for approval before proceeding with the study. In order to be approved, the statement must be in the form of an infinitive phrase that specifies the general purpose of the study; e.g., to determine, to assist. Furthermore, the scope of the problem must be precisely indicated so that it is clear both to you and to your commander exactly what is to be included in the study. This approval step will fix the scope of the problem and insure that your study will be neither too broad nor too narrow. Any subsequent changes in scope should be approved by the commander.

On the basis of the above paragraph and on the basis of the first seven steps of the Procedural Guide, answer the questions in items 5-13. Before you begin the questions, open the booklet entitled the Staff Study Procedural Guide (Book II) and read the first seven steps under 1. Identification and statement of the Problem.

PHASE II: RESEARCH AND DATA COLLECTION

Having identified an appropriate problem and received his superior's approval of the Statement of the Problem, the action officer begins the search for its solution.

As suggested in the Procedural Guide (Book II), he should engage in some "brain-storming," visualizing as many potential solutions to the problem as occur to him without regard to their practicality. This is done before intensive research so that potentially useful, novel solutions will not be inhibited by too much knowledge. Having composed this list, he begins intensive research to collect all the relevant facts that relate to the problem.

The primary source of information for the study will be official documents. This includes technical reports, operating manuals, previous staff studies, the Congressional Record, etc. Access to this information may be gained, for example, from technical libraries, available bibliographies and abstracts, and the Defense Documentation Center.

Collection of data involves the following steps:

- a. List required information and possible sources.
- b. Consult those sources.
- c. Eliminate further consideration of sources which are of limited value.
- d. Evaluate information available from remaining sources.
- e. Make notes.
- f. Organize notes according to topic and subtopic.

If time permits, and if it seems appropriate, the action officer may supplement official document data by collecting original data from persons intimately connected with the problem. Included in this category are:

- a. Experienced local colleagues.
- b. Subject-matter experts.
- c. Operational personnel who have firsthand knowledge of the problem.

The methods considered for collection of original data include:

- a. Interviews either by telephone or personal visits.
- b. Letter requests for specific information.
- c. Administration of questionnaires to operational personnel.

Be particularly careful to check the soundness of the sources of information. Ask the following questions in evaluating the information.

- a. Is the information relevant and timely?
- b. Is the information credible?
- c. Is the information accurate?

Tips on conducting research and using the library are contained in the USAIS Writer's Handbook, ST 7-186.

PHASE III: INTERPRETATION OF DATA

As data collection progresses, the action officer begins to pare down his list of potential solutions. He first rejects all solutions that, based upon the data, seem unsuitable to solve the problem. A solution is not suitable if it is not capable of solving the problem or accomplishing the mission.

Before completing his research he informally seeks out sources of potential disagreement with his suitable solutions. These nonconcurrences are used to help guide further research.

Another guide to further research is provided by considering whether each suitable solution is feasible and acceptable. Feasible solutions can be implemented with available resources. Acceptable solutions are worth the cost or risk involved in their implementation. These decisions suggest facts necessary for complete evaluation of alternative solutions. Sometimes, relevant information is unobtainable. If information crucial to evaluating alternative solutions cannot be documented, then it must be replaced by a valid assumption. All missing facts should be considered tentative assumptions until data collection is completed.

The application of the criteria of suitability, feasibility, and acceptability thus helps direct further research in three ways:

- (1) By screening out unsatisfactory solutions,
- (2) By identifying solutions that should be checked for nonconcurrences, and
- (3) By calling attention to facts needed for evaluating alternative solutions.

Further research is thus directed toward facts needed to

- (1) evaluate nonconcurrences, and
- (2) to replace tentative assumptions.

PHASE IV: EVALUATION OF ALTERNATIVE SOLUTIONS

After extensive research, the action officer must select the superior solution to the problem. He begins by screening out obviously infeasible or unacceptable solutions. The remaining alternatives must then be weighed against each other singly and, perhaps, in various combinations. The superior solution is the one that best fulfills the criteria of suitability, feasibility and acceptability. The solution chosen must measure up to all three.

If possible, the superior solution should rest solely upon documented facts. If a crucial fact is not available, it must be replaced by a valid assumption. A valid assumption substitutes for a fact that bears directly upon the problem.

Valid assumptions describe conditions that must be fulfilled before the conclusions can be accepted without reservation. Thus, assumptions are avoided if possible. However, if a valid assumption is crucial to the action officer's decision, it must be stated.

In order to organize his reasoning, it is useful for the action officer to put it on paper in an outline or draft. This permits him, as well as outside critics, to evaluate his logic and point out any weaknesses that may exist before submission of a final report.

There is no rule which governs when to conclude investigation and start writing. Survey the findings and mentally summarize results as you gather the information. When the findings are adequate, formulate conclusions. Coming to conclusions is a crucial stage in the work. There is a temptation to jump to conclusions hastily after finding some of the first valuable data. Avoid this mistake by pursuing research after the first enthusiasm wears off. When all the facts are assembled and in a convenient form, new insights may be developed.

It is essential to develop the conclusions and recommendations fully: (1) state the conclusions, (2) indicate limitations of the conclusions, if any, and (3) show application or recommendations. Check to see they are based on the facts, they cover all aspects of the problem and no further consideration is needed to support any recommendations you make.

In checking the findings, consider not only the gathered supporting evidence but also the lack of supporting evidence. In other words, consider negative aspects of the case as well as the positive ones.

A careful check of the findings and conclusions is the best possible preparation for writing. If all the ideas are fitted together in a logical sequence, the continuity of thought that is necessary for successful writing will be maintained.

PHASE V: PREPARATION OF THE STAFF STUDY REPORT

Staff study reports, while varying in format requirements from one command to another, generally follow the format described in the booklet entitled, the Sample Staff Study Format (Book III) and exemplified by the Illustrative Staff Study (Book VI).

The Body of the report contains - in three single-spaced typewritten pages or less - a summary of the information necessary for rapid evaluation. It includes these six basic elements:

1. Statement of the Problem.
2. Valid Assumptions (if any).
3. Facts Bearing on the Problem.
4. Discussion.
5. Conclusions.
6. Recommendations (if any).

Other elements of the report may include:

1. A list of annexes.
2. Concurrences.
3. Nonconcurrences.
4. Considerations of nonconcurrences.
5. A list of Annexes added to summarize lengthy nonconcurrences and their considerations.
6. Action by the approving authority.
7. The annexes, themselves, containing for example:
 - a. Detailed data.
 - b. Lengthy discussions.
 - c. Execution documents.
 - d. Bibliography.

Inclosures are used to keep the body of the report concise, yet provide ready reference to expanded detail and supporting information. Inclosures are presented as annexes which may be further subdivided into appendixes, and, finally, tabs. AR 340-15 governs the specific composition and organization and writing format used in all military correspondence.

Book I

STAFF STUDY QUESTION BOOK



**THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON**

Answer the questions in Items 1-4 by
referring to Textbook page 3 as necessary

1. Staff studies are employed for a (check one)

particular category
of command problems.

wide range of
military problems.

☐☐

Staff studies are intended primarily to (check one)

provide a factual basis
for command decisions.

enable staff officers to display
their personal knowledge and opinions.

☐☐

Turn to the next page and check your answers.

IV

50. Before each of the following bits of data, write the number of its most appropriate description:

Problem: "To evaluate the effectiveness of the present system of handling prisoners of war captured by combat units."

- | | | |
|--|-------|---|
| 1. A prediction of future events | _____ | Most field commanders are unhappy with the present system of handling prisoners. |
| 2. A fact that requires a conclusion | _____ | General Smith has stated: "Immediate evacuation of PW's to the rear would have a salutary effect upon combat-troop morale." (New York Times, May 17, 1964.) |
| 3. Undocumented information | _____ | Units of the 52d Mech Div used a modified system of processing PW's during the Korean conflict. (History of the Korean Conflict, an Official Report, USA) |
| 4. A personal opinion | _____ | Large numbers of PW's will continue to be captured by combat units. |
| 5. A fact that does not bear <u>directly</u> | _____ | The mechanized division is capable of conducting sustained combat operations. (TOE 37G). |

1a.

wide range of
military problems.



provide a factual
basis for command decision.



Turn to page 3 and continue.

IV

50a.

- | | |
|--|--|
| 1. A prediction of future events | <u>3</u> Most field commanders are unhappy with the present system of handling prisoners. |
| 2. A fact that requires a conclusion | <u>4</u> General Smith has stated: "Immediate evacuation of PW's to the rear would have a salutary effect upon combat-troop morale." (New York Times, May 17, 1964.) |
| 3. Undocumented information | <u>2</u> Units of the 52d Mech Div used a modified system of processing PW's during the Korean conflict. (History of the Korean Conflict, an Official Report, USA) |
| 4. A personal opinion | <u>1</u> Large numbers of PW's will continue to be captured by combat units. |
| 5. A fact that does not bear <u>directly</u> | <u>5</u> The mechanized division is capable of conducting sustained combat operations. (TOE 37G). |

2. A staff study is best described as a

written
report.

research and problem-
solving process.



The officer who conducts a staff study is called the

action officer.

directing authority.



IV

54. A valid assumption is best described (see Textbook) as -

unobtainable data that bears
directly upon the problem.

a device used to simplify
the problem as originally stated.



It is stated in positive language, incorporating the auxiliary verb "will." For example:

Troop requirements will
remain near current levels
in the immediate future.

The situation is likely
to continue unchanged
for the next year.



i.

research and problem-
solving process.



action officer.



IV

5!a.

Unobtainable data that bears
directly upon the problem.



Troop requirements will
remain near current levels
in the immediate future.



3. Staff studies are

always initiated
by the commander.

sometimes initiated and
conducted by a staff officer.



Staff studies are aimed at

discovery of the correct
solution to the problem.

selection of the most
promising of several alternative
solutions to a problem.



IV

52. In order to be "valid," an assumption must describe information that is unobtainable. For example:

performance data
that was too much
trouble to find.

events that
have not yet
occurred.



sometimes initiated and
conducted by a staff officer.



selection of the most
promising of several alternative
solutions to a problem.



IV

52a.

events that
have not yet
occurred.



4. The conclusions of the staff study may be evaluated

only by the
directing authority.

by all interested
staff members.



Nonconcurrences (dissenting staff opinions) are better solicited

upon completion
of the staff study.

during the conduct of
the staff study.



IV

53. The term "valid" is given a somewhat special meaning in the context of staff study assumptions. It is not synonymous with factual accuracy.

A "valid assumption" -

must be
factually accurate.

may or may not
be factually accurate.



4a.

by all interested
staff members.



during the conduct of
the staff study.



Turn to page 4 in the Textbook and read Phase I: Identification and Statement of the Problem.

IV

53a.

may or may not
be factually accurate.



4. Stating the problem may best be described as a task that requires the action officer
simply to reword the assignment into the proper format. to identify and formulate the key problem.



Before stating the problem, preliminary research is

seldom
necessary.

almost always
necessary.



IV

54. Valid assumptions establish requirements that must be fulfilled if the recommended solution is to be successful.

Typically, they describe -

future eventualities upon
which the success of
the solution depends.

facts documented
in an
obscure manual.



I

5a.

to identify and formulate
the key problem.



almost always
necessary.



IV

54a.

future eventualities upon
which the success of
the solution depends.



I

6. In order to be approved, a problem statement must be stated as an infinitive phrase. For example:

How can armor units
best be deployed
in MOUT?

To determine the best
deployment of armor units
in MOUT.



IV

55. If the outcome will be unaffected regardless of whether or not an assumption turns out to be factually accurate then that assumption is not considered "valid."

