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**MILITARY
MANPOWER
TRAINING REPORT
FOR FY 1980**

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**DEPARTMENT OF DEFENSE
MARCH 1979**

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<p>The Military Manpower Training Report of the Secretary of Defense is submitted to the Congress annually. It specifically supports the Department of Defense request for authorization of average military student training loads for each component, active and reserve, of each Service. It recommends the average student load for each category of individual training and education and includes justification for, and explanation of, the average student loads recommended.</p> <p>for Fiscal Year 1980.</p>			
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MILITARY
MANPOWER
TRAINING
REPORT
FOR FY 1980

DEPARTMENT OF DEFENSE
March 1979

Prepared by

Office of the Assistant Secretary of Defense
(Manpower, Reserve Affairs and Logistics)



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EXECUTIVE SUMMARY

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The Military Manpower Training Report of the Secretary of Defense is submitted to the Congress in accordance with 10 U.S.C. 138(d)(2), which states:

The Secretary of Defense shall submit to Congress a written report, not later than March 1 of each fiscal year, recommending the average student load for each category of training for each component of the armed forces for the next three fiscal years, and shall include in that report justification for, and explanation of, the average student loads recommended.

In compliance with the law, this report presents the recommended military student training loads for the Department of Defense for Fiscal Years 1979 through 1981. The report specifically supports the Department of Defense request for authorization of average military student training loads for each component, active and reserve, of each Service for Fiscal Year 1980. Requested training loads are shown in the following table.

Requested Training Loads, FY 1980 and FY 1981

	<u>FY 1980</u>	<u>FY 1981</u>
<u>Active Components</u>		
Army	74,468	70,886
Navy	61,913	64,308
Marine Corps	22,618	22,174
Air Force	<u>43,249</u>	<u>43,962</u>
Subtotal	202,248	201,330
<u>Reserve Components</u>		
Army National Guard	14,616	14,041
Army Reserve	6,328	6,899
Naval Reserve	906	1,037
Marine Corps Reserve	3,156	3,159
Air National Guard	1,958	1,964
Air Force Reserve	<u>1,276</u>	<u>1,293</u>
Subtotal	28,240	28,393
TOTALS	230,488	229,723

Total requested training loads are as follows:

Total Requested Training Loads, FY 1980 and FY 1981

	<u>FY 1980</u>	<u>FY 1981</u>
Active Components	202,248	201,330
Reserve Components	<u>28,240</u>	<u>28,393</u>
DoD Total	230,488	229,723

The requested loads are consistent with the President's Budget for FY 1980 and the Department of Defense request for authorization of military manpower strengths, active and reserve.

Definitions and Explanation of Training Loads

This report discusses the training and education of individuals within the Department of Defense, as opposed to the training of operational mission units or crews. Individual training and education, for purposes of this report, is divided into six categories:

- Recruit Training, given to all enlisted entrants to the Services who have not had previous military service.
- One-Station Unit Training, an Army program which combines Recruit Training and training in certain skills into a single continuous course.
- Officer Acquisition Training, which leads to a commission in one of the Services.
- Specialized Skill Training, needed to prepare military personnel for specific jobs in the Military Services.
- Flight Training, primarily for prospective pilots and navigators before they receive an initial operational assignment.
- Professional Development Education, relating to the advanced professional duties of military personnel or to advanced academic disciplines to meet Service requirements.

"Training loads" are the average number of students and trainees participating in formal individual training and education courses during the fiscal year. For a full fiscal year, training loads are the equivalent of student/trainee manyears for these participants, including both those in temporary duty and permanent change of station status.

The requirement for training in a base-line force is derived from the need to replace losses in each skill required in the military force structure. Losses, through separations, promotions and other causes, are projected at various points in the future and compared to the projected inventory of trained personnel. The deficit between the requirement in each skill and the inventory becomes a demand for an output of trained personnel. A phased input of students to the training establishment is then scheduled so that trained personnel, in each skill and skill level, are available at the proper time to replace the losses in those skills. The resulting workload placed on the training establishment is the basis of the training loads addressed in this report.

The training load for each component is the measure of the amount of training required for the members of that component, although some of the training will be done by other Services, in DoD schools, or in some cases by institutions outside the Department of Defense. The training of members of the Reserve Components included in the report is the formal school training provided by the active training establishment to individual members of the Reserve Components while they are on active duty for training; this is primarily training provided to non-prior service personnel entering the Reserve Components.

An Overview of Training Loads

During FY 1980 and FY 1981, total requested DoD training loads will range between approximately 230,500 and 229,700. About 88 percent of these annual loads is composed of training for members of the active forces; the remaining 12 percent of these loads is training for members of the Reserve Components, while on active duty, conducted by the active training establishment.

The following table displays the percentage of total active force loads and the percentage of total Reserve Component loads attributable to each of the major categories of training in FY 1980.

Percent Distribution of Training Loads, FY 1980

<u>Training Category</u>	<u>Active Forces</u>	<u>Reserve Components</u>
Recruit Training	21%	25%
One-Station Unit Training	10%	29%
Officer Acquisition Training	8%	2%
Specialized Skill Training	53%	42%
Flight Training	3%	1%
Professional Development Education	5%	1%
Total	100%	100%

It will be noted that the preponderant categories of training, in terms of training loads, are Recruit Training and Specialized Skill Training, both of which, along with One-Station Unit Training, are strongly influenced by the number of enlisted non-prior service accessions to the force. Other types of training -- all of Officer Acquisition Training, for example -- are also driven by the number of new accessions to the force. The following table divides the requested training loads for FY 1980 into two parts: training which is primarily accession-related, and is conducted for the purpose of turning a civilian into a qualified service member with a usable military skill; and other training, which, for the most part, is conducted for the purpose of preparing members in later stages of their military careers for more demanding duties.

Accession-Related Training and Training Loads, FY 1980
(Thousands)

	<u>Active Forces</u>	<u>Reserve Components</u>	<u>Total Active & Reserve</u>
<u>Accession-Related Loads</u>			
Recruit	43.1	7.0	50.2
One-Station Unit Training	19.6	8.2	27.8
Officer Acquisition	16.9	0.6	17.5
Initial Skill (Officer & Enlisted) ^{a/}	67.4	9.2	76.6
Undergraduate Flight	<u>5.0</u>	<u>0.3</u>	<u>5.3</u>
Subtotal	152.1	25.3	177.4
<u>Other Loads</u>			
Other Specialized Skills	40.0	2.6	42.6
Other Flight	0.6	-	0.7
Professional Development	<u>9.5</u>	<u>0.3</u>	<u>9.8</u>
Subtotal	50.2	2.9	53.1
<u>Accession-Related Loads as</u>			
<u>Percent of Total Loads</u>			
	75	89	77

Note: Numbers may not add to due to rounding.

^{a/} In some cases, includes some training for prior-service personnel or personnel who receive the training at a later stage.

As the table shows, training primarily related to new accessions amounts to about 75 percent of all training programmed for the active forces in FY 1980; only about 25 percent is for subsequent training. The comparable proportions for the Reserve Components are about 89 and 11 percent. The concentration on accession-related training demonstrates

the priority the Services place on training intended to produce new Service members who are motivated, amenable to discipline, and capable of productive service as members of military organizations.

The following table shows the trend in training loads.

Active and Reserve Training Load Trends by Service,
FY 1973 - 80
 (Thousands)

	<u>FY 73</u>	<u>FY 76</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Change</u>	
						<u>FY 73-80</u>	<u>FY78-80</u>
<u>Active Forces</u>							
Army	109	78	67	72	74	-32	+11
Navy	76	64	59	60	62	-19	+ 5
Marine Corps	30	25	21	23	23	-24	+ 8
Air Force	<u>59</u>	<u>48</u>	<u>41</u>	<u>42</u>	<u>43</u>	<u>-26</u>	<u>+ 4</u>
Total Active	274	216	188	197	202	-26	+ 7
<u>Reserve Components</u>							
	<u>25</u>	<u>22</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>+14</u>	<u>+ 8</u>
Total DoD	299	238	214	224	230	-23	+ 8

Note: Calculations are affected by rounding.

The following table compares training loads by the major categories of training.

Active and Reserve Training Load Trends by Training Category
FY 1973 - 80
 (Thousands)

	<u>FY 73</u>	<u>FY 76</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Change</u>	
						<u>FY 73-80</u>	<u>FY78-80</u>
Recruit	94	71	54	49	50	-47	- 6
Officer Acquisition	20	18	17	17	18	-12	+ 5
Specialized Skill	157	130	118	116	119	-24	+ 2
Flight	9	5	5	5	6	-32	+ 22
<u>Professional</u>							
Development	19	12	10	10	10	-48	+ 1
<u>One-Station Unit Training</u>							
	<u>-</u>	<u>2</u>	<u>12</u>	<u>27</u>	<u>28</u>	<u>-</u>	<u>+124</u>
Total	299	238	214	224	230	<u>-23</u>	+ 8

Note: Calculations are affected by rounding.

Overall, training loads increase by over 16,000 from FY 1978 to FY 1980. The most notable increases are in initial enlisted entry training (e.g., recruit, One-Station Unit Training (OSUT) and Initial Skill Training) and Flight Training. Initial entry training is increasing in response to the higher level of non-prior service accessions in FY 1980. From FY 1978 to FY 1980, Recruit Training and OSUT entrants increase by 13%. Flight Training loads increase as overages of aviators from the Vietnam years decline. The increase in officer acquisition loads is tied to the higher level of new officer accessions in FY 1980.

Training loads for each of the major categories of training are discussed in detail in Chapters III through VII.

Funding for Individual Training

Funding required to support the training in the training load request for FY 1980 totals approximately \$7.6 billion made up of pay and allowances for the students undergoing training, pay and allowances of military and civilian personnel in support of training, operations and maintenance costs, and training-related procurement and construction funded in FY 1980. The following table displays total training funding for each Service.

Funding of Individual Training by Service, FY 1980 (\$ Millions)

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>	<u>DoD</u>
3,296	2,053	536	1,732	7,617

The same funding is shown below for each of the major categories of training and for related support and travel.

Funding of Individual Training by Training Category, FY 1980 (\$ Millions)

Recruit Training	652
Army One-Station Unit Training	274
Officer Acquisition Training	254
Specialized Skill Training	1,838
Flight Training	828
Professional Development Education	298
Medical Training	205
BOS and Direct Training Support	2,136
Management Headquarters	88
PCS Cost for Training	323
TDY and Reserve Component	
Pay and Allowances	721
Total	7,617

Note: Numbers may not add due to rounding.

Funding estimates are based on data contained in DoD's Five Year Defense Program (FYDP). Prior editions of this report adjusted the data in the FYDP to reflect the level of costs and manpower attributable to training and education. For instance, for major training bases, that also had other missions, a share of BOS costs and people were deducted from FYDP estimates to reflect the support given to non-training activities. Correspondingly, where a training activity was a tenant at a non-training base, BOS costs and people were added to FYDP estimates to account for the support received. The overall effect was a net reduction to FYDP estimates for training. On a comparable basis with previous reports the current cost estimate for FY 1980 would be \$6.4 billion. This change is a significant improvement because it makes the estimates in this report consistent with resource estimates in the President's budget, the backup material submitted to the Congress, the Five Year Defense Program and other internal DoD management systems.

Manpower for Individual Training

Individual training requires manpower to conduct and support instruction, manage military schools and training centers, maintain training bases and provide support to students, military staff members and their dependents. Chapter IX of this report provides an analysis of military and civilian manpower in individual training. Manpower in support of individual training for FY 1980, by the general functions it performs, is shown in the following table.

DoD Manpower in Support of Individual Training, FY 1980
(End Strength, Thousands)

	<u>Military</u>	<u>Civilian</u>	<u>Total</u>
Training and Direct Training Support <u>a/</u>	90.2	19.5	109.7
Base Operating Support	31.7	37.3	69.0
Major Training Headquarters	<u>1.9</u>	<u>1.9</u>	<u>3.8</u>
Total	123.8	58.7	182.5

a/ Includes instructors, instructional support, school/training center administration, student supervision.

Manpower in support of individual training is considerably lower than in previous years. The extent of this reduction is shown in the following table.