For an assumption to be valid, the suitability, feasibility, or acceptability of the superior solution must -

not be based
upon the accuracy
of the assumption.

be based upon
the accuracy
of the assumption.



I

6a.

To determine the best
deployment of armor units
in MOUF.



IV

55a.

be based upon
the accuracy
of the assumption.



I

7. The problem statement that is correctly phrased is:

A determination of the best
mix of armor and infantry units in
a division for operations in a mid intensity
environment (European Scenario)

To determine the best mix of
armor and infantry units in a division for
operations in a mid intensity environment
(European Scenario)



IV

56. Check the assumption that does not appear to be crucial to the success of a recommended solution whether it turns out to be accurate or not.

Problem: To determine the optimum basic load of ammunition for an infantry division.

_____ Infantry division systems will not be radically altered in the near future.

_____ Red China will not be admitted to the United Nations next year.

The assumption that you checked is -

valid.

not valid.



I

7a.

To determine the best mix of
armor and infantry units in a
division for operations in a mid
intensity environment (European Scenario)

X

IV

56a. X Red China will not be admitted to the United Nations next year.

not valid.

X

I

8. The statement of the problem must precisely define the scope of the study indicating its specific goal. For example -

To investigate the capabilities
of Army helicopters in pilot
rescue operations.

To investigate the
capabilities of
Army helicopters.



IV

57. If the outcome of the recommendation is not necessarily affected by the factual accuracy of an assumption, then that assumption is -

valid.

not valid.



To investigate the capabilities
of Army helicopters in
pilot rescue operations.



IV

57a.

not valid.



I

9. The scope of a staff study problem should be consistent with the time allotted to the action officer for conducting the study. The more appropriate problem for a 3-day staff study would be--

To analyze the role
of aircraft in
ground warfare.

To analyze the role of helicopters
in the control of infantry battalion
operations in combat.



IV

58. If a valid assumption turns out to be inaccurate, then the recommended solution -
will fail. will work anyway.



To analyze the role of helicopters
in the control of infantry battalion
operations in combat.



IV

58a.

will fail.



I

10. The staff study must be directed toward an appropriate problem: the one intended by the commander. Read this assignment and check the more appropriate problem statement below.

"Armored personnel carriers are generally regarded as leaving a lot to be desired. Their vulnerability to artillery and antitank fire leads to excessive casualties. How can we improve the vehicles to reduce troop losses during operations?"

To identify changes in armored
personnel carrier design necessary
to reduce casualties
during operations.

To identify the most effective techniques
for diverting artillery and antitank fire
away from armored personnel carriers
during operations.



IV

59. For the problem of developing an alternative method for handling PW's taken by combat units of the 20th Inf Div, the recommended solution is to evacuate all PW's to the communications zone within 24 hours. Match each assumption with its appropriate description.

<u>Descriptions</u>	<u>Assumptions</u>
1. not critical to the outcome	_____ Adequate transportation facilities will continue to be available to support 24-hour evacuation.
2. a valid assumption	_____ Combat battalions of the 20th Inf Div are equipped with at least twenty 2 1/2 ton trucks.
3. information that could have been obtained	_____ The 20th Inf Div will continue to be commanded by General Smith.

I

10a.

To identify changes in armored
personnel carrier design necessary
to reduce casualties
during operations.



IV

59a.

<u>Descriptions</u>	<u>Assumptions</u>
1. not critical to the outcome	<u>2</u> Adequate transportation facilities will continue to be available to support 24-hour evacuation.
2. a valid assumption	<u>3</u> Combat battalions of the 20th Inf Div are equipped with at least twenty 2 1/2 ton trucks.
3. information that could have been obtained	<u>1</u> The 20th Inf Div will continue to be commanded by General Smith.

I

11. Match each of these faulty problem statements with its appropriate diagnosis.

- | | | |
|-------------------------------------|-------|---|
| 1. Improperly phrased | _____ | To analyze the role of armor units in the active defense. |
| 2. Too broad for a short-term study | _____ | To evaluate the effectiveness of the fixed-wing airplane. |
| 3. Scope of problem not specified | _____ | A study of the uses of helicopters in the control of infantry battalion operations in combat. |

IV

60. For the problem: To determine the optimum method for handling PW's captured by combat units, the solution given was immediate evacuation of PW's to the rear. The assumption: adequate transportation facilities will be available, was valid because _____

(complete the sentence.)

I

11a.

- | | |
|-------------------------------------|--|
| 1. Improperly phrased | <u>2</u> To analyze the role of armor units in the active defense. |
| 2. Too broad for a short-term study | <u>3</u> To evaluate the effectiveness of the fixed-wing airplane. |
| 3. Scope of problem not specified | <u>1</u> A study of the uses of helicopters in the control of infantry battalion operations in combat. |

IV

60a. Your answer should mean the same as the following:

WITHOUT THEM, THE SOLUTION WILL FAIL (IT IS CRUCIAL TO THE OUTCOME).

I

12. Below each of these problem statements, either indicate "O.K." if it is appropriate for a 3-day study or restate it in a form that is more appropriate.

A. How can we best provide messenger service to units in the infantry division during offensive operations?

B. To assess current needs of enlisted forces in the Army.

C. To determine the optimum deployment of the COMMCEN section of the signal command operations company during offensive operations.

IV

61. Since valid assumptions stipulate eventualities that may or may not materialize, it is clear that valid assumptions are -

factually
accurate.

not necessarily
factually accurate.

☐☐

I

- 12a. A. TO DETERMINE THE BEST METHOD OF PROVIDING MESSENGER SERVICE TO UNITS IN THE INFANTRY DIVISION DURING OFFENSIVE OPERATIONS.
- B. TO ASSESS CURRENT NEEDS OF ENLISTED FORCES (IN SOME DELIMITED CONTEXT).
- C. O.K.

IV

61a.

not necessarily
factually accurate.

X

13. Major Smith was given the following staff study assignment, to be completed in one week:

"Look into the capabilities of the Redeye weapons system and come up with some recommendations for improving its application in defensive situations. Reports have indicated that experience with the system against low-flying aircraft have been somewhat less than satisfactory."

Write an appropriate problem statement for his staff study.

IV

62. If one could prove the accuracy of an assumption at present, it would be a fact. On the other hand, in order for an assumption to be valid it must -

have a reasonable
basis in fact.

be factually
accurate.



I

- 13a. STATEMENT MUST BEGIN WITH AN INFINITIVE PHRASE, STIPULATING THE PURPOSE AND DELIMITING THE SCOPE OF A STUDY THAT CAN REASONABLY BE CONDUCTED IN ONE WEEK; E.G., "TO DETERMINE THE OPTIMUM DEPLOYMENT OF THE REDEYE WEAPONS SYSTEM AGAINST LOW-FLYING AIRCRAFT."

Go back and read Text book, Phase II: Research and Data Collection, then continue.

IV

62a.

have a reasonable
basis in fact.

X

II

14. The action officer begins to visualize tentative solutions to the problem -

only after collecting
the relevant facts.

both before and after
collection of the facts.



IV

63. Which one of these assumptions has the more reasonable basis in fact (is more likely to prove accurate)?

52d mech Div will
capture 200 to 300 percent
more prisoners in
the next 3 months.

the number of prisoners
captured by 52d Mech Div
in the next 3 months will be
within ± 50 percent of current figures.



II

14a.

both before and after
collection of the facts.



IV

63a.

the number of prisoners
captured by 52d Mech Div
in the next 3 months will be
within ± 50 percent of current figures.



II

15. What is the purpose of "brainstorming?"

IV

64. Which of these assumptions would you be less likely to accept as valid?

The retention of PW's
will continue to reduce
the combat effectiveness
of capturing units.

Technological advances will
permit combat units to
retain prisoners at no cost
in combat effectiveness.

☐☐

II

15a. Your answers should mean the same as the following:

TO INSURE THAT NOVEL SOLUTIONS ARE NOT INHIBITED BY TOO MUCH KNOWLEDGE.

IV

64a.

Technological advances will
permit combat units to
retain prisoners at no cost
in combat effectiveness.



II

16. The search for documented facts should proceed from the general to the specific. For example, an action officer would read a previously prepared staff study related to his problem -

after having completed
his search of the
card catalog.

as he finds the reference
during his search
of the card catalog.



IV

65. Because of the restrictions they place upon the outcome of the recommendations, it is obvious that valid assumptions -

limit the
usefulness of
the staff study.

broaden the
usefulness of
the staff study.



II

16a.

after having completed
his search of the
card catalog.



IV

65a.

limit the
usefulness of
the staff study.



II

17. Number each of the following steps to indicate the sequence in which they should be accomplished. (See the Procedural Guide, Book II.)

- _____ Skimming through original source documents.
- _____ Taking notes from pertinent source documents.
- _____ Drafting potential solutions to supplement the brainstorming list.
- _____ Consulting card catalogs, abstracts, and other reference listings.
- _____ Drafting a list of solutions during a brainstorming session.

IV

66. Given a choice between two alternative solutions that appeared equally good except that one required a valid assumption, the superior solution would be the one based -

upon a valid
assumption.

solely upon
documented facts.



II

17a.

- 3 Skimming through original source documents.
- 4 Taking notes from pertinent source documents.
- 5 Drafting potential solutions to supplement the brainstorming list.
- 2 Consulting card catalogs, abstracts, and other reference listings.
- 1 Drafting a list of solutions during a brainstorming session.

IV

66a.

solely upon
documented facts.

X

II

18. Collection of survey or questionnaire data is appropriate when time permits and when the documented facts would be valuable augmented by such data. If the study is directed toward attitudes or behavior or personnel, collection of original data would be particularly appropriate. The more appropriate problem for questionnaire data would be:

To determine the
optimum mix of weapons
for an infantry division.

To determine techniques
for enhancing the morale of
infantry division personnel.



IV

67. Valid assumptions -

are avoided whenever
it is possible.

are typical of high-
quality staff study reports.



II

18a.

To determine techniques
for enhancing the morale of
infantry division personnel.

X

IV

67a.

are avoided whenever
it is possible.

X

II

19. The collection of survey data would be more appropriate for the problem:

To investigate the
attitudes of enlisted
personnel toward reenlistment.

To assess the effectiveness
of XYZ helicopters in
combat service support operations.



IV

68. Assumptions should not radically alter the scope of or redefine the stated problem.

An example of such an invalid assumption is:

Problem: To determine the optimal deployment of Army units in defense of US coasts.

Assumption A

coastal attack will
be limited to the
east coast of the United States.

Assumption B

coastal attack will
include surface as well
as subsurface threats.



II

19a.

To investigate the
attitudes of enlisted
personnel toward reenlistment.



IV

68a.

Assumption A

coastal attack will
be limited to the
east coast of the United States.



II

20. Check the two situations in which survey data collection would be most appropriate.

_____ A study of the utility of the AHIG helicopter in close air support operations.

_____ A study aimed at design recommendations for improving the effectiveness of armored personnel carriers.

_____ A study aimed at design recommendations for improving operator effectiveness of a widely used piece of equipment.

_____ A study designed to increase retention of personnel in selected enlisted groups.

IV

69. One can always imagine future eventualities that could affect the outcome of one's recommendation. However, if there is no reason whatever to doubt their factual accuracy, they need not be stated.

Two such non-stated (non-valid) assumptions for the coastal-defense problem would be:

_____ The general geographic contours of the US coast will remain unchanged for the next decade.

_____ The ocean will continue to be composed mainly of water.

_____ Coastal attack will include air as well as surface and subsurface threats.

II

20a.