Trends, Manpower in Support of Training, FY 1977-80
(Combined Military and Civilian End Strengths, Thousands)

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Change</u>	
					<u>FY 77-80</u>	<u>FY 78-80</u>
Training and Direct						
Training Support	130	114	109	110	-16	- 4
Base Operating Support	81	78	71	69	-15	-12
Major Training						
Headquarters	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	-	+ 3
Total	215	196	184	182	-15	- 7

The estimates for supporting manpower in this year's report are also based on FYDP data. On a comparable basis with previous reports the current estimates would be: FY 1978, 159.9 thousands; FY 1979, 151.5 thousands; FY 1980, 150.4 thousands. The differences between the current estimates and the previous reports are mostly in BOS manpower.

Over the same period, training workloads -- that is, all students trained or supported by this manpower, including, in addition to DoD military students, foreign students and students from other U.S. departments and agencies -- have increased as the following table shows.

Training Workloads, FY 1977-80
(Thousands)

<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Changes</u>	
<u>FY 77-80</u>	<u>FY 78-80</u>				
238	228	236	242	+1.7	+ 6.3

The significant decrease in manpower in support of training, when combined with the increase in training workloads, imply a notable increase in productivity in the Service training establishments. This is consistent with DoD's general emphasis on increased efficiency in FY 1979 and FY 1980, especially for support areas. The Department anticipates that some of the training support that was performed by government employees in FY 1978 will be provided in FY 1980 by more economical contractual arrangements.

Other Training Improvements

In addition to reducing levels of manpower in support of training, efforts are continuing to make individual training more efficient and effective.

Reducing the amount of formal training provided, where this can be done with an acceptable effect on the quality of training and on force readiness, is equally as important as reducing training staff manpower, since military students must be paid and supported.

The Army is saving additional training time by the use of One-Station Unit Training (OSUT) in certain high-density skills. By combining Recruit and Initial Skill Training into single condensed courses, the Army is saving three to four weeks in training infantrymen. The Army is also reducing student entrants and course lengths in some Skill Progression and Functional Training courses. The Air Force is shortening the average length of Initial Skill Training courses.

In one of the most important applications of modern technology to training, the Services are continuing to save flying time and costs and improve training quality through the procurement and use of flight simulators.

The Department of Defense is again proposing the consolidation of all Defense undergraduate helicopter pilot training into a single program. The planned consolidated program will provide training which will meet the requirements of each of the Services while saving substantial funds and military and civilian manpower.

The Necessity for Good Training

The objective of individual training is to provide the operational forces with personnel adequately trained to assume jobs in military units. Without effective training and education programs, the operational forces would be manned with personnel who are less than fully qualified for their jobs. Since the nation cannot predict when or where war may break out or count on an extended period for mobilization, we must have effective individual training to assure that our operational units are capable of carrying out national security missions in peace or war.

MILITARY MANPOWER TRAINING

REPORT FOR FY 1980

MILITARY
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FOR FY 1980

DEPARTMENT OF DEFENSE
March 1979

Prepared by

Office of the Assistant Secretary of Defense
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Military Manpower Training Report for FY 1980

INTRODUCTION

Training Requirements and Manpower Requirements

Requirements for training and education of military personnel are derived ultimately from basic national security objectives. This Report, the Report of the Secretary of Defense to the Congress on the FY 1980 Budget, and the Defense Manpower Requirements Report, describe the progression from national security objectives to training load requirements. The Report of the Secretary of Defense explains the relationship between the threat and the forces designed to cope with the threat. The Manpower Requirements Report relates these forces to the requirement for trained manpower to man the forces. The Military Manpower Training Report takes as a starting point the requirement for trained military manpower described in the Manpower Requirements Report. It then describes how these requirements relate to the demand placed on the military training establishment to supply this trained manpower, and how this demand leads to the DoD request for military student training load authorizations for each component of the Military Services. The Manpower Requirements Report and this Report are mutually supportive; however, the data in the two reports are not interchangeable or directly comparable. The principal reason for this difference is that the main focus of the Manpower Requirements Report is upon requested strength on the last day of fiscal years (that is, end strength), whereas the main focus of this Military Manpower Training Report is upon requested student loads, a concept more comparable to average strength, or man-years, than to end strength.

Definition of "Individual Training and Education"

This report addresses the "individual training and education" activities of the Department of Defense. These involve the training of individual military members in formal courses conducted by organizations whose predominant mission is training; this training is to be differentiated from training activities conducted by operational units incidental to their primary combat, combat support, or combat service support missions. "Force support training," the training of organized crews and units for the performance of specific missions, is not included in the training loads discussed in this report, but is discussed in the Manpower Requirements Report. In certain categories of training, on-the-job training (OJT) in units supplements or substitutes to some extent for all or part of formal course training requirements; OJT is also not included in the training loads discussed in this Report.

The purpose of individual training and education is to give the individual Service member the skills and knowledge that will qualify him or her to perform effectively in subsequent assignments as a member of

an operational military organization. "Individual training and education" includes all formal military and technical training and professional education conducted under centralized control, generally under the supervision of a Service training command or similar organization. The trainees and students undergoing the training or education addressed in the report include the following categories of personnel:

1. Active Force: officers, enlisted personnel, and Service Academy cadets and midshipmen.
2. Reserve Components: officers and enlisted members on active duty for training in formal school courses.

Training of some civilian students, prior to their entry into the Services, in such programs as ROTC, is also discussed in the report. However, training loads are properly requested only for training and education of personnel received while they are in active military status.

In general, the training discussed in this report is conducted under Major Defense Program VIII, "Training, Medical and Other General Personnel Activities," as presented in the Defense budget. Exceptions to these general rules are pointed out, where appropriate, in the body of the report.

Personnel undergoing individual training and education are classified, for manpower accounting purposes, as either trainees, students, or cadets, unless they are undergoing training while on temporary duty or temporary additional duty from their unit of assignment, or unless they are being trained while en route to new stations as transients. The term "trainees" is generally used for all enlisted personnel in Recruit Training and Initial Skill Training. "Cadets" (or "midshipmen" in the case of the Naval Academy) are members being educated at one of the Service Academies. All others receiving individual training and education are identified as "students". The distinction is not important for the purposes of this report, and the term "student" will be used where appropriate to describe members of all three classifications as well as temporary duty and transient personnel being trained.

The term "training" generally refers to instruction in military subjects either at a basic level, as in Recruit Training, or in a military or job-related technical specialty, such as pilot training or training in radar repair. "Education" generally refers to study either in more advanced subjects or in military subjects which apply to an entire Service or to the broad mission of national security, as, for example, the curriculum at the National War College. The term "training" will be used in this Report to refer to individual training and education as a whole.

FY 1980 Training Report and the FY 1980 Budget

It is important to emphasize that this Report, while consistent with the Department of Defense Budget for FY 1980, differs in structure from the budget justification in two major respects. Budget justifications are focused on explaining how, by whom, and why money is to be spent; budgets for training and their justifications, therefore, are prepared by the Service which conducts the training programs and must obtain funds to train personnel from other Services in addition to its own. By contrast, this Report details and emphasizes the training loads of the components of the parent Service whose members are undergoing the training, and deals in less detail with resources and funds required by the Service which conducts the training. For example, Navy personnel being trained by the Air Force are treated in this Report as part of the Navy military student training load, since they are being trained to fill Navy requirements. However, in budget documents, funds to conduct training for these students, who are a part of the Air Force training workload, are included in Air Force appropriation requests.

Definitions of Major Training Categories

The portion of this Report which discusses training loads in detail is organized into five chapters (Chapters III through VII), each of which addresses one of the major categories of training. These major categories are briefly defined below. Each chapter will more fully describe the training category and its sub-categories, the requested training loads, and the training methodology.

Recruit Training includes the basic introductory physical conditioning, military, and indoctrination training given to all new enlisted entrants in each of the Services. One-Station Unit Training (OSUT) is an Army training program which meets the training objectives of both Recruit and Specialized Skill Training in certain skills through a single course for new Service entrants which is conducted by a single training unit. Since it includes elements of two categories of training, it is treated separately in this Report.

Officer Acquisition Training, sometimes called pre-commissioning training, includes all types of education and training leading to a commission in one of the Services, such as the programs of the Service Academies and officer candidate schools. Students not in active military status, such as Reserve Officer Training Corps students, are excluded from requested loads in this Report.

Specialized Skill Training provides officers and enlisted personnel with new or higher levels of skill in military specialties to match specific job requirements.

This category includes Army Advanced Individual Training and Navy Apprenticeship Training. Certain flight-related training, such as

training of air traffic controllers and some aircraft mechanics, and survival training in the Air Force, is reported under Specialized Skill Training. None of the officer acquisition programs are included in Specialized Skill Training.

Flight Training provides the individual flying skills needed by pilots, navigators, and naval flight officers to permit them to function effectively upon their assignment to operational mission units. The Service undergraduate flight training programs culminate in an officer, or an Army warrant officer, receiving "wings" and being categorized as a "designated" or "rated" officer.

The undergraduate programs do not include the major formal advanced flight training programs, which are not individual training. Training conducted by Service advanced flight training organizations is not individual training and is therefore beyond the scope of this Report.

Professional Development Education includes educational courses conducted at the higher-level Service schools or at civilian institutions to broaden the outlook and knowledge of senior military personnel or to impart knowledge in advanced academic disciplines to meet Service requirements. Training of this type is required to prepare individuals for progressively more demanding assignments, particularly for higher command and staff positions. Programs include undergraduate and graduate education and other courses not leading to a degree.

Enlisted leadership training for senior non-commissioned officers is included in Professional Development Education rather than in Specialized Skill Training to recognize its broad professional content. However, Navy leadership training, which is given to all grades of petty officers, is included in Specialized Skill Training, as is the rest of NCO training for more junior personnel conducted by the other Services.

Determining Training Requirements and Training Load

The amount and type of training to be conducted in the Department of Defense is the product of a series of calculations which is described in Appendix A to this Report.

In brief, the process begins with the determination of the requirement for military personnel with specific skills to fill positions in the approved or projected force. The requirement for trained manpower must then be measured against the available inventory of trained personnel projected at various points in the future. This comparison, made for each military skill and skill level, establishes the need for the training of personnel, on a phased basis, to fill current and projected skill shortages. The requirement for the training of personnel on a schedule calculated to maintain the skill inventory becomes the workload of the Service training establishments. It is measured in terms of the average military training student load, or "training load". The training load

for a given period is not only a measure of the amount of training to be accomplished; but, adjusted to take account of the Service conducting the training, it becomes a "workload" and thus it is also a basis for establishing the requirement for resources (manpower, funds, materiel and facilities) needed to support the training to be conducted by a Service.

Conceptually, the training load for a given period is the average student strength for the period, and approximates man-years. The total training load is the sum of the loads for all the included individual courses. Training loads for individual courses are determined by the following factors:

1. The length of the training course.
2. The desired number of graduates, or output, of the course.
3. The number of entrants, or inputs, into the course required to obtain the desired output. This, in turn, depends on the pattern of attrition, or failures of entrants to graduate, for the course.

If attrition occurs at a constant rate during a course, the training load is computed by the following formula:

$$\frac{\text{Entrants} + \text{Graduates}}{2} \times \text{Course Length (expressed as a fraction of a year)} = \text{Load}$$

This is the basic method for computing the training loads discussed in this report. However, if attrition does not occur at a uniform rate, as is frequently the case, and the rate and phasing can be specified, more complex formulas and computer simulations are used to estimate training loads.

Accuracy in Projecting Training Loads

In accordance with law, training load authorizations must be requested well in advance of the period when the training is actually conducted. This year, for example, in addition to the more refined estimates of loads needed for FY 1980, load authorizations must be requested for the fiscal year which begins more than a year after the request is submitted -- that is, loads for FY 1981, beginning October 1, 1980, must be requested in the spring of 1979. This statutory requirement implies the capability to predict future training loads with precision. In actuality, while loads for some long-leadtime programs, such as the Service Academies, can be predicted with considerable accuracy, there are many uncertainties in projecting training loads. Some of the causes of uncertainty are:

1. Unpredictability of individual decisions to enlist or re-enlist; this factor may lead to unanticipated changes in the skill

inventory, requiring changes in the composition or size of training loads, or to shifts of portions of the training load from one fiscal period to the following period.