- ☐ A study of the utility of the AHIG helicopter in close air support operations.
- ☐ A study aimed at design recommendations for improving the effectiveness of armored personnel carriers.
- ☒ A study aimed at design recommendations for improving operator effectiveness of a widely used piece of equipment.
- ☒ A study designed to increase retention of personnel in selected enlisted groups.

Return to the Textbook and read Phase III: Interpretation of Data

IV

69a.

- ☒ The general geographic contours of the US coast will remain unchanged for the next decade.
- ☒ The ocean will continue to be composed mainly of water.
- ☐ Coastal attack will include air as well as surface and subsurface threats.

III

21. To meet the criterion of suitability, a potential solution must -

be worth the
cost or risk
it involves.

be capable of
implementation with
the resources available.

resolve the problem
or achieve
the mission.



IV

70. Match with its most appropriate description, each non-valid assumption about improving the effectiveness of the infantry division in defense operations by employing a Redeye.

- | | |
|--|--|
| 1. no one would doubt this | _____ The Redeye will quadruple the potency of infantry divisions against low-flying aircraft. |
| 2. insufficient basis in fact:
highly unlikely to prove
accurate | _____ The Redeye will only be employed against high performance aircraft. |
| 3. assumes away part of the
problem by redefining it | _____ Enemy aircraft will continue to pose a threat to the infantry division. |

III

21a.

resolve the problem
or achieve
the mission.



IV

70a.

- | | |
|--|---|
| 1. no one would doubt this | <u>2</u> The Redeye will quadruple the potency of infantry divisions against low-flying aircraft. |
| 2. insufficient basis in fact:
highly unlikely to prove
accurate | <u>3</u> The Redeye will only be employed against high performance aircraft. |
| 3. assumes away part of the
problem by redefining it | <u>1</u> Enemy aircraft will continue to pose a threat to the infantry division. |

III

22. The criterion of suitability involves only an estimate of the extent to which a course of action will "get the job done" without considering its practicability or cost.

For example, a suitable method for adding to the firepower of infantrymen would be to equip each one with -

45 caliber pistols.

thicker helmets.



IV

71. Check off those reasons that would lead you to reject an assumption as not valid.

- ☐ It describes a future eventuality.
- ☐ It modifies the scope of the problem as originally stated and approved.
- ☐ It cannot be proven at present.
- ☐ It has no basis in fact; it is highly unlikely to prove accurate.
- ☐ It is so certain to be factually accurate that no one would doubt it.
- ☐ It describes an available fact that was not traced down to its source.
- ☐ If it turns out to be inaccurate, the recommended action will likely fail to solve the problem.
- ☐ It is not stated in positive language incorporating the verb "will."

III

22a.

45 caliber pistols.



IV

71a.

- ☐ It describes a future eventuality.
- ☒ It modifies the scope of the problem as originally stated and approved.
- ☐ It cannot be proven at present.
- ☒ It has no basis in fact, it is highly unlikely to prove accurate.
- ☒ It is so certain to be factually accurate that no one would doubt it.
- ☒ It describes an available fact that was not traced down to its source.
- ☐ If it turns out to be inaccurate, the recommended action will likely fail to solve the problem.
- ☒ It is not stated in positive language incorporating the verb "will."

III

23a.

institute a 1 percent pay increase
for all enlisted personnel.

X

IV

72a.

few valid
assumptions, if any.

X

III

24. Place a check mark beside each potential solution that appears to be suitable for significantly improving the defensive capability of infantry division against attack by armor units.

- _____ Increase the number of caliber .50 machineguns in the infantry battalion from 13 to 16.
- _____ Provide each infantry battalion with an additional radar set AN/PPS-4.
- _____ Increase significantly the basic load of antitank mines.
- _____ Provide the division with two additional tank battalions.

IV

73. Despite the limiting effect of valid assumptions upon the usefulness of the study, failure to state a valid assumption on which the conclusion hinges is a grievous error.

Which of these officers would more likely be accused of such an error?

Problem: To improve surveillance capabilities of the infantry division.

Assumptions: None.

Major Smith's Recommendation

That all radar operators
complete the prescribed training
course prior to assignment
to duty.

Major Jones' Recommendation

That all current radar
equipment be replaced by the
revolutionary new device being
developed by the Electro Mfg. Co.



III

- 24a. _____ Increase the number of caliber .50 machineguns in the infantry battalion from 13 to 16.
- _____ Provide each infantry battalion an additional radar set AN/PPS-4.
- X Increase significantly the basic load of antitank mines.
- X Provide the division with two additional tank battalions.

IV

73a.

Major Jones' Recommendation

That all current radar
equipment be replaced by the
revolutionary new device being
developed by the Electro Mfg. Co.

 X

III

25. In your own words, define: "A suitable solution."

IV

74. The poorest staff study is the one with a conclusion that is based upon

no valid
assumptions.

two valid
assumptions.

a valid assumption
that is not stated.

☐☐☐

III

25a. Your definition should mean the same as:

ONE WHICH APPEARS CAPABLE OF SATISFYING THE PROBLEM, ACCOMPLISHING THE MISSION, GETTING THE JOB DONE (WITHOUT REGARD TO PRACTICABILITY OR COST).

IV

74a.

a valid assumption
that is not stated.

X

III

26. In order to meet the criterion of feasibility, a solution should promise to -

produce an outcome
that justifies
its cost.

be capable of
execution with the
resources available.

satisfy the
goal of
the study.



IV

75. Complete this sentence. (See the Procedural Guide, Book II)

Before drafting his Discussion, the action officer lists (1) valid _____,

(2) facts that _____,

and (3) _____.

III

26a.

be capable of
execution with the
resources available.

X

IV

75a. ASSUMPTIONS

BEAR DIRECTLY UPON THE PROBLEM

ALTERNATIVE SOLUTIONS REMAINING TO BE CONSIDERED

III

27. A solution can be capable of getting the job done but, because current resources or technology are lacking, not be feasible.

For example, increasing the firepower of infantrymen by equipping each one with -

automatic
weapons.

heat-seeking
rifle bullets.



IV

76. The Discussion contains a written comparison of two or more alternative solutions to the problem.

If only one solution appears to be reasonable, then -

only that solution
is discussed.

the reasons for its superiority over other
specified solutions are presented.



[[[

27a.

heat-seeking
rifle bullets.



IV

76a.

the reasons for its superiority over other
specified solutions are presented.



III

28. Feasible solutions are not necessarily worth the cost or risks that they involve.

For example, improving the armored personnel carrier capability by refitting all of them with -
turbine engines.

the latest operational
fuel systems.



IV

77. The Discussion

always mentions
at least two
alternative solutions.

mentions only one solution
if it is obviously superior
to any alternative



III

28a.

turbine engines.



IV

77a.

always mentions
at least two
alternative solutions.



III

29. Using the phrases given below, construct a definition for a feasible solution:

current "state of the art"
available resources
probable cost

IV

78.

(Complete.)

The primary basis for selecting the superior solution is how well it fulfills the criteria of

_____ , _____ ,
and _____ .

If two solutions fulfill the criteria equally well, then one would select the one based on -

fewer valid
assumptions.

more valid
assumptions.

29a. Your definition should mean the same as the following:

A FEASIBLE SOLUTION IS ONE THAT, REGARDLESS OF THE PROBABLE COST, CAN BE IMPLEMENTED WITHIN LIMITATIONS OF THE CURRENT STATE OF THE ART AND AVAILABLE RESOURCES.

IV

78a. SUITABILITY

FEASIBILITY

ACCEPTABILITY

fewer valid
assumptions.

X

III

30. Place a check mark beside the two potential solutions that appear to be most feasible for improving the effectiveness of amphibious assault operations.

☐ Switch from production of current LST's to plasma-powered vehicles.

☐ Gradually replace all pre-1950 LST's with the latest models.

☐ Intensify shelling of shore areas prior to landing.

☐ Persuade Congress to quadruple the appropriation for research on experimental amphibious vehicles.

IV

79. The solution selected as superior must qualify as suitable, feasible, and acceptable.

Solution A is of highly doubtful feasibility and acceptability and involves no assumptions.

Solution B appears to satisfy all three criteria and involves two valid assumptions.

The superior solution is (A/B).

(Circle one)

III

30a.

- ☐ Switch from production of current LST's to plasma-powered vehicles.
- ☒ Gradually replace all pre-1950 LST's with the latest models.
- ☒ Intensify shelling of shore areas prior to landing.
- ☐ Persuade Congress to quadruple the appropriation for research on experimental amphibious vehicles.

IV

79a. B

III

31. In your own words, describe what is meant by a solution that fulfills the criterion of feasibility.

IV

80. Solutions A and B appear equal with respect to suitability, feasibility, and acceptability. Solution B is based upon fewer valid assumptions. The superior solution is _____.

III

31a. Your answer should mean the same as the following:

A SOLUTION THAT CAN BE IMPLEMENTED WITH THE RESOURCES THAT ARE CURRENTLY AVAILABLE.

IV

80a.

B

III

32. Evaluating the acceptability of a solution requires the largest degree of extrapolation beyond factual data in order to judge whether or not the solution -

will solve
the problem.

promises results
worth the cost.

can be
implemented.

☐
☐
☐

IV

81. The most difficult choice between two solutions arises when one of them involves an extra valid assumption, but otherwise seems somewhat superior. For selecting the superior solution under these circumstances -

A. A general rule
cannot be
stated.

B. A great degree
of judgment
is required.

C. Both A and B
are true.

☐
☐
☐

III

31a.

promises results
worth the cost.



IV

81a.

C. Both A and B
are true.



III

33. Assume that both of the following are suitable and feasible solutions for enhancing the military capabilities of one of our Allies.

Which one is less likely to be acceptable?

Provide military
training in the United States
for Allied officers.

lend our Allies
TOE equipment for an air
cavalry division.

☐☐

IV

82. Solution A involves no assumptions. Solution B involves two valid assumptions, but it slightly better satisfies the three criteria.

Given only this much information, it is -

clear that
solution A
is superior.

not possible to
say which is
the superior solution.

clear that
solution B
is superior.

☐☐☐

III

33a.

lend our Allied
TOE equipment for an air
cavalry division.



IV

82a.

not possible to
say which is
the superior solution.



III

34. Using the words provided below, construct a definition of an acceptable solution.

cost

risks

outcome

IV

83. Using the phrases given below, construct a sentence describing the superior solution.

based upon the smallest number

the superior solution

satisfies the criteria of

best

III

34a. Your answer should mean the same as the following:

AN ACCEPTABLE SOLUTION IS ONE WHICH PROMISES AN OUTCOME THAT IS WORTH THE COST OR RISK IT ENTAILS.

IV

83a. Your answer should mean the same as:

THE SUPERIOR SOLUTION IS THE ONE THAT BEST FULFILLS THE CRITERIA OF SUITABILITY, FEASIBILITY, AND ACCEPTABILITY AND IS BASED UPON THE SMALLEST NUMBER OF (VALID) ASSUMPTIONS.

III

35. Place a check mark beside the most clearly unacceptable method for enhancing US atlantic coastal air defense. (Assume that all are suitable and feasible.)

_____ Station air defense units in positions to protect the most vulnerable targets.

_____ Gradually replace current detection devices on east coast with the newest models.

_____ Deploy all air defense units along the Atlantic coast.

IV

84. Before each of the following hypothetical pairs of alternative solutions, write the letter of the superior solution. If the information is insufficient to choose, write in a question mark.

_____ Pair 1: Solution A involves one valid assumption, and is of doubtful feasibility.
Solution B appears to satisfy all three criteria, and involves no assumptions.

_____ Pair 2: Solution A involves two valid assumptions. However, it seems to fulfill the three criteria a little better than does solution B which involves no assumptions.

_____ Pair 3: Solutions A and B appear equally to satisfy the three criteria. Solution A involves two valid assumptions; solution B only one valid assumption.

_____ Pair 4: Solution A, involving two assumptions, appears to satisfy all three criteria. Solution B, which appears to be neither feasible nor acceptable, involves no assumptions.

III

35a.

- _____ Station air defense units in positions to protect the most vulnerable targets.
- _____ Gradually replace current detection devices on east coast with the newest models.
- X Deploy all air defense units along the Atlantic coast.
(Leaves Pacific Coast undefended)

IV

84a.

- B Pair 1: Solution A involves one valid assumption, and is of doubtful feasibility.
Solution B appears to satisfy all three criteria, and involves no assumptions.
- ? Pair 2: Solution A involves two valid assumptions. However, it seems to fulfill the three criteria a little better than does solution B which involves no assumptions.
- B Pair 3: Solutions A and B appear equally to satisfy the three criteria. Solution A involves two valid assumptions; solution B only one valid assumption.
- A Pair 4: Solution A, involving two assumptions, appears to satisfy all three criteria. Solution B, which appears to be neither feasible nor acceptable, involves no assumptions.

Read Textbook, Phase V.

III

36. In your own words, describe what is meant by a solution that fulfills the criterion of acceptability.

V

85. The Body of the report is usually limited to _____ single-spaced pages. It contains six basic elements (see Textbook):

1. Statement of the _____
2. Valid _____ (not always required)
3. _____
4. _____
5. _____
6. _____ (not always required)

III

36a. Your answer should mean the same as the following:

A SOLUTION THAT PROMISES RESULTS WHICH JUSTIFY THE LIKELY COST OR RISKS INVOLVED.

V

85a. 3

PROBLEM

ASSUMPTIONS

FACTS THAT BEAR DIRECTLY ON THE PROBLEM

DISCUSSION

CONCLUSION(S)

RECOMMENDATIONS(S)

III

37. Match each criterion with the class of facts to which it refers.

☐

Feasibility

1. Records of past performance, capability data, intended objectives.

☐

Acceptability

2. Convenience, efficiency, complexity, and undesirable side effects of particular operations; urgency of problem.

☐

Suitability

3. Amount and nature of material, manpower, and equipment in present use.

V

86. If a specific relevant fact is not important enough to be mentioned in the Discussion, it -

belongs in the body
of the report under Facts
Bearing on the Problem.

probably belongs in
an inclosure.

☐☐

III

37a.

3

Feasibility

1. Records of past performance, capability data, intended objectives.

2

Acceptability

2. Convenience, efficiency, complexity, and undesirable side effects of particular operations; urgency of problem.

1

Suitability

3. Amount and nature of material, manpower, and equipment in present use.

V

86a.

probably belongs in
an inclosure.

X

III

38. Briefly define each criterion:

Suitable: _____

Feasible: _____

Acceptable: _____

V

87. A reasonable guide to selecting Facts that Bear on the Problem is to include only those that, if unobtainable, would qualify as -

non-valid
assumptions.

valid
assumptions.



III

38a. Suitable: WILL DO THE JOB (ACCOMPLISH THE MISSION).

Feasible: CAN BE CARRIED OUT WITH AVAILABLE RESOURCES.

Acceptable: IS WORTH THE COST OR RISK.

V

87a.

valid
assumptions.



III

39. Number the criteria to indicate the order in which they are applied during evaluation of tentative solutions.

_____ Feasibility
_____ Suitability
_____ Acceptability

V

88. The section in the body of the report that usually contains a resume of a more detailed treatment placed in an attachment is the - (see Sample staff Study Format, Book II)

Discussion

Conclusions.

Recommendations.



III

39a. 2 Feasibility
1 Suitability
3 Acceptability

V

88a.

Discussion.

X

III

40. Until data collection is completed, missing facts are considered to be (see Textbook)

tentative
assumptions.

valid
assumptions.



V

89. Read over the Sample Staff Study Format (Book III) treatment of Conclusion(s) and then match each Conclusion below with the appropriate diagnosis.

- | | |
|--|---|
| 1. Incorrect: tells how to implement | _____ Prisoners taken by combat units should be immediately evacuated to the communications zone. |
| 2. O.K. | _____ The enclosed letters should be signed and sent to all field commanders instructing them to arrange for immediate evacuation of PW's to the communications zone. |
| 3. Incorrect: contains further argumentation | _____ Apart from the factors discussed earlier, retention of PW's has an unfavorable effect on troop morale. For this and the other reasons discussed, PW's should be immediately evacuated to the communications zone. |

III

40a.

tentative
assumptions.

X

V

89a.

- | | |
|--|--|
| 1. Incorrect: tells how to implement | <u>2</u> Prisoners taken by combat units should be immediately evacuated to the communications zone. |
| 2. O.K. | <u>1</u> The enclosed letters should be signed and sent to all field commanders instructing them to arrange for immediate evacuation of PW's to the communications zone. |
| 3. Incorrect: contains further argumentation | <u>3</u> Apart from the factors discussed earlier, retention of PW's has an unfavorable effect on troop morale. For this and the other reasons discussed, PW's should be immediately evacuated to the communications zone. |

III

41. Complete this sentence:

Following initial evaluation of alternative solutions, further research is directed toward facts needed to evaluate _____

_____ and to replace _____

_____.

V

90. Briefly describe why each of these Conclusion(s) sections is inappropriate.

- A. Conclusion. Better and safer utilization of fixed-wing aircraft can be achieved at airstrip 10 while runway 2 is closed at airstrip 5. The attached memos should be signed and sent to each commander as soon as possible.

Diagnosis: _____

- B. Conclusion. Although it will require additional administrative work (and also more travel), the use of airstrip 10 can provide better and safer utilization of fixed-wing aircraft while runway 2 at airstrip is closed.

Diagnosis: _____

III

41a. NONCONCURRENCES

TENTATIVE ASSUMPTIONS

Go on to Textbook, Phase IV.

V

90a. A. Diagnosis: TELLS HOW TO IMPLEMENT.

B. Diagnosis: CONTAINS FURTHER ARGUMENTATION.

IV

42. Unless documented evidence can be cited for it, information cannot be considered to be a fact bearing on the problem.

An example of such a non-fact is:

The M-16 rifle has not
been favorably received
by the Army.

The M-16 rifle operates both
automatically and semi-automatically
(TM 9-1005-249-14).



V

91. Check the better description of the Conclusion(s) section.

_____ It contains a brief restatement of the superior solution without further argumentation or implementing instructions.

_____ It contains a rationale for the superior solution and tells how to implement that solution.

IV

42a.

The M-16 rifle has not
been favorably received
by the Army.

X

V

91a. X It contains a brief restatement of the superior solution without further argumentation or
implementing instructions.

IV

43. Not all documented facts bear directly upon the problem. For example, a fact that is not directly relevant to the problem of insufficient enlistments into the Army is -

the monthly pay
for Army recruits.

the average educational
level of Army enlistees.



V

92. In your own words, describe the appropriate format (contents) of the Conclusion(s) section.

IV

43a.

the average educational
level of Army enlistees.



V

92a. Your answer should mean the same as -

THE CONCLUSION(S) SECTION CONTAINS A BRIEF RESTATEMENT OF THE SUPERIOR SOLUTION. IT DOES NOT
INCLUDE FURTHER ARGUMENTS OR IMPLEMENTING INSTRUCTIONS.

IV

44. Check each kind of information that does not qualify as a fact that bears directly on the problem.

_____ undocumented information related to the problem.
_____ documented performance data relating to the problem.
_____ documented information that is relevant to a different problem.

V

93. Read the Sample Staff Study Format (Book III) and match each Recommendation(s) section below with its appropriate diagnosis.

Generally not
acceptable

It is recommended that -

1. The memorandum, Inclosure B, be forwarded to the Secretary of Defense.
2. Upon receipt of the concurrence of the Secretary of Defense, the directive, Inclosure C, be forwarded to the addressees indicated therein.

Not complete:
memorandum
should be
attached

It is recommended that further studies, aimed at final recommendations, be made of -

1. The general problem of PW interrogation methods and
2. The transportation support system used for combat units.

This is a
Conclusion(s)
section

It is recommended that a memorandum be sent to Colonel Smith authorizing assignment of ten 2 1/2 ton trucks to each infantry battalion.

O.K.

It is recommended that the immediate evacuation of PW's to the communications zone be instituted as soon as possible.

IV

44a. X undocumented information related to the problem.

 X documented information that is relevant to a different problem.

V

93a.

Generally not
acceptable

Not complete:
memorandum
should be
attached

This is a
Conclusion(s)
section

O.K.

It is recommended that -

1. The memorandum, Inclosure B, be forwarded to the Secretary of Defense.
2. Upon receipt of the concurrence of the Secretary of Defense, the directive, Inclosure C, be forwarded to the addressees indicated therein.

It is recommended that further studies, aimed at final recommendations, be made of -

1. The general problem of PW interrogation methods and
2. The transportation support system used for combat units.

It is recommended that a memorandum be sent to Colonel Smith authorizing assignment of ten 2 1/2 ton trucks to each infantry battalion.

It is recommended that the immediate evacuation of PW's to the communications zone be instituted as soon as possible.

IV

45. Personal opinions of individuals, even when documented, seldom qualify as facts bearing directly on the problem.

The documented opinion that would not qualify as a fact bearing directly on the problem is -

In October 1966, Congressman Jones stated that:
"If discipline were enforced in a tougher manner
in the Army, we wouldn't have to worry so much
about morale problems" (Time, October 1966).

On a questionnaire administered to 200 Army
enlistees, 65 percent of the respondents selected
"type of duty assignment" as the key factor
influencing their job-satisfaction (Annex A).



V

94. Briefly describe why each of these Recommendation(s) sections is inappropriate.

A. Recommendation. It is recommended that the appropriate memos be drafted to Colonel Jones authorizing use of airstrip 10 for fixed-wing aircraft.

Diagnosis: _____

B. Recommendation. A study committee should be named to investigate the fixed-wing aircraft problem in detail.

Diagnosis: _____

C. Recommendation. Better and safer operation of fixed-wing aircraft can be achieved at airstrip 10 while runway 2 is closed at airstrip 5.

Diagnosis: _____

IV

45a.

In October 1966, Congressman Jones
stated that: "If discipline
were enforced in a tougher manner
in the Army, we wouldn't have to
worry so much about morale problems"
(Time, October 1966).

[X]

V

- 94a. A. Diagnosis: NOT COMPLETE: MEMO SHOULD BE DRAFTED AND ATTACHED.
- B. Diagnosis: GENERALLY UNACCEPTABLE, PROVIDES NO SOLUTION.
- C. Diagnosis: NOT SPECIFIC ENOUGH ON IMPLEMENTATION (REALLY A CONCLUSION).

IV

46. Some documented facts may be described as "second generation facts." That is, they require further conclusions in order to bear directly upon the problem.

An example of a second generation fact, in evaluating the use of XYZ missiles for air defense, is:

XYZ missiles have been
installed at 34 sites.

Test trials have shown XYZ
missiles to have a 70 percent
kill-ratio against high
altitude aircraft.



V

- 95a. Before each of these descriptions of Facts that Bear on the Problem that you would accept, write an A. If you would reject it, write an R.

_____ An opinion which, according to the "grapevine," is held by many soldiers.

_____ Opinions gathered in a properly conducted survey of Army personnel.

_____ Predictions that seem likely to prove accurate.

_____ Isolated facts which, without further information, are impossible to evaluate; i.e., they require conclusions.

_____ Definitions of key terms used in the study.

IV

46a.