2. Unanticipated changes in force structure, requiring a readjustment of the skill inventory and the mix of courses in the training load.

3. Changes in attrition rates and patterns, causing unprogrammed fluctuations in training rates and loads.

Through forecasting training needs as far as possible into the future and continuous review and adjustment of training inputs and loads, the Services are able to adapt the training system to changing conditions. However, it should be clear that extended projections are subject to error; adjustments are inevitable and, in fact, necessary for good management.

Training Load Request by Component and Category

The tables on the following two pages display in category detail the requested training loads for FY 1980 and FY 1981. The loads for each period are displayed by component and by each of the major categories of training.

Military Training Student Loads, Fiscal Year 1980, By Component and Major Training Category

	<u>Recruit Training</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition Training</u>	<u>Specialized Skill Training</u>	<u>Flight Training</u>	<u>Professional Development Education</u>	<u>Total</u>
<u>Active Forces</u>							
Army	9,945	19,603	4,856	35,566	1,106	3,392	74,468
Navy	15,682	-	5,526	37,423	1,302	1,980	61,913
Marine Corps	8,949	-	363	11,820	713	773	22,618
Air Force	8,542	-	6,195	22,631	2,484	3,397	43,249
Sub-Total	43,118	19,603	16,940	107,440	5,605	9,542	202,248
<u>Reserve Components</u>							
Army National Guard	2,604	6,631	206	5,006	89	80	14,616
Army Reserve	1,567	1,556	2	3,107	36	60	6,328
Naval Reserve	282	-	40	567	-	17	906
Marine Corps Reserve	1,694	-	325	1,109	-	28	3,156
Air National Guard	536	-	-	1,260	125	37	1,958
Air Force Reserve	362	-	17	790	71	36	1,276
Sub-Total	7,045	8,187	590	11,839	321	258	28,240
Total	50,163	27,790	17,530	119,279	5,926	9,800	230,488

Military Training Student Loads, Fiscal Year 1981, By Component and Major Training Category

	<u>Recruit Training</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition Training</u>	<u>Specialized Skill Training</u>	<u>Flight Training</u>	<u>Professional Development Education</u>	<u>Total</u>
<u>Active Forces</u>							
Army	10,243	18,266	4,831	32,987	1,162	3,397	70,886
Navy	16,632	-	5,404	38,829	1,409	2,034	64,308
Marine Corps	8,502	-	366	11,820	713	773	22,174
Air Force	8,790	-	6,085	23,038	2,666	3,383	43,962
Sub-Total	44,167	18,266	16,686	106,674	5,950	9,587	201,330
<u>Reserve Components</u>							
Army National Guard	2,730	6,126	206	4,808	91	80	14,041
Army Reserve	1,867	1,691	2	3,239	40	60	6,899
Naval Reserve	327	-	40	653	-	17	1,037
Marine Corps Reserve	1,689	-	333	1,109	-	28	3,159
Air National Guard	537	-	-	1,260	130	37	1,964
Air Force Reserve	362	-	17	787	91	36	1,293
Sub-Total	7,512	7,817	598	11,856	352	258	28,393
Total	51,679	26,083	17,284	118,530	6,302	9,845	229,723

TRAINING PATTERNS

General Description

The development of service members through formal training and education and practical experience follows a generally common pattern. The new service member (or, in the case of some Officer Acquisition Training, the prospective service member) first receives training designed to develop the basic attributes of all members of his or her Service. In most cases, the graduate of the initial training is then taught the skills required for a military job at the lowest skill level. Those service members who do not remain beyond their initial enlistments or obligated terms of service do not, in most cases, receive additional formal training. Those who remain, the career members, will further develop their military knowledge and skills through experience in military jobs, interspersed, as required, with training or education needed to prepare them for more responsible positions. During any part of their terms of service, military personnel are also encouraged, as their military assignments may permit, to improve their educational attainments, to the benefit of themselves and their Services through off-duty and voluntary education programs which may be available. This combination of job experience, training and education is essential to the development of a military force which is capable of carrying out the national security mission.

Enlisted personnel usually work in relatively specialized skill fields, whereas the duties of officers, particularly of those in the career force, call for broader expertise. For these reasons, the training and education patterns of officers and enlisted personnel differ, and will be discussed separately in the following sections of this chapter.

Officer Training Patterns

Each Service has developed career patterns to prepare its officers to assume progressively higher command and staff responsibilities. These career patterns are composed of operational assignments, during which the officer learns his profession through experience, and periodic individual training and education, which provide the officer with knowledge and skills needed for progressively more demanding subsequent assignments.

Officer training and education can be divided generally into three types. First, each Service maintains a system of professional military education which is progressive in nature. This education is related more to the increasing responsibilities associated with career progression to more senior grades than to the individual's current assignment or specialty. It is primarily the study of officership and the command and staff knowledge required of all professionals. The second type of

education and training includes the many specific skill-producing courses that are conducted to enable the officer to perform immediately upon assignment to a specialized or functional area. These courses vary in length from a few days to several months. They present, for the most part, strictly job-oriented training, and are often in the nature of orientation or refresher courses. Third, the Services also provide selected officers with advanced academic education, either in-house or at civilian institutions, to meet specific requirements for officers educated in technical, scientific, engineering, and managerial fields. Officers also participate in a variety of other educational programs, many on a part-time basis, usually with the student sharing in the cost.

Training and education for career officers, involving one or more of the types of training and education described above, follow the general patterns outlined in the following paragraphs. The patterns vary among the Services to some extent, and not all officers will participate in all of the schooling described. The number of officers participating in schooling becomes progressively smaller, and participation more selective and demanding, as officers move through their careers.

Non-career officers (those who may be expected to serve only an initial tour of active duty) generally receive training only at the entry level. In some cases, they may receive skill-oriented courses such as pilot training, which is lengthy and results in a commensurately longer active duty obligation, or training as maintenance or communications officers.

Entry Level Training. Upon entry, the young officer's initial training is Service-oriented and intended to prepare him for duties at the lowest operational level -- company, squadron, or ship. The newly commissioned Army officer will attend a basic course conducted by the particular branch of the Army to which he is assigned, such as infantry, armor or artillery. A Navy ensign is usually assigned to school training based on his warfare specialty. The new Marine officer attends the Officer Basic School. A newly commissioned officer in the Air Force may go to Flight Training or training in a technical specialty.

Developmental Training. After some operational experience, the career officer requires further schooling to prepare him for service at the next level -- for example, as a unit commander or a headquarters staff officer. In the Army, this entails a return to his branch school for more advanced training. An Air Force officer could be selected for the Squadron Officer School. A Marine Corps officer would normally attend the Amphibious Warfare Course. Navy officers at this stage in their careers may attend a school in a specialty appropriate to their future assignments.

To satisfy Service requirements and as a further step in professional development, some officers are selected for participation in an advanced academic educational program at a civilian institution or one of the two Service technical institutes, the Naval Postgraduate School and the Air Force Institute of Technology.

Intermediate Service Schools. As the officer progresses (between six and 16 years of service, depending on Service criteria) he is ready for the next, or command and staff, level of professional schooling in preparation for assuming higher responsibilities. Attendance is competitive, as not all officers are selected to attend. Each Service has such a course; the Armed Forces Staff College, a joint school, is also conducted at this level. Each Service has its own emphasis with regard to this schooling because of its pattern of missions; these differences are reflected in the school curricula.

Senior Service Schools. Subsequent to the intermediate years, little technical training is provided. The final level of professional military education is that of the Senior Service Schools -- the war colleges -- for which attendance is highly selective. The Army, Navy, and Air Force each has a war college. In addition, there is the National Defense University, consisting of the National War College and the Industrial College of the Armed Forces. Officers graduating from the Senior Service Schools have the academic foundation required for command and staff positions at the highest level. The different curricula of these schools reflect the differing patterns of missions among the Services.

Enlisted Training Patterns

An individual entering upon an initial enlistment is provided Recruit Training that introduces him or her to military life. Following this indoctrination training, an individual will follow one of three possible avenues:

1. Initial Skill Training, which prepares the enlistee for an initial duty assignment, or
2. Direct duty assignment on the basis of a skill already acquired in civilian life, or
3. Direct assignment to first duty unit for on-the-job training (OJT).

The Army One-Station Unit Training (OSUT) program is a variation of the first of these three avenues, since it combines Recruit and Initial Skill Training into a single course, followed by assignment to an operational unit. About 52 percent of Active Army entrants to initial enlisted training will be trained under the OSUT program in FY 1980.

The expected distribution of Active Recruit Training graduates in FY 1980 is as follows:

Disposition of Active Recruit Training Graduates in FY 1980

	<u>Army</u>	<u>Navy a/</u>	<u>Marine Corps b/</u>	<u>Air Force</u>
To Initial Skill Training	96%	100%	73%	91%
To Duty Assignment (Civilian-Acquired Skill)	1%	*	*	2%
To Duty Assignment (On- the-Job Training)	<u>3%</u>	<u>-</u>	<u>27%</u>	<u>7%</u>
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

*Less than 1/2 percent.

a/ 30% of Navy Recruit Training graduates attend short "Apprenticeship Training" courses (carried under Initial Skill Training in this report) as a preliminary to further training on the job.

b/ This distribution is facilitated, in part, by the fact that the Marine Corps has the longest Recruit Training course of any Service.

As the table indicates, most enlisted personnel receive formal Initial Skill Training to provide them with a basic military skill. The combination of Recruit Training and Initial Skill Training (or Army One-Station Unit Training) is the foundation of the development of enlisted personnel, because it turns civilians into service members who are qualified to fill positions in military units.

Other than for on-the-job training in the work environment, enlisted personnel normally receive no further formal training beyond the training previously described during their initial enlistments. The major exception is Navy training, conducted by fleet training centers, in such shipboard duties as firefighting.

Subsequent to reenlistment, an individual may be selected for attendance at a journeyman level course in his specific occupational area. This training emphasizes the appropriate military applications for the skills being taught. In most cases, however, enlisted personnel advance in their skill areas through experience gained on the job and without extensive additional formal training. Some enlisted personnel are given the opportunity to attend NCO professional development training programs which prepare them for increased supervisory and leadership responsibilities.

Normally, few enlisted personnel attend regularly programmed specialized courses after mid-career. There are instances, of course, where new equipment or systems are introduced into a Service, and senior level enlisted personnel are formally trained in operation and maintenance techniques. Selected senior enlisted personnel attend schools, such as the Army's Sergeants Major Academy, which are, on the NCO level, similar in purpose to the Intermediate and Senior Service Schools in the officer education system.

III

RECRUIT TRAINING AND ARMY ONE-STATION UNIT TRAINING

General Description

Recruit Training is the basic introductory and indoctrination training given to enlisted personnel of each Service upon their initial entry into military service. Recruit Training provides an orderly transition from civilian to military life, motivation to become a dedicated and productive member of the service, and instruction in the basic skills which are required by all members of the Military Service involved. Training in each of the Services emphasizes discipline, observance of military rules, social conduct, physical conditioning and the building of self-confidence and pride in being a member of the service. Beyond these common objectives, Recruit Training in each Service is designed to meet the particular training requirements of that Service which are a reflection of the Service mission. The graduate of Recruit Training has the basic knowledge and skills required to qualify him or her, after formal or on-the-job training in a particular skill, for service in an operational unit of the parent Service.

Army One-Station Unit Training (OSUT) is unique in that it combines Recruit Training and Initial Skill Training in certain skills into a single, continuous course conducted by a single training unit. OSUT therefore includes elements of two major training categories; consequently, it is treated separately at the end of this chapter. OSUT training loads are not included within the Recruit Training loads displayed in this chapter.

Recruit Training Load

The training loads for FY 1973 through FY 1981 for each component of each Military Service are in the table on the following page.

RECRUIT TRAINING LOADS, FY 1973-81^{a/}

<u>Service Component</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u> ^{b/}									
Active	39,119	26,088	25,902	23,611	20,823	12,957	9,986	9,945	10,243
Natl Guard	5,108	3,272	3,283	3,864	4,140	3,884	2,599	2,604	2,730
Reserve	1,861	751	1,847	1,548	1,529	1,620	1,339	1,567	1,867
	6,988	3,011	3,052	2,333	2,000	1,500			
<u>Navy</u>									
Active	17,578	16,252	18,569	17,642	17,407	14,199	14,111	15,682	16,632
Reserve	436	386	562	281	338	361	310	282	327
	18,014	16,638	19,131	17,923	17,745	14,560	14,421	15,964	16,959
<u>Marine Corps</u>									
Active	15,806	12,409	14,112	12,350	11,288	9,652	9,606	8,949	8,502
Reserve	2,308	905	1,717	1,694	1,801	1,935	1,555	1,694	1,689
	18,114	13,314	15,829	14,044	13,089	11,587	11,161	10,643	10,191
<u>Air Force</u>									
Active	11,561	9,797	9,720	9,348	8,666	8,151	8,418	8,542	8,790
Natl Guard	510	228	390	475	404	459	603	536	537
Reserve	180	162	298	280	291	301	362	362	362
	12,251	10,187	10,408	10,103	9,361	8,911	9,383	9,440	9,689
<u>DoD</u>									
Active	84,064	64,546	68,303	62,951	58,184	44,959	42,121	43,118	44,167
Gd/Res Tot	10,403	5,704	8,097	8,142	8,503	8,560	6,768	7,045	7,513
	94,467	70,250	76,400	71,093	66,687	53,519	48,889	50,163	51,679

a/ In this table and in all subsequent tables in this report, training loads for the years prior to and including FY 1978 data are actual, FY 1979 and subsequent year data are estimated.

b/ Data does not include Army One-Station Unit Training loads.

The changes in Recruit Training loads from FY 1978 to FY 1980 are primarily the result of changes in the number of non-prior service accessions. The decrease in Army loads reflects the expanded use of One-Station Unit Training in FY 1980 compared to FY 1978. The increases in Navy and Air Force loads reflect the higher levels of non-prior service accessions; while the Marine Corps load decrease from FY 1978 to FY 1980 due to reduced levels of non-prior service accessions and the shorter length of Recruit Training.

Recruit Training

The following table displays for Recruit Training the average training loads for each year from FY 1978 to 1980 and, for FY 1980, the number of entrants (input) and number of graduates (output). Data are shown separately for each component of each Service.

Training Inputs, Outputs, Loads, Recruit Training
FY 1978 - 1980

<u>Service</u> <u>Component</u>	<u>FY 78</u> <u>Load</u>	<u>FY 79</u> <u>Load</u>	<u>FY 80</u>		
			<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	12,957	9,986	73,859	68,180	9,945
Reserve	1,620	1,339	13,148	12,285	1,567
Natl Guard	3,884	2,599	19,500	18,023	2,604
<u>Navy</u>					
Active	14,199	14,111	92,276	88,004	15,682
Reserve	361	310	1,719	1,519	282
<u>Marine Corps</u>					
Active	9,652	9,606	40,884	38,415	8,949
Reserve	1,935	1,555	8,000	6,970	1,694
<u>Air Force</u>					
Active	8,151	8,418	69,000	64,032	8,542
Reserve	301	362	3,204	2,955	362
Natl Guard	459	603	4,719	4,294	536
<u>DoD</u>					
Active	44,959	42,121	276,019	258,631	43,118
Res/Gd Tot	8,560	6,768	50,290	46,046	7,045
DoD Total	53,519	48,889	326,309	304,677	50,163

Each of the Services conducts training for women recruits which is similar in concept to Recruit Training for males. In FY 1978, the Army adopted integrated, male and female recruit training. In the Navy and Air Force, Recruit Training for men and women is collocated, and the syllabi for men and women are much the same. The Air Force has also integrated training for men and women. The curriculum are identical with the minor exception of one hour of personal hygiene for women recruits. The major difference between the male and female courses is that women recruits generally receive less training in weapons use or other combat-oriented skills. However, the Air Force provides M-16 qualification training for males and females; the Army provides its women recruits training in weapons use and defensive tactics; the Navy provides their women recruits some small-arms training. In place of the combat subjects women may receive instruction in subjects which facilitate their transition into military life in a particular Service; in the case of the Marine Corps, the length of training for women is made somewhat shorter.

Rationale for Recruit Training

The underlying philosophy of Recruit Training in each of the Services is that the demands of military service are fundamentally different from those of civilian life. Military service requires a high level of discipline and physical fitness, a homogeneity of outlook, and an ability to live and work as part of a highly structured organization. There are few parallels in civilian society to the demands of military service. Each recruit, therefore, must be transformed into a member of the military team in order to function effectively in the military environment. The attitudes, habits, and basic skills formed in Recruit Training are the foundation of a cohesive military organization. Later training provides the skills and knowledge needed for specific jobs; Recruit Training shapes the civilian entrant into a dedicated member of his or her Military Service with the potential for further development.

The major determinants of Recruit Training loads are the total number of people entering service who must receive Recruit Training (input), the length of the training course, and projected patterns of attrition. Course length and attrition are discussed later in this chapter. The following two sections discuss inputs: first, inputs of active duty personnel, and second, inputs of members of the Reserve Components on active duty for initial training.

Active Duty Input

The annual recruiting objective for active duty enlistees without prior military service is a function of the following factors:

1. The projected requirement for trained enlisted personnel.

2. Current enlisted trained strengths.
3. Number of enlisted personnel currently in training.
4. Projected enlisted losses through separations or other reasons (e.g., desertion, death, acceptance of a commission, etc.).
5. Projected prior-service enlistments -- that is, the return from civilian life of former service members.

"Trained strength" is the number of personnel required to fill "structure" spaces (i.e., positions in military organizations which require specific grades and skills) and individual "pipeline" spaces, such as transients en route between assignments. The Defense Manpower Requirements Report contains a full discussion of how military manpower requirements are determined. The projected trained strength requirement is compared with the projected trained strength inventory to forecast future skill and strength imbalances. Future shortages which are not expected to be satisfied either by prior-service enlistees or service members currently in skill training courses determine the training output needed to man the force with trained personnel. To determine the necessary input to achieve this output, allowance must be made for course attrition, the number of students entering a course of instruction who fail to complete it. The total input requirement must, therefore, be increased to compensate for expected attrition losses.

The optimal leveling of monthly inputs to obtain the most efficient use of training staff personnel and training facilities is a continuing goal. However, the phasing of inputs must at times be varied in order to take advantage of the best recruiting periods for maintaining quality and quantity.

Historically, June through September and January have been the most productive recruiting months, reflecting behavioral patterns which are related to the civilian academic calendar. Enlistments increase (1) shortly after high school graduation, (2) when peers return to school in the fall, and (3) after the results of the first term academic work are announced.

The Services must accept most prospective enlistees at the time they are ready to enter service. Requiring enlistees to enter military service in phase with requirements and on an even-flow basis would result in the loss of many potential enlistees to other sources of employment. Accepting enlistees as they become available, however, requires a training structure capable of accommodating peak surges of enlistments.

Reserve Component Input

Persons enlisting in the National Guard and Reserve forces without active duty experience require the same Recruit Training as active duty

enlistees, and for the same reasons. Recruit Training loads for the Reserve Components are based on the same factors as active force loads. Guard and Reserve trainees, while in Recruit Training, are mingled with active duty trainees in units so that their training is identical.

Reserve Component recruits form a significant part of the workload of the active Recruit Training establishment. In FY 1980, 14 percent of DoD Recruit Training loads, and 30 percent of Army's, are attributable to Guard and Reserve trainees.

The planning considerations for Reserve Component personnel are essentially similar to those for the active force; detailed phasing of this training is complicated, however, by the additional consideration of civilian employment or school commitments for these personnel. For this reason, a pool of personnel who have been enlisted but who have not yet been able to attend entry training is normal. It is important that this backlog is kept within a reasonable size.

Course Length and Course Content

Enlisted training loads depend not only upon the numbers of entrants but also on the extent of skills required of entering enlisted personnel by each Service. Enlisted personnel attain those skills in Recruit Training and in Specialized Skill Training, which is discussed in a subsequent chapter. Thus, Recruit Training course lengths are determined in part by how much of the required training is to be provided during the Recruit Training phase and how much is to be deferred to later training. The four Services, because of differences in their missions, take somewhat different approaches in establishing the content and length of their Recruit Training courses.

Recruit Training in each of the Services covers four areas: (1) some processing and testing; (2) introduction into Service life; (3) instruction in military courtesy, discipline, and hygiene; and (4) fundamental military-related training involving physical fitness, military drill, and self-defense. In addition, each Service provides training in military skills which should be possessed by all, or almost all, members of that Service. The degree to which these Service-wide required skills exist differs widely among the Services. This factor accounts for most of the differences in course content and, therefore, course length. The variance in quality of enlistees among the Services also has a bearing on course length; recruits with lower intelligence and lesser amenability to discipline require a longer training period to achieve training objectives.

The length of the standard Recruit Training course in each Service is shown in the following table:

Recruit Training Course Length FY 1980 (Weeks)

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
7	7.7	10.3	6

The Air Force accomplishes all Recruit Training in six weeks. Course content concentrates on indoctrination subjects. Relatively little training in Service-wide skills is provided, since there are few common skills needed by all Air Force enlisted personnel.

In addition to subjects oriented toward indoctrinating recruits to military life, the Navy course includes phases designed to prepare them for conditions in a fleet environment. The Navy must be sure that recruits learn to live, work, and fight in restricted space as they will find on board ship, often close to complex machinery and weapons.

Army and Marine Corps Recruit Training differ from the Air Force and Navy programs because all recruits are given intensive physical conditioning and instruction in basic ground combat skills, including the use of individual weapons. These Services subscribe to the view that all male enlisted personnel must achieve a basic level of qualification in ground combat skills, and their Recruit Training curricula both provide a common core of training in these skills.

The Army conducts a two-week refresher program for prior-service personnel who require some retraining. The Army also has been conducting a two-week Recruit Training program for Reserve Component women enlistees who have civilian-acquired skills which satisfy specific job requirements in their component.

The average length of time spent in recruit status in any of the Services may be longer than the standard course lengths discussed above. Some recruits fall behind their peers because of illness. Others require remedial training. If this cannot be accomplished by additional instructional hours the recruit may be sent to a special training unit or recycled to a following class to repeat a portion of the course.

The common objective of transforming a civilian into a disciplined service member tends to set a floor under the length of Recruit Training in each of the Services. Relatively few recruits have had much experience with life in a disciplined environment, been separated from their families and friends, or subjected to the stresses imposed by military life. Compensating for these factors takes not only training but also time. A minimum of six weeks in Recruit Training appears necessary to accomplish this objective alone in any of the Services. Greater amounts of time are required for those Services which must provide extensive training in required common skills.

Attrition in Recruit Training

A final factor in the computation of loads is the projection of the rate and timing of attrition. Recruits may fail to complete training for medical reasons, inability to absorb the instruction, lack of motivation, disciplinary problems, or a variety of administrative causes, such as discharge for fraudulent enlistment or family hardship. The

following table shows projected attrition losses for FY 1980. Recruit Training input figures are shown for comparison.

Recruit Training Input and Attrition Projections, FY 1980^{a/}
(Active and Reserve Combined)
(Thousands)

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
Input	106.5	94.0	48.9	76.9
Attrition Losses	8.0	8.0	5.8	5.6
Percent Attrition	7.5	8.5	11.9	7.3

a/ Figures include both active force and Reserve Component members.

The timing of attrition varies from case to case. In the case of slow learners or individuals who have difficulty in adjusting to military life, trainees usually are recycled or given special instruction; those who do not respond adequately may not become attrition losses until late in the course.

Army One-Station Unit Training

The Army's One-Station Unit Training (OSUT) program combines Recruit Training and Initial Skill Training for certain skills into a single continuous course. Consequently, this report treats OSUT separately rather than arbitrarily breaking it into two segments.

OSUT loads for FY 1976 through 1981 are shown in the following table.