XYZ missiles have been
installed at 34 sites.



(Requires the conclusions that:

1. They are used against high altitude aircraft.
2. They are effective for that purpose.)

V

95a.

- R An opinion which, according to the "grapevine," is held by many soldiers.
- A Opinions gathered in a properly conducted survey of Army personnel.
- R Predictions that seem likely to prove accurate.
- R Isolated facts which, without further information, are impossible to evaluate; i.e., they req
- A Definitions of key terms used in the study.

IV

47.

(Complete this sentence.)

A second generation fact, by itself, does not qualify as a fact that bears directly on the problem because it requires further _____.

The better example of a second generation fact for the problem of increased enlistment into the Army is -

Last year Congress
doubled the Army's
recruiting budget.

Studies have shown a direct
correlation between number of
enlistments and dollars spent on
recruiting programs in the Army.



V

96. Write an A for accept or an R for reject before each description of Valid Assumptions.

- _____ It describes an unobtainable fact that bears directly upon the problem.
- _____ Its factual accuracy can be proven right now, with no trouble.
- _____ Even if it turns out to be factually incorrect, the recommended solution will work anyway.
- _____ It describes an extremely optimistic prediction of future eventualities.
- _____ It narrows the scope of the problem that was originally approved by the commander.
- _____ It limits the usefulness of the recommendation by specifying conditions that must exist if the solution is to work.
- _____ It describes a prediction that no one would dream of arguing over.

IV

47a. CONCLUSION (INFORMATION).

Last year Congress
doubled the Army's
recruiting budget.



V

96a.

- A It describes an unobtainable fact that bears directly upon the problem.
- R Its factual accuracy can be proven right now, with no trouble.
- R Even if it turns out to be factually incorrect, the recommended solution will work anyway.
- R It describes an extremely optimistic prediction of future eventualities.
- R It narrows the scope of the problem that was originally approved by the commander.
- A It limits the usefulness of the recommendation by specifying conditions that must exist if the solution is to work.
- A It describes a prediction that no one would dream of arguing over.

IV

48. Predictions of future events do not qualify as facts. An example of such a non-fact is:

Military threat to the United States
during 1970-75 period will
come mainly from Red China.

Many nations have urged
acceptance of Red China
into the United Nations.



V

97. Define "the superior solution."

IV

48a.

Military threat to the United States
during the 1970-75 period will
come mainly from Red China.



V

97a. Your definition should mean the same as:

THE ONE THAT BEST SATISFIES THE CRITERIA OF SUITABILITY, FEASIBILITY, AND ACCEPTABILITY AND
REQUIRES THE SMALLEST NUMBER OF ASSUMPTIONS TO BE MET.

IV

49. Check each of the following kinds of data that do not qualify as facts that bear directly upon the problem.
- ☐ Personal opinions of individuals.
 - ☐ Operational characteristics of equipment systems.
 - ☐ Opinions gathered from an adequate sample of personnel directly connected with the problem.
 - ☐ Second generation facts listed by themselves.
 - ☐ Predictions, based upon past performance, of future eventualities.
 - ☐ Facts that are relevant to different problems.
 - ☐ Undocumented information that bears directly upon the problem.
-

You have now completed the lesson. Carefully complete all questions on the Posttest (Book V). Note that Part II of the Posttest is to be completed without looking back at the lesson materials.

IV

49a.

- ☒ Personal opinions of individuals.
- ☐ Operational characteristics of equipment systems.
- ☐ Opinions gathered from an adequate sample of personnel directly connected with the problem.
- ☒ Second generation facts listed by themselves.
- ☒ Predictions, based upon past performance, of future eventualities.
- ☒ Facts that are relevant to different problems.
- ☒ Undocumented information that bears directly upon the problem.

Return to page 1 and continue with Question 50.

Book II

STAFF STUDY PROCEDURAL GUIDE

STAFF STUDY TECHNIQUE CHECK LIST



THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON

PART I

STAFF PROCEDURAL GUIDE

I. IDENTIFICATION AND STATEMENT OF THE PROBLEM

- Step 1: Read the assignment as it comes from the directing authority.
- Step 2: Seek, in a Dictionary of Military Terms, AR 310-50 (or, if not available there, from the directing authority), the meanings of all terms that are not known with certainty.
- Step 3: If the problem is not stated precisely, identify the key problem or problems in the context provided by the assignment. This will require preliminary research. Consult data sources including fellow staff officers or, perhaps, the directing authority himself.
- Step 4: Draft a Statement of the Problem.
- Step 5: Verify that:
- (a) This describes the key problem suggested by the assignment.
 - (b) The problem statement begins with an infinitive phrase.
 - (c) The scope of the problem is clearly and precisely specified.
- Step 6: Submit the problem statement to the directing authority for approval.
- Step 7: If the statement is not approved, obtain guidance regarding revision and return to Step 4.

Go on to item 5 in the Question Book (Book I).

II. RESEARCH AND DATA COLLECTION

- Step 8: Once the Statement is approved, write down as many possible solutions as you can conceive during a "brainstorming" session before consulting any further references.
- Step 9: Begin data search by constructing a list of potential reference sources found in card catalogs, abstracts, and other reference lists.
- Step 10: Skim through the sources from the list, and cross out those that are not pertinent.
- Step 11: Study pertinent sources in detail, taking notes.
- Step 12: Early in the research phase, consider the efficacy of collecting original data from subject-matter experts and/or other personnel who have firsthand knowledge.
- Step 13: After extensive research, and based upon the facts collected, draft potential solutions to the problem to supplement your brainstorming list.

Go on to item 14 in the Question Book (Book I).

III. INTERPRETATION OF DATA

- Step 14: In light of the data collected, reject solutions that neither alone nor in combination with other solutions fulfill the criterion of suitability.
- Step 15: Seek out sources of nonconcurrence that exist within the staff relative to solutions that, at this point, look like good candidates for recommendation.
- Step 16: Check the list of facts against potential nonconcurrences. Note fact-gaps that need to be filled in order to evaluate nonconcurrences.
- Step 17: Apply feasibility and acceptability criteria to each suitable solution in order to reveal missing facts that are needed for complete evaluation. Compose a list of tentative assumptions.

Step 18: Return to data sources seeking facts needed (a) to evaluate potential nonconcurrences and (b) to replace tentative assumptions.

Go on to item 21 in the Question Book (Book I).

IV. EVALUATION OF ALTERNATIVE SOLUTIONS

Step 19: From the list of suitable solutions, delete single solutions or combinations of solutions, and any that are so clearly infeasible or unacceptable that they do not deserve inclusion in the formal report.

Step 20: Construct lists of assumptions, Facts that Bear Directly Upon the Problem, and Alternative Solutions Remaining to be Considered.

Select the superior solution: the one that best measures up to three criteria and involves the smallest number of valid assumptions. it may be a blend of two or more from your original list.

Step 21: Draft the Discussion comparing the alternative solutions considered.

Step 22: Compare the facts mentioned in the Discussion with the list of Facts Bearing Directly on the Problem.

If facts in the list are not discussed, either revise Discussion, save the fact for an inclosure, or reject the fact as not relevant.

If facts not in the list are introduced in the Discussion, consider adding them to the list or, if space is not available, placing them in an inclosure.

Step 23: Compare the list of assumptions with assumptions mentioned in the Discussion.

If assumptions are not discussed, delete them if they are not valid, discuss them if they are valid.

If assumptions not in the list are implied or stated in the Discussion, either add them to the list or modify the Discussion.

Step 24: Construct an outline of the discussion to check its organization. Inspect each paragraph for a topic sentence.

Step 25: Revise discussion as necessary.

Step 26: Inspect: Problem Statement,
Assumptions,
Facts Bearing on the Problem (including definitions of important terms that may not be perfectly understood), and
Discussion,
asking yourself the following questions:

1. Are the assumptions valid? Have you assumed away the problem?
2. Are all the facts relevant? Do they adequately summarize the detailed list of facts to be listed in inclosures?
3. Considering your audience, which terms are unclear (require definition under facts that bear on the problem)?
4. Can technical jargon be replaced by clearer terms?
5. Does the discussion fairly acknowledge any weakness in the chosen solution?
6. Is the conclusion based upon any implicit assumptions that should be stated?
7. Have you anticipated likely factual and/or interpretive nonconcurrences?
8. Does the superior solution fulfill the criteria of suitability, feasibility, and acceptability?

Step 27: Modify those elements that require it.

Step 28: Hand the paper to a colleague and ask him to answer questions 1-8 in Step 26.

Step 29: If possible, repeat Step 28 with another outside critic.

Go on to item 42 in the Question Book (Book I).

V. PREPARATION OF THE STAFF STUDY REPORT

Step 30: Attend to criticisms as appropriate, including returning to data sources if necessary.

Step 31: Write Conclusion(s).

Step 32: Write Recommendation(s) if required.

Step 33: Verify that the body of the report concisely summarizes material in inclosures. If it is longer than three single-spaced pages, select details for placement in inclosures.

Step 34: Draft and revise inclosures being sure to include documents necessary for execution of your recommendations.

Step 35: Edit all sections of the report for format and mechanical errors.

Step 36: Type in finished form and submit.

Step 37: If required, solicit concurrences.

Step 38: If interpretive nonconcurrences arise, obtain any additional data necessary to evaluate them objectively and decide either to rebut them or to modify your conclusions.

Open and read through the book entitled the Sample Staff Study Format (Book III).

PART II
STAFF STUDY TECHNIQUE CHECKLIST

1. HEADING:

- a. Is the heading complete and concise?
- b. Is the subject line concise (no more than 10 words)?
- c. Is the subject line definitive?

2. FORMAT:

- a. Is the format in accordance with that described in FM 101-5?
- b. Is the documentation technique used throughout the paper correct?

3. ASSUMPTIONS:

- a. Are the assumptions clear?
- b. Are the assumptions properly stated?
- c. Do the assumptions leave sufficient scope to the problem that there is still a problem to solve?
- d. Would the conclusions be invalid without the assumptions?
- e. Are assumptions free of material logically a part of discussion or conclusions?

4. FACTS:

- a. Are the facts clearly stated?
- b. Are the facts organized logically?
- c. Are the facts in the basic paper stated in substance only?
- d. Are any annexes organized logically?
- e. Are any annexes dealing with facts clearly written?
- f. Does each fact reflect a self-contained reference (e.g., "AR 27-10 states that:")?
- g. Are all facts documented?

5. DISCUSSION:

- a. Is the discussion paragraph organized logically?
- b. Are the elements of discussion stated clearly?
- c. Does the discussion paragraph cover the major aspects of the problem in sufficient detail for the reader to understand the discussion without referring to annexes for clarification?
- d. Does the discussion paragraph summarize the discussion only, leaving voluminous discussion, if needed, to an annex?
- e. Does the discussion paragraph present an objective analysis of the problem, including both sides of the issue?
- f. Are conclusions and recommendations that specifically address the problem statement supported in the discussion paragraph?
- g. Does the discussion lead to an acceptance of the conclusions without the reader's having to refer to annexes?
- h. Does the discussion annex (if used) include analysis of the problem in depth?

i. Did the writer include his own thought in the discussion, i.e., did he expand the discussion sufficiently to reflect his own synthesis of research material and his own ideas about that material, rather than merely mechanically stating advantages and disadvantages?

6. CONCLUSIONS:

- a. Are the conclusions positive statements with subject and verb?
- b. Are the conclusions brief statements of applicable solutions that have been considered in the discussion?
- c. Are the conclusions free of any statement of implementing action?
- d. Are the conclusions free of any added material pertaining to assumptions, facts, and discussion?
- e. Does at least one conclusion specifically answer the problem statement?
- f. Do the conclusions provide a complete solution to the problem?
- g. Do the conclusions follow directly from and are they supported in the preceding paragraph?