OSUT Training Loads, FY 1976-81

<u>Service Component</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u>						
Active	1,483	6,660	9,252	19,519	19,603	18,266
Reserve	43	212	546	1,132	1,556	1,691
Natl Guard	<u>426</u>	<u>1,553</u>	<u>2,559</u>	<u>6,334</u>	<u>6,631</u>	<u>6,126</u>
Res/Gd Tot	<u>469</u>	<u>1,765</u>	<u>3,105</u>	<u>7,466</u>	<u>8,187</u>	<u>7,817</u>
DoD Total	1,952	8,425	12,357	26,985	27,790	26,083

The following table displays OSUT inputs and outputs, as well as loads, for FY 1980.

Training Inputs, Outputs and Loads, OSUT, FY 1980

<u>Service Component</u>	<u>Inputs</u>	<u>Outputs</u>	<u>Loads</u>
<u>Army</u>			
Active	80,641	69,435	19,603
Reserve	6,644	5,841	1,556
Natl Guard	<u>27,400</u>	<u>23,691</u>	<u>6,631</u>
Res/Gd Total	<u>34,044</u>	<u>29,532</u>	<u>8,187</u>
DoD Total	114,685	98,967	27,790

In FY 1976, less than five percent of Army non-prior service entrants were trained under OSUT. In FY 1980, about 52 percent of Army entrants to initial enlisted training will be trained by this method.

A major advantage is that OSUT requires less training time than the separate Recruit Training and Initial Skill Training courses which it is replacing. The following table shows training time for current and projected OSUT courses:

OSUT Training Time

<u>Skill Area</u>	<u>Training Time (Weeks)</u>
Infantry	12
Artillery	12
Armor	13
Engineer	12
Signal	13
Military Police	14

The time required to complete Recruit Training and the Initial Skill Training courses in these skills previously averaged about 16 weeks, including the time required to move the trainee from one training organization to another. The shorter OSUT course lengths thus provide a large savings in trainee manyears and, consequently, in trainee pay, allowances and support costs. These savings are permitted by the reduction in the statutory training time a non-prior service enlistee must receive before deployment overseas from four months to 12 weeks. The Army's extensive tests of OSUT indicate that the quality of OSUT graduates is generally as good as the quality of personnel trained under the longer two-course training system.

IV

OFFICER ACQUISITION TRAINING

General Description

Officer Acquisition Training consists of training and education programs leading to a commission in one of the Military Services. These programs fulfill the need both for junior officer entrants into the career force and for non-career junior officers in the force structure. Officer Acquisition Training programs produce officers for both the active forces and the Reserve Components. This category includes Officer Candidate School programs and Other Enlisted Commissioning Programs and Health Professions Acquisition Programs.

Training loads for Officer Acquisition Training are shown in the table on the following page.

Total Officer Acquisition Training Loads, FY 1973-81

<u>Service Component</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u>									
Active	5,780	5,356	5,235	5,219	4,720	4,777	4,782	4,856	4,831
Nat'l. Guard	-	-	2	15	34	46	42	206	206
Reserve	157	130	149	135	128	1	-	2	2
<u>Navy</u>									
Active	7,169	6,910	6,791	6,468	6,072	5,769	5,646	5,526	5,404
Reserve	179	108	126	100	35	30	40	40	40
<u>Marine Corps</u>									
Active	398	414	486	434	359	388	355	363	366
Reserve	271	285	319	293	301	313	327	325	333
<u>Air Force</u>									
Active	5,842	5,784	5,797	5,255	5,008	5,320	5,871	6,195	6,085
Nat'l. Guard	1	-	-	-	-	-	-	-	-
Reserve	25	20	4	2	1	2	10	17	17
<u>DoD</u>									
Active	19,189	18,464	18,309	17,376	16,159	16,254	16,654	16,940	16,686
Gd/Res Total	633	543	600	545	499	392	419	590	598
<u>DoD Total</u>	19,822	19,007	18,909	17,921	16,658	16,646	17,073	17,530	17,284

Excluded ROTC and Health Professions Acquisition Programs

The total loads above do not include two types of Officer Acquisition Training: the Army, Navy, and Air Force Reserve Officers Training Corps (ROTC) programs and the Armed Forces Health Professions Scholarship program. ROTC and Health Professions Scholarship students are not in active military status, whereas students who make up the training loads discussed in this report are either members of the active forces or members of the reserve components being trained on active duty by the active establishments. Although these two programs are not included in the requested training loads, they are discussed in this chapter to provide a complete account of Officer Acquisition Training. The following tables show the number of participants in these programs in the period FY 1978 through 1980.

Average Enrollees, ROTC Programs, FY 1978-80

<u>Service</u>	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>
Army	58,188	59,681	60,529
Navy	7,486	7,965	7,950
Air Force	<u>15,658</u>	<u>16,427</u>	<u>16,800</u>
DoD Total	81,332	84,073	85,279

Health Professions Scholarships, FY 1978-80

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>
Army	1,650	1,850	1,850
Navy	1,520	1,575	1,575
Air Force	<u>1,433</u>	<u>1,575</u>	<u>1,575</u>
DoD Total	4,603	5,000	5,000

The figures shown above for Health Professions Scholarships are actuals for FY 1978; the FY 1979 and 1980 figures are those currently authorized by DoD to each Service from the total of 5,000 authorized scholarships.

Junior ROTC is a program designed to develop leadership qualities, good citizenship, and an understanding of the basic elements of national security among high school students. Despite its name, it is not an officer acquisition program, since it does not result in a commission and its participants have no military obligation whatsoever. Junior ROTC is not included within training loads covered by this report.

Officer Requirements and Structuring the Officer Acquisition Program

Requirements for new officers, like requirements for new enlisted personnel, are a product of the need for officers in the projected force

as compared to the projected future inventory of officers. Properly functioning programs fill the gross requirements for officer entrants for any given year, and provide an even flow of sufficient new officers to each Service to avoid the emergence of unmanageable shortages and overages by age and grade in the future. Each of the Services uses a mix of sources for new officers.

The mix of officer acquisition programs used must recognize the characteristics of each source. Some of the differing characteristics of current programs are stable input, long lead-time; flexible inputs, short lead-time; high academic quality with comprehensive military indoctrination; and high level of technical skill. Additionally, consideration must be given to each program's ability to attract applicants, the quality of the graduates, and their probable retention and attrition. These differences and others must be recognized and exploited in planning officer procurement.

The Service Academies present a long lead-time program which produces a significant proportion of highly trained career military officers.

ROTC is also a long lead-time program and provides the largest single input of officers to the active duty force, although many of these officers will leave active duty and join the reserve components. In this manner, ROTC provides officers to support the total force, both active and reserve.

Officer Candidate Schools provide the short lead-time commissioning source necessary to respond to immediate surges in officer requirements, since the program can be expanded or reduced in a relatively short period of time.

The off-campus commissioning programs, such as the Navy's Aviation Reserve Officer Candidate (AVROC) program, are long lead-time programs, and provide the student at virtually any four-year college or university the opportunity to earn a commission through summer training but without military responsibilities during the school year. Finally, Other Enlisted Commissioning Programs are long lead-time in nature, and provide a source of officers who possess specific technical skills and who have a proven high rate of retention.

In addition to these reasons for using a variety of sources to satisfy officer requirements, it is also desirable to use different sources to keep the officer corps from being restricted to a narrow segment of the national population and to provide opportunities for highly qualified enlisted personnel.

Officer Acquisition Training may be divided into six separate programs:

- Service Academies
- ROTC
- Officer Candidate Schools
- Off-Campus Commissioning Programs
- Enlisted Commissioning Programs
- Health Professions Acquisition Programs

Service Academies

The mission of each of the Service Academies (United States Military Academy, United States Naval Academy and United States Air Force Academy) is to meet a portion of the long-range requirement for career military officers. They provide instruction and experience to each cadet or midshipman so that he or she graduates with the knowledge and character essential to leadership and with the motivation to become a career officer. Cadets and midshipmen participate in a four-year program of academic studies and training in leadership and other military subjects. Successful completion of the specified academic and military requirements entitles the graduate to a Bachelor of Science degree and a Regular commission in one of the Military Services. Up to one-sixth of Naval Academy graduates in each year may be commissioned in the Marine Corps.

The Service Academies are distinctive among the collegiate institutions of the nation in that their curricula are specifically designed to prepare young men and women for service as professional officers. The total curriculum at each Academy is designed to develop the qualities of character, intellect, and physical competence needed by the officer who may, in the course of a full career, be called upon to perform duties ranging from leading a small combat unit to advising the highest government councils. The programs include the sciences, the humanities, and military and physical training, and form the basis for further professional development or, when required, graduate education.

The enrollment of each of the Service Academies is established by law. This fact establishes stable training loads for the Academies. Training load data for the Service Academies are shown in the following table:

Training Inputs, Outputs, Loads, Service Academies

<u>Service</u> <u>Component</u>	<u>FY 1978-80</u>				
	<u>FY 78</u> <u>Load</u>	<u>FY 79</u> <u>Load</u>	<u>FY 80</u> <u>Input</u>	<u>FY 80</u> <u>Output</u>	<u>FY 80</u> <u>Load</u>
Army	4,252	4,162	1,431	915	4,162
Navy	4,278	4,247	1,305	925	4,247
Air Force	4,304	4,325	1,503	924	4,325
DoD Total	12,834	12,734	4,239	2,764	12,734

Three hundred fifty-seven women entered the Service Academies for the first time in June/July 1976 as authorized by Congress in the Defense Appropriation Authorization Act for 1976, Public Law 94-106. One hundred nineteen women accepted appointments to the Military Academy, 81 women to the Naval Academy and 157 women to the Air Force Academy. In June/July 1978, 112 women accepted appointments to the Military Academy, 96 women to the Naval Academy and 171 women to the Air Force Academy. Women are undergoing virtually the same education and training program as their male counterparts and will satisfy the same requirements for graduation.

Each of the Military Departments sponsors an Academy preparatory school. Marine Corps personnel attend the Navy school. The missions of these schools are to provide intensive instruction and guidance, in courses of instruction approximating one academic year, to selected enlisted personnel in preparation for entry to the Service Academies. Students compete for appointments by the Secretaries of the Military Departments and from other sources. The Naval Academy Preparatory School also provides instruction to candidates for the Marine Corps Enlisted Commissioning Education Program during the summer months.

The Army searches for potential cadets within the Army Reserve, and selected personnel may attend the Preparatory School. These are reflected within the data of the following table.

Training Inputs, Outputs, Loads,
Academy Preparatory Schools, FY 1978-80

<u>Service</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Army	262	273	324	230	277
Navy	181	192	255	204	192
USMC	19	16	50	30	30
Air Force	<u>213</u>	<u>180</u>	<u>267</u>	<u>165</u>	<u>180</u>
DoD Total	675	661	896	629	679

ROTC Programs

ROTC is a long lead-time program which is the single largest source of officers for the Armed Forces. Like the Service Academies, ROTC is used to provide a relatively constant input of officers for active duty, but ROTC also provides non-career officers as well as career officers. The program is currently conducted at 339 civilian colleges and universities throughout the nation. The Army, Navy, and Air Force each sponsor an ROTC program; up to one-sixth of the Navy graduates may be commissioned in the Marine Corps. Scholarships and subsistence allowances authorized by law, in addition to conventional recruiting and advertising methods, are used to attract qualified students. Scholarships are awarded to young men and women who exhibit potential ability and interest in fields of projected Service needs.

There are both scholarship and non-scholarship, as well as two-year and four-year, ROTC programs. The curriculum of each program is tailored to the needs of the individual Services. For example, the Navy teaches the basics of ship navigation, while the Army teaches the fundamentals of ground combat and the Air Force provides some basic instruction in aerospace history and doctrine. Each of the programs includes instruction in leadership, military customs and military history, and each program provides prospective officers with a gradual transition from the civilian environment to the military environment. Each ROTC program consists of a series of regularly scheduled academic classes throughout the school year combined with mandatory summer camps or cruises which are designed to give the student realistic military experience and a first-hand view of military life.

As noted at the beginning of this chapter, the ROTC program is not included in Service training loads because the students are not in an active military status. The following table provides the numbers of entrants, graduates, and total participants in the three Service programs during FY 1980.