7. ACTIONS RECOMMENDED:

- a. Is there at least one recommended action?
- b. Are the recommendations clear and logically supported by the rest of the study?
- c. Are all instructions or directives needed for implementing the actions included as annexes?
- d. Are the recommended actions stated clearly and simply?
- e. Is the action(s) recommended paragraph free of assumptions, facts, discussion, or conclusions?

8. ANNEXES:

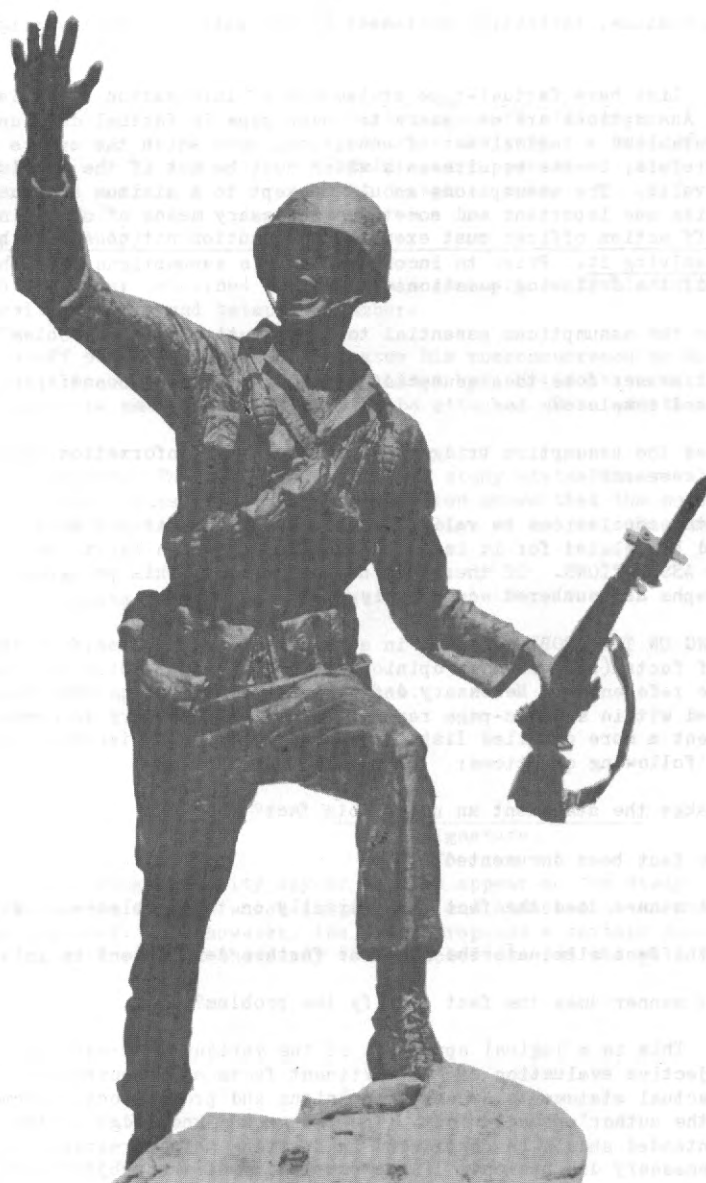
- a. Are annexes annotated and arranged for easy reference?
- b. Are reference sources adequately identified?
- c. Is reference to each annex made in the body of the study?
- d. Is the bibliography arranged alphabetically?
- e. Are the bibliography entries in the proper form?
- f. Is any borrowed material used in annexes attributed correctly?

9. CLOSING:

- a. Does the closing contain signature and signature block, including name, rank, position, title, and telephone number?
- b. Are annexes that are a part of the original study properly listed?
- c. Are agencies with which coordination was effected listed below the list of annexes?
- d. If there were nonconcurrences, does the study show consideration of the nonconcurrences?
- e. Are any considerations of nonconcurrences brief and clear?
- f. Is there a list of any annexes added as a result of the nonconcurrences?
- g. If there were nonconcurrences, is a final action recommended?

Book III

SAMPLE STAFF STUDY FORMAT



THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON

(CLASSIFICATION)

Headquarters
Place
Date and Time

(Office Symbol)

SUBJECT: (Sufficient for file identification only; should be 10 words or less)

(The heading is similar to that used for a military letter. The file reference and subject are included as in a military letter. Classification appears at the top and bottom of each page. Preparation is in accordance with AR 340-15.)

1. PROBLEM. A concise, infinitive statement of the matter to be investigated in the form of a task or mission.

2. ASSUMPTION. List here factual-type statements of information essential to a logical examination of the problem. Assumptions are necessary to cover gaps in factual data unobtainable by diligent research or to establish a logical set of conditions upon which the entire study is based. Assumptions, therefore, become requirements which must be met if the conclusions arrived at in the staff study are valid. The assumptions should be kept to a minimum and must be realistic. Assumptions provide one important and sometimes necessary means of obtaining essential guidance; however, the staff action officer must exercise due caution not to assume himself right through a problem without solving it. Prior to incorporating his assumptions into the study, the staff officer should ask himself the following questions:

- Why are the assumptions essential to the solution of the problem?
- In what manner does the assumption establish a logical condition which must prevail to make the study valid and complete?
- How does the assumption bridge gaps in essential information which cannot be obtained through diligent research?
- Would the conclusions be valid if the assumptions did not hold? If the answer is yes, the assumption should be deleted for it is not a requirement which has to be met. IDEALLY, A STAFF STUDY WOULD CONTAIN NO ASSUMPTIONS. If there are no assumptions, this paragraph is omitted and the following paragraphs are numbered accordingly.

3. FACTS BEARING ON THE PROBLEM. List in a sequence lending itself to logical development in the Discussion, brief facts (not your own opinions or conclusions) which have a direct bearing and are documented in the references. Necessary definitions should be included here. If the list is longer than can be fitted within a three-page report, it may be necessary to summarize the facts in this section and present a more detailed list in an annex. Prior to incorporating facts into the study, ask yourself the following questions:

- What makes the statement an undeniable fact?
- Has the fact been documented?
- In what manner does the fact bear directly on the problem as a whole?
- does the fact eliminate the need for further development to relate it to the subject?
- In what manner does the fact clarify the problem?

4. DISCUSSION. This is a logical appraisal of the various alternatives to solve the stated problem, based upon an objective evaluation of the pertinent facts and assumptions. It should be an orderly combination of factual statements, reasoned opinions and professional judgments upon which a basis is established for the author's conclusions. The background knowledge of the individuals for whom the staff study is intended should be considered in drafting this paragraph, so that it can be condensed to the minimum necessary discussion. If the complexity of the subject necessitates extensive discussion, the essence should be extracted and placed in this paragraph, with a complete discussion attached as an annex. However, all important alternatives must be cited and reasons indicated for their elimination, so that the digested discussion paragraph does not assume the appearance of a biased argument. The discussion should lead to a logical conclusion as to the appropriate line of action to adapt for solving the problem.

5. CONCLUSIONS. Listed in concise statements, the opinion of the author is stated as to the best possible solution to the stated problem. It must be a complete workable solution to the problem which meets the criteria of suitable, feasible and acceptable. Neither further arguments, new information,

(CLASSIFICATION)

(CLASSIFICATION)

nor measures by which to implement the conclusions should be implied by the wording of statements in the conclusions. There should be one conclusion which specifically answers the problem.

6. ACTION RECOMMENDED. One or more concise, clear statements, in consonance with the conclusions, which comprise the actions to be taken to place in effect the solution of the stated problem. The principle of "completed staff work" is inherently fulfilled by a proper recommendations paragraph. Any letters or directives to begin actions necessary to implement the solution should be cited here and submitted as the first and subsequent inclosures (Annexes). Thus, only the signature of the approving authority is needed to translate the conclusions of the staff study into required action. As a general rule, recommendations that further studies of the problem be conducted are not acceptable. If the conclusions of the author do not call for implementing action, the recommendations paragraph is omitted.

Initiating staff officer,
committee chairman, or head of
staff agency, position title
and telephone number

ANNEXES (as required by the study)

CONCURRENCES. Each staff officer concerned indicates his concurrence by his initials followed by his rank, name, official position title and telephone number.

NONCONCURRENCES. Each staff officer concerned indicates his nonconcurrence by his initials, rank, name, official position title and telephone number followed by a brief statement citing reasons for his nonconcurrence. A separate memorandum, which will be attached as an additional annex, should contain the details.

CONSIDERATIONS OF NONCONCURRENCE. The author of the staff study states the result of his considerations of any nonconcurrences. If this consideration shows that the nonconcurrences cannot be supported, the reason(s) will be stated. The author will sign or initial this consideration of nonconcurrence.

ANNEXES ADDED. (List the annexes containing nonconcurrences.)

ACTION BY APPROVING AUTHORITY.

DATE

APPROVED (DISAPPROVED), including (excluding) exceptions.

Signature

NOTE. The action by the approving authority may or may not appear on the study. If the recommendation is that he sign a letter (which is prepared and attached as an annex), the fact that he signs it constitutes an approval. If, however, the study proposes a certain procedure or policy, the signature of the approving authority on the study is sufficient to put the policy into effect.

(CLASSIFICATION)

Book IV

ILLUSTRATIVE STAFF STUDY



THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON

UNITED STATES ARMY INFANTRY SCHOOL
Command and Tactics Department
Fort Benning, Georgia 31905

1. SUBJECT: Organic Command and Control Helicopters for the Infantry Battalion Commander

1. PROBLEM. To determine if the infantry battalion commander of the infantry division should be assigned organic command and control helicopters.

2. ASSUMPTIONS. (Assumptions are always written in future or conditional tenses.)

a. The need for a versatile airborne command and control center will continue to exist in the infantry battalion.

b. The mission of army aviation will remain unchanged.

c. The mission of the combat aviation battalion in the infantry division will remain unchanged.

d. The assignment of organic helicopters at the infantry battalion level will include the inherent responsibilities for logistical and maintenance support.

2. FACTS BEARING ON THE PROBLEM. (Facts must have both a self-contained reference and footnote.)

a. The authors of "The Agility of Air Mobility" and "Observations of a Brigade Commander" conclude that the helicopter is one of the principal instruments at the commander's disposal that gives him the rapid reaction and control so important in a fast moving battlefield situation (2:31-32, 9:30).

b. Field Manual FM 1-100 states, "The mission of Army aviation is to augment the capability of the Army to conduct prompt and sustained combat operations on land (6:2-1, Annex A).

c. Field Manual FM 1-15 states, "The mission of the divisional combat aviation battalion is to provide aviation support for the division headquarters, division support command, and other divisional units that have no organic aircraft" (5:3-1, Annex B).

d. Field Manual FM 1-10 and FM 1-100 conclude that the decentralization of helicopters to the infantry battalion level in the infantry division would be uneconomical and impractical with regard to logistical and maintenance support (4:3-1, 6:3-2).

e. George E. Hangley, the author of "The Division Aviation Company," concludes that the centralization of aircraft at levels higher than the infantry battalion promotes effective management and logistical support (7:54).

4. DISCUSSION. (Must be objective)

a. In order for an infantry battalion commander to exert his influence on the battlefield, he must be able to exercise command and control at all times. Immediately available and responsive organic helicopters would allow the commander to plan missions and establish priorities rather than depend on the priorities of aviation support established by higher headquarters (Annex C).

b. The organization of Army aviation into companies, battalions, and groups is the result of tests and experiments beginning in World War II. The advantage of consolidated logistics, maintenance, mess, traffic control, and training has resulted in a more practical and economical means for Army aviation to accomplish its mission (Annex C).

c. The combat aviation battalion (Table of Organization and Equipment (TOE)[TOE 7-75H]), organic to the infantry division, is employed to support division operations on an immediately responsive basis. Additional support may be requested from corps or field army resources when specific missions require aviation support beyond that organic to the division. The consolidation of aviation assets in the combat aviation battalion allows for flexibility while providing immediate availability and freedom of economy and utilization (Annex C).

d. Current Army helicopters in the infantry division require considerable maintenance. Based on the complexity of our modern Army aircraft, effective coordination must be maintained between the aviation unit commander, the ground unit commander, the aviation unit maintenance officer, and the aviation unit operations officer. This coordination insures that only the minimum number of helicopters are grounded for maintenance. While decentralization of aviation assets is very desirable to the infantry battalion commander in regard to immediate availability, it is neither practical nor economical in terms of logistics of maintenance. The centralization of aviation assets in the combat

aviation battalion contributes to efficient logistics and maintenance procedures, effective control, and fewer supporting personnel (Annex C).

5. CONCLUSIONS. (At least one must directly answer the problem statement.)

a. The infantry battalion commander should not be assigned organic command and control helicopters.

b. The infantry battalion commanders of the infantry division can be effectively supported through the efficient utilization of helicopters by the combat aviation battalion.

6. ACTIONS RECOMMENDED. (What should be done to implement the conclusions.)

a. The helicopters of the infantry division be assigned a command and control helicopter on a mission priority basis.

c. The implementing directive at Annex A be signed.

William C. Dobbs

WILLIAM C. DOBBS
Captain, Infantry
555-1212

ANNEXES: A--Implementing Directive
B--Mission, Capabilities, and Limitations of Army Aviation
C--Mission, Capabilities, and Limitations of the Combat Aviation Battalion in the Infantry Division (TOE 7-75H)
D--Discussion
E--Bibliography

CONCURRENCES: _____
NONCONCURRENCES: _____
CONSIDERATION OF NONCONCURRENCES: _____
ANNEXES ADDED: _____
ACTION BY APPROVING AUTHORITY: _____

DATE:

Approved (disapproved), including (excluding) exceptions.

Signature

NOTE: When implementation is called for in "Actions Recommended," the directive or letter ordering the action must be included as an annex.

ANNEX A--Implementing Directive

DISPOSITION FORM			
For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.			
REFERENCE OR OFFICE SYMBOL		SUBJECT	
ABCD-E		Revision of Tactical SOP	
TO: G3 Plans	FROM: CG, 1st Div	DATE: 1 July 74	CMT: 1
		CPT Jones/ade/5-5555	
1. In the future, infantry battalion commanders will not have organic command and control helicopters. Instead, they will be assigned command and control helicopters on a mission-priority basis. All divisional helicopters will revert to the control of the combat aviation battalion. 2. Revise the division tactical SOP to reflect this policy.  HERMAN W. MELVILLE MGJ, USA Commanding General ANNEX A (ENTER IN PENCIL)			

DA FORM 2496

REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

* U.S. GPO 1974 540 843/8656

ANNEX B--Mission, Capabilities, and Limitations of Army Aviation

1. Mission. "The mission of Army aviation is to augment the capability of the Army to conduct prompt and sustained combat operations on land." It accomplishes this by providing aviation support to Army organizations at all command levels (6:2-1).

2. Capabilities. Responsive aerial mobility is the basic capability provided by organic Army aviation to the ground commander. This mobility results from the inherent speed of the aircraft, the ability to overfly obstacles, and the ability to operate from unprepared airfields or helipads located near the battle area. Tasks that aviation units are capable of performing range from adjustment of fire to wire laying. Personnel from the aviation elements are readily available to advise the ground commander on the capabilities, limitations, and resources available from Army aviation (6:2-3).

3. Limitations. Limitations of Army aviation include--

- a. Vulnerability to enemy actions while on the ground and to enemy air defense measures.
- b. High requirements for logistical and maintenance support.
- c. Limitations common to night operations and adverse weather.
- d. Limited capability to lift heavy equipment (6:2-4).

Book V POSTTEST



**THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON**

POSTTEST

Part I

Answer the following questions by referring to the appropriate portions of the Textbook and Procedural Guide (Book II).

1. List two procedural steps (actions) taken by the action officer between reading the assignment and drafting a Statement of the Problem.
 - a. _____
 - b. _____
2. List three questions considered by the action officer prior to submitting his Statement of the Problem for approval.
 - a. _____
 - b. _____
 - c. _____
3. (A) What is the primary source of information for a staff study?

(B) Describe a supplementary source of information that may be appropriate.

4. List three methods that might be employed to obtain data from relevant personnel.
 - a. _____
 - b. _____
 - c. _____
5. (A) List two points during the staff study process at which tentative solutions are drafted.
 1. _____
 2. _____(B) What is the reason for drafting solutions at the first point?

6. When does the action officer begin to consider nonconcurrences? Explain the reason for this.

7. List the six basic elements that make up the body of the staff study report.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Part II

The following questions should be answered without referring back to the lesson books.

8. Place a check mark before each correct statement.

- _____ a. Staff studies are conducted for the purpose of determining solutions to a wide range of military problems.
- _____ b. Most staff study problems have one obviously best solution which must be found.
- _____ c. A staff study report deals only with the solution that best solves the problem.
- _____ d. Staff studies are typically assigned by commanders to officers on their staffs.
- _____ e. A staff study is a research and problem-solving process that is usually summarized in a written report.
- _____ f. Completed staff studies provide a commander with a factual basis for decisions, give staff officers a hearing for their ideas, and save the commander's time.
- _____ g. Staff studies are sometimes used to solve component parts of larger problems.
- _____ h. A staff study is a written report which describes the action officer's solution to a problem based solely upon his application of personal knowledge and a rational thinking-through of the problem.
- _____ i. A staff study may be initiated as well as conducted by a staff officer.

9. Circle true or false for each of the following statements.

- | | | | |
|------|-------|----|---|
| True | False | a. | Staff study assignments seldom include a formal statement of the problem; the action officer frequently needs to identify and formulate it. |
| True | False | b. | Statement of the problem ordinarily follows some preliminary research. |
| True | False | c. | Valid assumptions restrict the usefulness of the recommended solution. |
| True | False | d. | The <u>Discussion</u> should deal only with the superior solution. |
| True | False | e. | The conclusion(s) section should describe specifically what needs to be done to execute the superior solution. |
| True | Fales | f. | The recommendation(s) section should contain a restatement of the rationale for the recommended solution. |
| True | False | g. | Nonconcurrences may sometimes be rebutted with no changes in the recommended solution. |
| True | False | h. | Data-gathering is a step in the staff study process to which the action officer may return several times. |

ANNEX C--Mission, Capabilities, and Limitations of the Combat, and Limitations of the Combat Aviation Battalion in the Infantry Division (TOE 7-75H)

1. Mission. "The mission of the divisional combat aviation battalion is to provide aviation support for the division headquarters, division support command, and other divisional units that have no organic aircraft." It also provides general support and reinforcement to units possessing organic aircraft and furnishes an aviation special staff section for the division headquarters (8:219).
2. Capabilities. Capabilities of the combat aviation battalion of the infantry division include--
 - a. Commands, controls, performs staff planning, furnishes communications, and supervises the operation of the companies of the battalion and attached units.
 - b. Provides air messenger service, aerial radio relay, and field wire laying service by aircraft.
 - c. Participates in airmobile combat operations.
 - d. Augments aeromedical evacuation.
 - e. Operates one instrumental airfield with terminal facilities and controls en route air traffic operating under instrument flight rules within the division area (8:219).
3. Limitations. The limitations for the combat aviation battalion in the infantry division are the same as those listed for Army aviation (6:2-4, Annex A).

ANNEX D--Discussion

1. Desirability of Helicopters at the Infantry Battalion Level.

a. The ground commander must be able to exercise command and control at all times in order to accomplish his mission. The commander must be able to move quickly to the critical area to direct the unfolding battle. Influencing the battle with his ability to control firepower, personally consult with both subordinate and higher commanders with specialized communications equipment, and even landing to exert his personal leadership are advantages never before available to the battlefield commander (2:31-32, 9:30).

b. Immediate, responsive aerial mobility provided by organic aviation enables the commander to plan his mission and establish priorities to meet changing situation rather than depend on the priorities for aviation support established at higher command levels. Since aviation assets are usually limited, most support is allocated on a priority basis. The opportunity to employ aviation to the maximum advantage usually comes suddenly. Organic helicopters at the infantry battalion level would provide the commander with aviation assets that are immediately available and responsive to his desires (6:2-4 through 3-1).

2. Aviation Employment from World War II to Present.

a. The formal organization of Army aviation today into companies, battalions, and groups is the result of lessons learned since the beginning of World War II. Originally, aircraft used for observation and artillery adjustment were assigned to battalion level. It soon became evident that the grouping of the aircraft at division artillery level was more practical and economical. Many divisions, artillery groups, and some corps artillery units soon organized along these lines to take advantage of the consolidated supply, maintenance, mess, traffic control, and training.

b. The Korean War provided other valuable lessons that resulted in the organization of aviation companies under provisional tables of organization and equipment (TOE). In 1955, the lessons learned and conceptual doctrine devised from Korea resulted in the first Department of the Army approved TOE aviation companies (7:55-58).

c. The present-day aviation companies, battalions, and groups are the result of over 30 years of tests and experiments. The results are units that provide continuous and responsive support while economizing by the use of central control of facilities, logistics, and maintenance.

3. Employment of the Combat Aviation Battalion of the Infantry Division.

a. The Combat Aviation Battalion is designed specifically to provide aviation support to both the infantry and airborne division. With the ability to overcome obstacles to the movement of ground forces, it contributes to the mobility and maneuverability of those forces in offensive, defensive, retrograde, and denial operations. The Combat Aviation Battalion is said to be efficiently employed when its capabilities are employed with those of the ground unit to provide a balance among the land combat functions.

b. The battalion is not normally employed as a unit. Elements are either attached, placed under operational control of, or placed in support of units within the infantry division. Additional aviation support can be requested from the nondivisional aviation resources of higher headquarters when the requirement for aviation support exceeds the capabilities of the combat aviation battalion (5:-31 and 3-2).

4. Logistical and Maintenance Support.

a. An immediately responsive organic helicopter that the infantry battalion commander controls would be ideal if the additional problems of logistical and maintenance support were not included. The demands of modern warfare require the management of logistical and maintenance support on a large scale. Logistical and maintenance management is a control task that as grown in direct relation to the expansion in scope and complexity of army aviation's technical equipment. The broad base of inventory, larger variety of materiel, and the unique operational mission of Army aviation has created a demand for highly trained personnel who must perform their technical duties at the operational unit level.

b. Since the beginning of World War II, the theory of centralization of aircraft has become particularly important in regard to logistical and maintenance support. The initial expense and logistical and maintenance requirements of Army aircraft have resulted in the present concept of organizing aviation elements in the functional type of units that exist today. These tried and tested organizations permit excellent logistical and maintenance support with the minimum of resources and personnel. The centralization of Army aircraft provides the following advantages: relative ease of logistics and maintenance, ease of control, better aircraft utilization rate, and the requirement for fewer supporting personnel. While decentralization of Army aviation to the infantry battalion level

ANNEX D--Discussion

would provide the commander with immediate, responsive aviation support, this factor must be weighed against those advantages of centralization (1:4, 3:15, 4:3-1).