ROTC Programs in FY 1980

<u>Service</u>	<u>Entrants</u>	<u>Graduates</u>	<u>Average Enrollments</u>	<u>Average Number of Scholarship Enrollees</u>
Army	62,066	6,612	60,529	6,316
Navy	3,170	1,320	7,950	5,650
Air Force	<u>18,100</u>	<u>2,837</u>	<u>16,800</u>	<u>6,479</u>
DoD Total	83,336	10,769	85,279	18,445

The FY 1979 Defense Appropriations Act tasked the Department of Defense to review the criteria for evaluating the performance of Reserve Officers

Training Corps (ROTC) units and for phasing out units which have failed to provide an adequate return for the resources invested. The Department recognized the importance of this task and has been studying the issue. A report of the study findings is being submitted to the Appropriations Committees of Congress.

Off-Campus Commissioning Programs

Officer Acquisition Training programs in which college students participate but which are conducted off the college campus are the Navy's Aviation Reserve Officer Candidate (AVROC) program and the Marine Corps Platoon Leaders Class (PLC). These programs provide for enlistment as a Naval or Marine Corps Reservist while the student is still an undergraduate and require participation in summer military training.

Students participating in these programs attend either one or two summer training sessions, depending upon when, during their college career, they were enrolled. The objectives of the programs are to indoctrinate, motivate, and train the enrollees by providing instruction in basic military subjects, leadership, and physical training. In addition, students enrolled in the Aviation Reserve Officer Candidate programs receive limited flight orientation training and attend Navy Officer Candidate courses prior to receiving their commissions. PLC students are commissioned when their college degrees are conferred; the newly commissioned officers then attend the Marine Corps Officer Basic Course.

In conformance with the nature of these programs, the training loads in the following table are based only on the time spent in summer training. Loads, consequently, are low as compared to inputs and outputs.

The Navy Reserve Officer Candidate (ROC) program, for candidates in fields other than aviation, was discontinued at the end of FY 1976. The ROC load for FY 1976 (28) is included in the summary table on page IV-2.

Training Inputs, Outputs, Loads,
Off-Campus Commissioning Programs
FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u> <u>Load</u>	<u>FY 79</u> <u>Load</u>	<u>FY 80</u> <u>Input</u>	<u>FY 80</u> <u>Output</u>	<u>Load</u>
<u>Naval Reserve</u> AVROC	30	40	300	210	40
<u>USMC Reserve</u> PLC	249	258	2,470	1,850	258
DoD Total	279	298	2,770	2,060	298

Officer Candidate Schools (OCS)

Each of the Military Services operates an Officer Candidate School. The Air Force school is entitled Officer Training School.

Enlisted members can use this route to "rise from the ranks". The existence of OCS programs, and the other enlisted commissioning programs covered in the next section, is therefore a significant advancement incentive to ambitious and promising enlisted personnel.

The Army, Navy, Marine Corps and Air Force offer direct entry into OCS to selected college graduates without previous enlisted service. Some college students in highly specialized academic disciplines, such as engineering and physical sciences, feel that they cannot afford the time required to participate in ROTC; OCS allows a way to a commission for these persons and, as well, for other well-qualified persons who choose to become officers after graduation from college.

OCS training of all Services is open to men and women. The following table shows the lengths of the various courses.

Course Lengths, Officer Candidate Schools

<u>Service</u> <u>Course</u>	<u>Course Length (Weeks)</u>
<u>Army</u> OCS (Male and Female Students)	14
<u>Navy</u> OCS (Male and Female Students)	16
Aviation OCS	12
<u>Marine Corps</u> OCS (Male and Female Students)	10
<u>Air Force</u> OTS (Male and Female Students)	12

Load data for OCS programs are shown in the following table.

Training Inputs, Outputs, Loads,
Officer Candidate Schools
FY 1978-80

<u>Service</u>	<u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
		<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>						
	Active	185	228	882	750	228
	Reserve	1	-	10	9	2
	Guard	46	42	882	750	206
<u>Navy</u>						
	Active	529	618	2,332	1,937	600
<u>USMC</u>						
	Active	145	108	638	437	102
<u>Air Force</u>						
	Active	423	885	5,059	4,400	1,146
	Reserve	2	10	76	66	17
<u>DoD</u>						
	Active	1,282	1,839	8,911	7,524	2,076
	Res/Gd Total	49	52	968	825	225
<u>DoD Total</u>		1,331	1,891	9,879	8,349	2,301

Other Enlisted Commissioning Programs

The Air Force, Navy, and Marine Corps each have enlisted commissioning programs in addition to Officer Candidate courses. The purposes of these programs are: (1) to provide a source of officers in specific skills with an expected high rate of retention; (2) to provide an avenue whereby enlisted personnel with proven qualifications can augment the commissioned ranks; and (3) to provide a measure of motivation to enlisted personnel. The Naval Enlisted Scientific Education Program for enlisted Naval and Marine Corps personnel, provides up to four years of college education leading to a baccalaureate degree in one of the major areas of engineering or mathematics and a commission in the Regular Navy or Marine Corps. This program will be phased out by FY 1981. A similar program, the Marine Enlisted Commissioning Education Program, has been expanded to offer degrees in technical and liberal arts academic disciplines. Students in the USAF Airman Education and Commissioning Program major in engineering, computer science, or physical science, with matriculation up to three years; the average academic time spent in the program is about 21 months. In all these enlisted commissioning programs, participants attend the Officer Candidate School of their Service before they are commissioned.

The following table displays load data for these programs. All participants are members of the active forces.

Training Inputs, Outputs, Loads,
Other Enlisted Commissioning Programs, FY 1978-80

<u>Service</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Navy	622	487	325	415	445
Marine Corps	205	210	70	47	210
Air Force	230	400	300	200	500
DoD Total	1,057	1,097	695	662	1155

Health Professions Acquisition Programs

This subcategory may be conveniently divided into three parts, the Armed Forces Health Professions Scholarship Program, the Uniformed Services University of the Health Sciences Program, and "other health professions acquisition programs."

The Health Professions Scholarship program was established in 1972 by Public Law 92-426. Participants are selected from among students, or those accepted for enrollment, in recognized health professions schools. Participants are commissioned in grade O1 in the Reserve of their parent Service, but, except for a short period of annual active duty, are not in active status.

They are, therefore, not included within the training loads of their Services. Upon graduation, participants must serve obligated tours of duty, the length of which depends on the length of their participation in the program.

The program is authorized a total of 5,000 scholarships at its current level. Service data for FY 1980 is shown in the following table:

<u>Service</u>	<u>Scholarships</u>	<u>FY 1980 Graduates</u>
Army	1,850	505
Navy	1,575	416
Air Force	1,575	467
DoD Total	5,000	1,388

"Other health professionals acquisition programs" include a variety of programs with the purpose of recruiting required health professionals into the Services through tuition assistance or other aid. Among the included programs are programs for medicine, dentistry, nursing, and other disciplines in the health professions. Some programs offer assistance for full courses of professional training, whereas others are offered only to students in their final year of study. Some included programs support health professional training for active duty Service members, intended to produce high-retention health professionals. Participants in all programs incur an active duty obligation commensurate with the educational support received.

These programs are being effectively phased out as we are obtaining these resources through other accession programs. The load data is shown in the following table.

Training Inputs, Outputs, Loads, Other Health
Professional Acquisition Programs, FY 1978-80

<u>Service</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Army	121	21	-	8	12
Navy	159	102	-	25	42
Air Force	<u>150</u>	<u>81</u>	-	<u>26</u>	<u>44</u>
DoD Total	430	204	-	59	98

An additional acquisition program for health professionals, the Uniformed Services University of the Health Sciences (USUHS), began operation in 1976. In accordance with PL 92-426, the student body of the USUHS is composed of commissioned officers of the Uniformed Services. The first graduates of this program occur in FY 1980. Training inputs, output and loads for this DoD school for FY 1978-1980 are shown below.

<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
118	211	108	30	321

SPECIALIZED SKILL TRAINING

General Description

Specialized Skill Training provides officer and enlisted personnel with skills and knowledge needed to perform specific jobs. Each Service has established a job structure that makes it possible for it to carry out its assigned missions. Each position in each organization within that job structure has been analyzed to determine the skills necessary to insure that each job is done properly and efficiently. The purpose of Specialized Skill Training is to impart these required skills to the proper number of individuals in a phased manner so that each position vacancy in the structure can be filled promptly with a qualified replacement.

Specialized Skill Training, as used in this report, is characterized by the following:

Inclusions: Initial, progression and functional training for both officers and enlisted personnel. Specialized Skill Training specifically includes Army Advanced Individual Training and Navy Apprenticeship Training. This training category also includes aviation-related ground training and enlisted leadership training below the level of that carried in Professional Development Education.

Exclusions: All Officer Acquisition Training programs, notably Officer Candidate School, formerly included in Specialized Training budget documents.

Army One-Station Unit Training (OSUT), like Specialized Skill Training, provides Army personnel with job-related training in a number of skills. However, since OSUT is conducted as one continuous course which combines Recruit and Specialized Skill Training, it is treated separately in this report (see Chapter III), and OSUT loads are not included in the Specialized Skill Training loads in this chapter.

Specialized Skill Training loads for FY 1973-81 are as shown in the table on the following page.

Specialized Skill Training Loads, FY 1973-81

<u>Service</u>	<u>Component</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u>	<u>a/</u>									
	Active	57,046	46,039	49,561	42,630	41,399	35,883	33,849	35,566	32,987
	Nat'l. Guard	5,846	4,294	4,379	6,488	6,614	7,098	4,954	5,006	4,808
	Reserve	3,276	1,701	2,143	3,219	4,259	3,563	2,923	3,107	3,239
			5,304	5,000	5,357	5,357	4,150			
<u>Navy</u>	Active	44,748	37,199	35,165	37,117	35,227	35,933	37,354	37,423	38,829
	Reserve	1,291	1,155	676	552	510	546	591	567	653
<u>Marine Corps</u>	Active	10,910	11,490	9,981	11,117	9,877	9,442	11,559	11,820	11,820
	Reserve	963	415	621	588	651	662	881	1,109	1,109
<u>Air Force</u>	Active	31,162	30,070	26,092	26,531	25,238	22,629	21,956	22,631	23,038
	Nat'l. Guard	1,160	657	792	1,085	1,035	1,040	1,403	1,260	1,260
	Reserve	366	319	575	684	686	681	759	790	787
		2,156	3,000	2,145	2,000	2,000	2,000			
<u>DoD</u>	Active	143,866	124,798	120,799	117,395	111,741	103,887	104,718	107,440	106,674
	Gd/Res Total	12,902	8,541	9,186	12,616	13,755	13,590	11,511	11,839	11,856
	DoD Total	156,768	133,339	129,985	130,011	125,496	117,477	116,229	119,279	118,830

a/ Data does not include Army One Station Unit Training loads.

As in the other types of training covered in this report, the demand placed on the training establishment for individuals with certain skills is determined by comparing projected requirements for each skill and skill level with the projected future inventory of trained service members.

When anticipated losses are deducted from the current inventory, shortages in various skill areas are revealed. These shortages, except for those which can be satisfied through on-the-job training, or, in a few cases, through lateral entry from civilian life of individuals who already possess an employable skill, create a demand for a phased output of trained replacement personnel. Estimates are made of the portion of students in each training course who will fail to complete the course. These course attrition factors determine the inputs necessary to achieve the desired course outputs. Inputs, outputs, attrition patterns, and course lengths determine the training loads. These factors are discussed for each sub-category of Specialized Skill Training in the remainder of this chapter.

Specialized Skill Training is the most diverse of the major categories of individual training. In the interest of clarity, the full category has been divided into five sub-categories. Two are concerned with initial skill training, one for officers, the other for enlisted personnel; two others cover more advanced training, again divided by officer and enlisted. The last category covers both officer and enlisted training which, for the most part, imparts required knowledge or skills without changing the student's primary skill or skill level.

Initial Skill Training (Enlisted)

Initial Skill Training (Enlisted) includes all formal training normally given immediately after Recruit Training and leading toward the award of a military occupational specialty or rating at the lowest skill level. Successful completion of the training qualifies the enlisted member to take a position in the job structure of the Service and to progress, through job experience, to the journeyman level. Army One-Station Unit Training satisfies this same purpose but, because it combines the skill training with recruit training in a single course, it is treated separately in this report.