ANNEX E--Bibliography

1. Army Aviation Handbook. Fort Benning, Georgia: United States Army Infantry School, May 1963.
2. Berry, Sidney B., Jr. "Observations of a Brigade Commander (Part III), "United States Army Command and General Staff College Military Review, March 1968, pp. 31-48.
3. Common Subjects Reference and Data for Army Aviation in the Field Army. Fort Rucker, Alabama: United States Army Aviation School, January 1968.
4. FM 1-10, Army Aviation Organizational Aircraft Maintenance. Washington: Department of the Army, 1965.
5. FM 1-15, Aviation Company, Battalion, Group, and Brigade. Washington: Department of the Army, 1970.
6. FM 1-100, Army Aviation Utilization. Washington: Department of the Army, 1971.
7. Hangley, G.E. "The Division Aviation Company, "United States command and General Staff College Military Review, March 1961, pp. 54-62.
8. Infantry Reference Data. Fort Benning, Georgia: United States Army Infantry School, 1971-1972.
9. Mertel, Kenneth D. "The Ability of Air Mobility, "Army, May 1967, pp. 26-30.

NOTE: Bibliographical entries are arranged in simple alphabetical order. In the case of FM's, AR's, etc., the arrangement is alphabetical-numerical. See entries 4, 5, and 6 above.

Book VI

POSTTEST SCORING KEY



THE STAFF STUDY
A SELF-INSTRUCTIONAL LESSON

Score your Posttest by comparing your answers with those given below. Use your own judgment to decide whether or not your written answers mean the same as those given in the key. Each item that you miss on the Posttest should be reviewed by returning to the appropriate point in the lesson. For your convenience, each answer is followed by a reference to the portion of the program that covers it.

Part I

1. a. obtains definitions of terms (Procedural Guide Book II, Step 2)
b. identifies problem (via preliminary research) (Step 3)
2. a. Is this the key problem?
b. Does the statement begin with an infinitive phrase? (Step 5)
c. Is the scope of the problem specified?
3. A. Official documents
B. Survey or questionnaire (original) data (Textbook, page 5)
4. (a) interviews (b) letter or telephone requests (c) questionnaires
(Textbook, page 5)
5. A. 1. Before extensive research (during brainstorming session)
(Procedural Guide Book II, Step 8)
2. After extensive research (based on facts collected)
(Procedural Guide Book II, Step 13)
B. So that novel solutions will not be inhibited by too much knowledge
(Textbook, page 5)
6. Before completing data collection (as a guide to further research)
(Textbook, page 6)
7. a. Statement of the Problem d. Discussion
b. Valid assumption e. Conclusions
c. Facts Bearing on the Problem f. Recommendations
(Textbook, page 8)

Part II

8. X a. (Textbook, page 3) X f. (Textbook, page 3)
X b. (Textbook, page 3) X g. (Textbook, page 3)
X c. (Question 76, Book I) X h. (Textbook, page 3)
X d. (Textbook, page 3) X i. (Textbook, page 3)
X e. (Textbook, page 3)
9. a. True (Textbook, page 4) e. False (Sample Format, Book III, page 1)
b. True (Procedural Guide, Book II, Step 3) f. False (Sample Format, Book III, page 1)
c. True (Question 65, Book I) g. False (Textbook, page 3).
d. False (Question 76, Book I) h. True (Procedural Guide, Book II, Steps 3, 9, 18 and 30)
10. A. To determine the optimum employment of the caliber .50 machinegun against low-flying aircraft.
B. To assess current practices for the stockpiling of some particular material or at some particular location.
C. Correct.
11. Answer should contain: (1) an infinitive phrase and (2) specify the scope of the problem. For example: "To formulate recommendations for programs designed to increase retention of personnel with ADP training."
(Questions 6-13, Book I, cover stating the problem)

12. A. 1. The extent to which the outcome of a course of action justifies the cost or risk.
 2. The extent to which a course of action is likely to accomplish its intended purpose or mission.
 3. The extent to which a course of action can be implemented with available resources.
 (Questions 21-37, Book I, cover these criteria)
 B. Suitability, feasibility, acceptability (Procedural Guide, Book II, Steps 14-17)
13. Suitability (Procedural Guide, Book II, Step 14)
14. A
15. C (Questions 21-37, Book I)
16. B
17. X a. X d. X g. (Questions 51-71, Book I)
X b. X e. X h.
X c. X f. X i.
18. X a. X b. X c. (Questions 51-71, Book I)
19. X a. X e.
X b. X f.
X c. X g. (Questions 42-50, Book I)
X d.
20. X a. X e.
X b. X f.
X c. X g. (Questions 42-50, Book I)
X d.
21. B Pair 1 B Pair 3 (Questions 78-84, Book I)
A Pair 2 ? Pair 4
22. X a. (Sample Format, Book III, page 1; Questions 89-92, Book I)
X b.
X c.
23. X a. X c. (Sample Format, Book III, page 1; Questions 93 and 94, Book I)
X b. X d.
24. The solution that best fulfills the criteria of suitability, feasibility, and acceptability and involves the smallest number of valid assumptions. (Questions 78-84 and 97, Book I)

10. Consider each of the following problem statements for a 4-day study. For each one that fulfills the criteria of an appropriate statement, write "correct" in the space below. For each one that is not correct, write a revised version that fits the criteria.

A. What is the optimum way to employ the caliber .50 machineguns against lowflying aircraft?

B. To assess current practices for the stockpiling of strategic materials.

C. To determine the optimum employment of the armored cavalry regiment in desert operations.

11. Major Smith was given the following assignment from his superior:

"Look into the problem of personnel with automatic data processing (ADP) skills leaving the service to get into civilian occupations. We are losing too many trained specialists before we get enough productive years out of them to justify the expense of their training. It costs far too much in training personnel, time, and money to train replacements."

He has 3 weeks to complete the study. Based upon discussion with other officers, he learns that particular concern has been expressed for some time about the attrition rate of personnel with ADP training. A preliminary investigation verifies that this group has one of the largest turnover rates in the Army.

Write an appropriate problem statement for Major Smith's study:

12. A. Briefly define:

1. Acceptability: _____

2. Suitability: _____

3. Feasibility: _____

B. List the order in which these three criteria should be applied when evaluating potential solutions to a problem:

13. Assume that you have completed extensive data collection and are about to check for missing facts.

Which single criterion should be used to screen out inappropriate solutions before proceeding?

14. Circle the tentative solution that is least likely to be suitable for increasing retention of personnel with ADP training.
- A. a 3 percent proficiency pay increase.
 - B. a 50 percent proficiency pay increase.
 - C. a 100 percent proficiency pay increase.
15. Circle the tentative solution that is least likely to be acceptable for increasing retention of personnel with ADP training.
- A. a 3 percent proficiency pay increase.
 - B. a 50 percent proficiency pay increase.
 - C. a 100 percent proficiency pay increase.
16. Circle the tentative solution that is least likely to be feasible for increasing firepower of infantrymen.
- A. Equip each infantryman with a .45 caliber pistol.
 - B. Equip each infantryman with a laser gun.
 - C. Equip each infantryman with an automatic rifle.
17. Check off those reasons that would lead you to reject an assumption as not valid.
- _____ a. It cannot be proven at present.
 - _____ b. It is not stated in positive language incorporating the verb "will."
 - _____ c. It describes a future eventuality.
 - _____ d. It describes an available fact that was not traced down to its source.
 - _____ e. It has no basis in fact; it is highly unlikely to be factually accurate.
 - _____ f. If it turns out to be inaccurate, the recommended action will likely fail to solve the problem.
 - _____ g. It modifies the scope of the problem as originally stated and approved.
 - _____ h. It is so certain to be factually accurate that no one would doubt it.
 - _____ i. It limits the usefulness of the recommendation by imposing conditions that must be met.
18. Check each of the following assumptions that you would reject as not valid.
- Problem: To determine the optimum deployment of air defense units in the defense of New York City.
- Assumptions:
- _____ a. Attack will occur only from the east or the west rather than both, simultaneously.
 - _____ b. Air defense units will not be diminished in strength in the immediate future.
 - _____ c. The firepower of air defense units will dramatically improve in the immediate future.

19. Check each of the following kinds of data that do not qualify as Facts Bearing on the Problem.

- ☐ a. Opinions gathered from a questionnaire distributed to an adequate sample of personnel directly connected with the problem.
- ☐ b. Undocumented information that bears directly upon the problem.
- ☐ c. Personal opinions of individuals.
- ☐ d. Predictions, based upon past performance, or future eventualities.
- ☐ e. Second-generation facts listed without further information.
- ☐ f. Operational characteristics of equipment systems.
- ☐ g. Facts that are relevant to different problems.

20. Check each of the following "facts" that would not qualify for listing under: Facts Bearing on the Problem in the body of a staff study report.

Problem: To determine whether or not two aviation battalions should be organic to the infantry division.

- ☐ a. The mission of the infantry division is the destruction of enemy military forces and the seizure or domination of critical land areas, their populations, and resources. (1:2)
- ☐ b. Senator Jones stated, in 196__, that: "The introduction of additional aviation units into infantry combat units would greatly enhance their offensive capabilities." (2:79)
- ☐ c. Historically, the infantry division has been called upon to accomplish some of our most difficult military missions. (3:217)
- ☐ d. Aviation battalions have been used before in infantry operations. (4:76) (listed without further information.)
- ☐ e. The average infantry officer would agree that the infantry division needs greater mobility.
- ☐ f. The infantry division is designed to conduct combat operations on all types of terrain. (5:23)
- ☐ g. Based upon recent experience in limited warfare situations (6:327), future operations of infantry divisions will place an ever greater premium upon mobility.

21. Before each of the following hypothetical pairs of alternative solutions, write the letter of the superior solution. If the information is insufficient to choose, write in a question mark.

- ☐ Pair 1: Solutions A and B appear equally to satisfy the three criteria. Solution A involves one valid assumption; Solution B involves no assumptions.
- ☐ Pair 2: Solution A, involving two valid assumptions, appears to satisfy all three criteria. Solution B, involving no assumptions, appears to be neither feasible nor acceptable.
- ☐ Pair 3: Solution A involves one valid assumption and is of doubtful feasibility. Solution B, involving no assumptions, appears to satisfy all three criteria.
- ☐ Pair 4: Solutions A and B both fulfill the three criteria. However, Solution A, involving a valid assumption, fulfills the three criteria slightly better than does Solution B which involves no assumptions.

22. Place a check mark before each of the following conclusion(s) sections that does not conform to the staff study format.

- ☐ a. Two aviation battalions should become organic to the infantry division.
- ☐ b. As of 1 June 196__, the attached memos describing the inclusion of two aviation battalions into the infantry division should be delivered to all field commanders.
- ☐ c. In addition to the advantages described above, the two aviation battalions could be incorporated at relatively small cost. Thus, they should become organic to the infantry division.

23. Place a check mark before each Recommendation(s) section that does not conform to the staff study format.

- ☐ a. It is recommended that more detailed studies be conducted prior to final decision on:
 - 1. The functions of the aviation battalions in infantry assault operations, and
 - 2. The records of aviation battalions.
- ☐ b. It is recommended that action be initiated toward inclusion of the aviation battalions by signing the attached memoranda, Inclosures C and D, and circulating them to the personnel designated in Inclosure E.
- ☐ c. It is recommended that the two aviation battalions be made organic to the infantry division.
- ☐ d. It is recommended that all necessary directives be prepared and sent to division commanders describing the inclusion of the aviation battalions.

24. Define: "The superior Solution."

You have now completed the Posttest. Score yourself with the Posttest Scoring Key (Book VI) to verify that you have achieved all the lesson objectives.