The great majority of Service recruits are drawn from the least skilled segment of the population. Most recruits are under age 21 and have little civilian job experience. In addition, some civilian specialties are not in demand in the military job structure, and many of the most important military skills have no civilian counterpart. Consequently, only a small number of people enter the Service with a skill which can be used with little or no additional training, and enlistees must be trained in a skill before they can become productive. Some skills can be acquired through experience and on-the-job training. Most, however, are most effectively and efficiently learned through

formal courses. In some situations, on board ship, for example, the opportunity for on-the-job training is often limited.

Load data for Initial Skill Training (Enlisted) are displayed in the following table. The classification of this training is determined by its purpose, rather than by whether entrants attend immediately after Recruit Training. Thus some prior-service students and cross-trainees from other skill areas are reflected in these data.

Training Inputs, Outputs, Loads, Initial Skill Training (Enlisted)
FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	19,396	17,291	97,339	83,728	18,240
Reserve	1,910	1,485	11,556	10,226	1,809
Nat'l Guard	5,810	3,685	21,625	18,867	3,685
<u>Navy</u>					
Active	20,274	20,512	165,434	156,511	21,270
Reserve	310	348	2,951	2,793	325
<u>USMC</u>					
Active	6,099	7,701	48,695	44,817	7,783
Reserve	577	808	6,766	6,436	988
<u>Air Force</u>					
Active	15,672	14,419	65,519	60,993	14,366
Reserve	542	628	4,199	3,915	644
Nat'l Guard	776	1,051	4,453	4,141	909
<u>DoD</u>					
Active	61,441	59,923	376,987	346,049	61,659
Res/Gd Total	9,925	8,005	51,550	46,378	8,360
DoD Total	71,366	67,928	428,537	392,427	70,019

Reflecting the variety of skills required in the four Services, there are a large number of courses for enlisted personnel in Initial Skill Training, as shown in the following table:

Number of Courses, Initial Skill Training (Enlisted), FY 1980

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
243	162	213 ^{a/}	365

^{a/} Includes courses conducted by the Navy and other Services programmed for attendance by Marines.

Some of these courses are in highly technical skills, such as nuclear reactor specialist or electronics technician. Others involve less complex, but not less important, skills -- cook, clerk-typist, mechanic, and vehicle driver. A sampling of the courses in each Service with the most students in FY 1980 is shown below:

	<u>No of Students</u>	<u>Length (days)</u>
<u>Army</u> a/		
Medical Specialist	9,045	39
Administrative Specialist	6,506	48
Material Supply Specialist	5,325	67
Tracked Vehicle Mechanic	4,293	66
Wheel Vehicle Mechanic	2,748	77
 <u>Navy</u>		
Apprentice Training b/	25,828	19
Basic Electricity/Electronics	22,239	53
Aviation Fundamentals	18,307	12
Propulsion Engineer	10,898	22
Basic Enlisted Submarine	6,411	39
 <u>Marine Corps</u>		
Infantry Training School	11,088	53
Field Radio Operator	1,992	49
Basic Administration	1,955	20
Basic Electronics	1,951	100
Basic Automotive Mechanic	1,468	84
 <u>Air Force</u>		
Aircraft Maintenance Specialist	5,961	29
Security Specialist	5,474	32
Administration Specialist	3,129	43
Inventory Mgt. Specialist	2,114	31
Jet Mechanic	2,021	62

a/ Many of the Army high-density skills (armor, artilleryman, etc.) will be trained through One-Station Unit Training (OSUT) in FY 1980.

b/ Apprentice Training is composed of fundamental training in one of four basic skill areas: Seaman, Fireman, Airman, Constructionman. The course length shown is the average for those four skills.

Course lengths vary widely according to the complexity of the subject matter. For example, the Air Force course for avionics aerospace ground equipment specialist is 261 calendar days in length, whereas the course for jet aircraft mechanic specialist takes only 29 days. Army nuclear power plant operators receive an entire year of training, but motor

transport operators and general construction machine operators complete their training in 35 days. The Navy average is low in comparison to the others because it includes a large number of students in short courses related to particular shipboard duties and because of the predominance of the relatively short apprentice courses; in addition, Navy personnel, to a greater degree than personnel of other Services, receive supplementary formal training during their first enlistments.

Average Number of Days in Training, Initial Skill
Training (Enlisted), FY 1980

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
71	48	60	81

A major Defense concern is to keep course lengths as short as is compatible with required knowledge and skills to be acquired. Marine Corps and Air Force courses lengths have been reduced since last year. With the significantly shorter courses shifted to Army OSUT, the average length of the rest of Army Initial Skill training is greater than the weighted average length including the shorter Army courses. This helps to explain why, in spite of planned innovations and productivity increases, Army average course length does not show a notable decrease.

The final determinant of training loads is the anticipated rate of attrition. Attrition rates must be estimated for each course. The rate may be negligible for a reasonably routine course for which students entered in the course have the necessary mental abilities and motivation. Attrition may run much higher, up to one-third of the class entrants, in complex technical subjects, such as the Army Nuclear Weapons Electronic Specialist course. The average anticipated rates for FY 1980 are as shown:

Average Attrition Rates, Initial Skill Training (Enlisted), FY 1980
(Percent)

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
10.4%	6.0%	8.0%	7%

Skill Progression Training (Enlisted)

This sub-category covers skill training received by enlisted personnel subsequent to Initial Skill Training. Through this training, the student gains the knowledge to perform at a more skilled level or in a supervisory position. Skill Progression Training is most frequently given after the Service member has gained experience through actual work in his specialty. In some cases, however, training in a relatively narrow subject area as an immediate follow-on to Initial Skill Training is included in Skill Progression Training.

Training load data for Skill Progression Training (Enlisted) are shown in the following table:

Training Inputs, Outputs, Loads, Skill Progression Training
(Enlisted) FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	2,618	2,687	13,170	12,048	2,777
Reserve	587	476	2,964	2,739	516
Nat'l Guard	318	371	2,402	2,261	411
<u>Navy</u>					
Active	9,909	10,788	68,398	67,604	10,385
Reserve	60	65	292	288	64
<u>USMC</u>					
Active	960	1,212	5,722	5,266	1,225
Reserve	33	39	877	859	46
<u>Air Force</u>					
Active	5,459	5,799	73,611	72,626	6,407
Reserve	72	65	1,306	1,284	88
Nat'l Guard	204	250	4,819	4,253	250
<u>DoD</u>					
Active	18,946	20,486	160,901	157,544	20,794
Res/Gd Total	1,274	1,266	12,660	11,684	1,375
DoD Total	20,220	21,752	173,561	169,228	22,169

The requirement for Skill Progression Training arises from the fact that training in a skill at entry level and subsequent experience do not, in many cases, fully qualify a service member to do the more advanced jobs in his field without further formal training. Several factors may contribute, singly or in combination, to a need for additional formal training:

1. The introduction of new equipment.
2. The need to produce a higher degree of skill in a sub-specialty.
3. The need to impart a broader base of knowledge to qualify an individual for a supervisory responsibility.
4. The requirement for refresher training to bring the service member up to date on the latest information and techniques in his skill.

The primary need, as in all other types of training, is to have trained individuals available to replace losses as they occur. Planning future training in this sub-category follows the same general pattern as for Initial Skill Training. Some additional complications, however, are introduced by the fact that members eligible for schooling are frequently serving overseas or on board ship, rather than flowing from the Recruit Training pipeline. This situation frequently requires that personnel receive the training when they are available, preferably between duty assignments, rather than when they might more easily be accommodated for formal school training.

The following table displays statistics in Skill Progression Training in each of the Services for FY 1980.

Skill Progression Training (Enlisted), FY 1980

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
Number of Courses	144	1,128	162	1,607
Average Number of Days in Training	76	56	73	31
Projected Attrition Rate (Percent)	3.3%	4%	8.0%	<u>b/</u>

a/ Includes courses conducted by the Navy and other Services programmed for attendance by Marines.

b/ Less than 1%.

The Air Force's average days in training is low compared to the other Services because of the large use of short courses. The large number of Navy and Air Force courses is a reflection of the technical nature of these Services and their large number of subspecialties. Of course, part of the difference is due to differing Service approaches to course definition and segmenting.

Initial Skill Training (Officer)

As a general rule, Officer Acquisition Training is oriented toward the broad educational background and general military training which is considered necessary for all officers entering a Service. In consequence, most newly commissioned officers require further training for the specific type of duty they will be performing in their first duty assignment. Initial Skill Training for officers is, therefore, analogous to Initial Skill Training for enlisted personnel -- both provide the job-oriented training which, added to the military fundamentals learned earlier, prepares the individual for taking a place in the job structure.

Load data for Initial Skill Training (Officer) are displayed in the following table.

Training Inputs, Outputs, Loads, Initial Skill
Training (Officer), FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	1,941	2,010	12,742	12,640	2,309
Reserve	580	553	1,635	1,627	330
Nat'l Guard	344	437	2,341	2,324	408
<u>Navy</u>					
Active	1,231	1,230	4,813	4,573	1,234
Reserve	29	31	302	298	31
<u>USMC</u>					
Active	1,089	1,095	3,516	3,485	1,214
Reserve	12	-	27	27	2
<u>Air Force</u>					
Active	755	881	5,585	5,500	1,012
Reserve	19	11	106	106	11
Nat'l Guard	35	67	394	394	67
<u>DoD</u>					
Active	5,016	5,216	26,656	26,198	5,769
Res/Gd Total	1,019	1,099	4,805	4,776	849
<u>DoD Total</u>	<u>6,035</u>	<u>6,315</u>	<u>31,461</u>	<u>30,974</u>	<u>6,618</u>

With minor exceptions, all newly commissioned Army officers attend officer basic courses at their branch schools -- Infantry officers at the Infantry School, Engineer officers at the Engineer School, etc. Most of these courses are 12 weeks in length, and the officer attends before reporting to his first unit of assignment. In addition, certain officers are selected to attend follow-on skill or functional training courses for more specialized assignments.

All submarine and nuclear officers and most Surface Navy officers go to Initial Skill Training. The Navy provides 23 courses for officers in Initial Skill Training, with an average time in training of 92 days.

All newly commissioned Marine Corps officers attend a basic course for general orientation and training. In addition, Marine officers attend 52 Initial Skill Training courses (some conducted by Navy or other Services), averaging 126 days in training per student, related to specific officer jobs.

The Air Force conducts 61 Initial Skill Training courses for officers, with an average of 66 days in training; about 45 percent of newly commissioned officers attend these courses.

Skill Progression Training (Officer)

Skill Progression Training for officers is, in general, aimed at officers with several years of practical experience and provides them knowledge needed to assume more advanced responsibilities. For example, the Army provides advanced courses which are structured to prepare the students for battalion and brigade duties in addition to command responsibilities at the company and battery level. Data for Skill Progression Training (Officer) are displayed in the following table.

Training Inputs, Outputs, Loads, Skill Progression
Training (Officer), FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	3,524	3,325	10,221	10,055	3,326
Reserve	142	140	966	961	120
Nat'l Guard	412	239	1,470	1,454	297
<u>Navy</u>					
Active	900	986	9,088	8,912	946
Reserve	11	11	269	265	11
<u>USMC</u>					
Active	83	83	279	277	92
Reserve	2	2	110	110	5
<u>Air Force</u>					
Active	564	664	12,897	12,764	659
Reserve	30	34	1,076	1,067	28
Nat'l Guard	20	28	700	690	27
<u>DoD</u>					
Active	5,071	5,058	32,485	32,008	5,023
Res/Gd Total	617	454	4,591	4,547	488
<u>DoD Total</u>	<u>5,688</u>	<u>5,512</u>	<u>37,076</u>	<u>36,555</u>	<u>5,511</u>

The Army conducts 151 courses and average 109 days in training. The Navy maintains 148 courses, averaging 38 days in training, which cover a variety of specialized duties which are typically performed by officers with several years of service -- for example, destroyer officer course, aviation maintenance officer course, and nuclear propulsion plant course.

Both the Marine Corps and the Air Force conduct broad courses for officers at about the same level as the Army's advanced courses; however, as these are Service-wide and uniform in content, they are carried in Professional Development Education. Within Skill Progression Training, Marine Corps officers attend 52 courses, and average 91 days in training,

on a variety of specialized subjects, some conducted by the Navy or other Services. The Air Force has 374 courses, and averages 19 days in training, for the purpose of training officers in new duties required by their prospective assignments.

Functional Training

Functional Training is an "all other" sub-category covering those types of required training which do not fit neatly into the definitions of the other sub-categories. By and large, Functional Training is in subject areas which cut across the scope of military occupational specialties and provides additional required skills without changing the student's primary speciality or skill level. An example is a Damage Control Course conducted by the Navy. Both officers and enlisted personnel participate in Functional Training. Load data for Functional Training are shown in the following table.

Training Inputs, Outputs, Loads, Functional Training,
FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	8,404	8,536	79,779	74,916	8,914
Reserve	344	269	4,842	4,567	332
Nat'l Guard	214	222	3,151	2,981	205
<u>Navy</u>					
Active	3,619	3,838	348,627	340,948	3,588
Reserve	136	136	13,434	12,312	136
<u>USMC</u>					
Active	1,211	1,468	8,865	8,283	1,506
Reserve	38	32	1,605	1,597	68
<u>Air Force</u>					
Active	179	193	8,195	8,038	187
Reserve	18	21	903	887	19
Natl Guard	5	7	317	312	7
<u>DoD</u>					
Active	13,413	14,035	445,466	432,185	14,195
Res/Gd Total	755	687	24,252	22,656	767
<u>DoD Total</u>	<u>14,168</u>	<u>14,722</u>	<u>469,718</u>	<u>454,841</u>	<u>14,962</u>

Army Functional Training includes the airborne, ranger, and special forces qualification courses, some specialized NCO supervision courses, and a number of courses related to specialized equipment (e.g., Manual Cordless Switchboard Repair; 8-inch Atomic Projectile Assembly).

Navy Functional Training differs from that of the other Services because of the very high input to a large number of very short courses (the longest is 12 days, the shortest is one day). Most of the training consists of in-port training for ships' crews, and includes the following types of activity:

1. Shore training for shipboard teams (firefighting, damage control, anti-submarine warfare, etc.).
2. Short basic or refresher courses at fleet training centers in the operation of equipment or systems.
3. Shipboard in-port training assistance.
4. Precommissioning training for newly formed crews of ships under construction.

Marine Corps Functional Training provides skills required for specific jobs but not limited to a primary occupational specialty. Some of the included courses are scuba training, sea duty indoctrination, and drill instruction training.

All Air Force Functional Training is survival training related to various environments: water, arctic, jungle, or tropic.

The following table provides additional statistics on Functional Training.

Courses and Course Lengths, Functional Training, FY 1980

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u> <u>a/</u>
Number of Courses	497	1,404	147	8
Average Number of Days in training	41	4	56	8

a/ Includes courses conducted by the Navy and other Services programmed for attendance by Marines.

FLIGHT TRAINING

General Description

Flight Training programs provide basic flying skills required prior to operational assignment of pilots, navigators, and naval flight officers. Most of the training in this category is undergraduate flight training; at the conclusion of this training, a graduate is awarded "wings" and is classified as a "designated" or "rated" officer. Flight Training includes programs for pilots of all Services, navigators in the Air Force, and naval flight officers in the Navy and Marine Corps. Pilot training may be in jet or propeller-driven fixed-wing aircraft, or in helicopters. Some related advanced flight training, such as Army instructor pilot training and Air Force navigator/bombardier and electronic warfare training, is also included in Flight Training. Enlisted programs in aviation-related subjects (for example, in air traffic control) and Air Force survival training are in Specialized Skill Training. Marine Corps enlisted navigator training is included in Flight Training.

Flight Training loads, by Service and component, for Fiscal Years 1973 through 1981 are shown in the following table:

Total Flight Training Loads, FY 1973-81

<u>Service</u> <u>Component</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u>									
Active	1,106	704	712	709	623	724	815	1,106	1,162
Natl Guard	72	69	40	28	35	72	87	89	91
Reserve	19	16	10	10	15	42	48	36	40
<u>Navy</u>									
Active	1,903	1,739	1,495	1,442	1,335	1,287	1,351	1,302	1,409
<u>USMC</u>									
Active	807	988	599	563	658	692	638	713	713
<u>Air Force</u>									
Active	4,506	4,062	3,071	2,068	1,978	1,723	2,020	2,484	2,666
Natl Guard	215	137	127	90	97	94	120	125	130
Reserve	110	48	38	35	30	34	35	71	91
<u>DoD</u>									
Active	8,322	7,493	5,877	4,782	4,594	4,426	4,824	5,605	5,950
Res/Gd Tot	416	270	215	163	177	242	290	321	352
<u>DoD Total</u>	8,738	7,763	6,092	4,945	4,771	4,668	5,114	5,926	6,302

Flight Training loads were reduced by approximately 45 percent over the period FY 1973 to FY 1978 because of the net effect of the following factors:

- Peacetime reductions in active force aviator requirements in all Services, except for moderate increases in Army aviator requirements associated with the 16-division force objective in the later years.

- Restriction of undergraduate flight training for Reserve Component members to the number needed to fill positions in reserve aviation units which cannot be filled through recruitment of experienced aviators leaving active duty -- as, for example, positions in aviation units which are remote from major population centers.

Current Service forecasts call for aviator training rates to rise as aviator overages remaining from the Vietnam peak are dissipated and rates return to sustaining levels needed for meeting currently approved contingency scenarios.

For purposes of clarity, the following discussion of aviation training is divided into three sections, each treating a sub-category of Flight Training.

Undergraduate Pilot Training

The purpose of Undergraduate Pilot Training is to qualify students to perform the basic duties and assume the responsibilities of military pilots. Courses include sufficient flying training to allow the student to attain proficiency in the general class of aircraft (jet, prop, or helicopter) he/she will be flying in future assignments. Training through flying or in flight simulators is augmented by flight-related ground training and, ordinarily, some officer professional development training to prepare the student for the responsibilities of a junior officer. For the Army, which uses a large number of warrant officer pilots, entrants undergo warrant officer candidate training before entering flight phases of training; they receive their warrants upon graduation from flight training. A minority of Army flight training students are already commissioned officers upon entry. The Navy also has conducted Navy officer training for aviation officer candidates concurrently with the early phases of flight training.

Training data for FY 1978-80 are displayed in the following table:

Training Inputs, Outputs, Loads, Undergraduate
Pilot Training, FY 1978-80

<u>Service Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	544	630	1,541	1,097	899
Reserve	25	34	45	45	29
Natl Guard	44	63	90	90	63
<u>Navy</u>					
Active	892	932	1,218	885	902
<u>USMC</u>					
Active	539	522	644	450	608
<u>Air Force</u>					
Active	1,056	1,264	2,086	1,575	1,676
Reserve	28	28	64	33	43
Natl Guard	65	68	96	76	77
<u>DoD</u>					
Active	3,031	3,348	5,489	4,007	4,085
Res/Gd Tot	162	193	295	244	212
DoD Total	3,193	3,541	5,784	4,251	4,297

In the FY 1978 and 1979 President's Budgets the Department of Defense proposed to consolidate all Defense undergraduate helicopter pilot training into a single program conducted by Army. The proposal was accepted by the House in both years but rejected by the Senate and Appropriations conferees.

This year a generally similar proposal has been accepted by the Secretary of Defense and is incorporated in the FY 1980 President's Budget.

Under the consolidation proposal, the Army will conduct all undergraduate helicopter pilot training for the Military Services. The training program will use helicopters exclusively as training aircraft, rather than both fixed and rotary-wing aircraft as in the current Navy course, and rely heavily on training in modern, highly capable flight simulators. It is expected that the final segment of the course will be Service-unique, reflecting Service mission differences and related training needs. (In the case of the Navy and Marine Corps students, these Service-unique segments will be longer than for other students.) The student body will consist of commissioned officers of all Services and Army warrant officer candidates. For warrant officer candidates the course is six weeks longer than the course for commissioned officers, as it is also a warrant officer candidate school.

Without sacrificing required quality of training, the proposed consolidation is expected to produce substantial savings in manpower and funding required. Funding savings are estimated to be approximately \$100 million during FY 1980-84; over 1500 military and 250 civilian spaces will be saved. The phaseover is programmed for completion during FY 1980.

The following table shows programmed course length and projected attrition rates for FY 1980 for each type of student:

Current Course Length and Attrition Rates, Undergraduate Helicopter Pilot Training Students, FY 1980

	<u>Commissioned Officers</u>	<u>Army Warrant Officer Candidates</u>
Course Length (weeks)	34*	40
Attrition Rate (Percent)	10-11	25

*Because of the extended Service-unique phases discussed in the text, Navy and Marine Corps officer students will be in training for an additional several weeks.

Load data for each Service for undergraduate helicopter pilot training are shown below.

Training Inputs, Outputs, Loads, Undergraduate Helicopter Pilot Training, FY 1978-80

<u>Service Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	544	630	1,541	1,097	899
Reserve	25	34	45	45	29
Nat'l Guard	44	63	90	90	63
<u>Navy</u>					
Active	197	216	346	251	186
<u>USMC</u>					
Active	362	314	388	292	365
<u>Air Force</u>					
Active	38	42	101	75	63
Reserve	-	-	-	-	-
Nat'l Guard	1	1	-	1	-
<u>DoD</u>					
Active	1,141	1,202	2,376	1,715	1,513
Res/Gd Tot	<u>70</u>	<u>98</u>	<u>135</u>	<u>136</u>	<u>155</u>
<u>DoD Total</u>	1,211	1,301	2,511	1,851	1,668

The Navy has been conducting undergraduate helicopter pilot training for all Navy, Marine Corps, and Coast Guard students. Navy and Marine Corps loads for phasing out the current Navy-conducted course and phasing in the proposed consolidated course are in the preceding table for FY 1980

Navy Undergraduate Pilot Training begins with a common core of basic ground training and primary flight training and then diverges according to whether the student is to be qualified in jet aircraft or propeller aircraft. The basic ground phase, or environmental indoctrination phase, is four weeks in length for officer students and 12 weeks for aviation officer candidates, since this phase also serves as an officer training period for the latter group.

The following table shows course lengths, attrition rates, and type of aircraft used for training for each phase of the syllabus:

Course Phasing, Navy/Marine Corps
Undergraduate Pilot Training

<u>Course/Phase</u>	<u>Course Length</u> (Weeks)	<u>Attrition Rate</u> (Percent)	<u>Type Aircraft</u>
<u>Environmental Indoctrination</u>			
Aviation Officer Candidates	12	10	-
Officers	4	2	-
<u>Primary (all students for jet and prop)</u>			
	10 (Jet)	16	
	16 (Prop)	16	T-28 <u>a/</u>
<u>Strike Training (Jet)</u>			
Intermediate Jet	22	11	T-2C
Advanced Jet	20	8	TA-4J
<u>Maritime Training (Prop)</u>			
Intermediate Prop	5	3	T-28
Advanced Prop	17	4	TS-2A <u>b/</u>

a/ Being replaced by the T-34C aircraft.

b/ Being replaced by the T-44 aircraft.

Because of the task requirements which dictate variations in course content, the standard Undergraduate Pilot Training course is as short as 40 weeks for an officer student qualifying in propeller aircraft or as long as 63 weeks for an aviation officer candidate qualifying in jets. Actual course duration may be longer because of unforeseen circumstances such as major aircraft groundings, fuel shortages, or inclement weather. Attrition rates vary considerably, depending on the source of the student, from 15 percent for Regular Navy officers to 30 percent for aviation officer candidates.

The following table displays load data for Navy and Marine Corps Undergraduate Pilot Training. All participants are in the active force.

Training Inputs, Outputs, Loads, Navy/Marine Corps
Undergraduate Pilot Training, FY 1978-80

<u>Service</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Navy</u>					
Jet	449	440	455	318	424
Prop	246	276	417	316	292
Helo a/	197	216	346	251	186
<u>USMC</u>					
Jet	177	208	256	158	243
Helo a/	362	314	388	292	365

a/ Proposed to be conducted by Army beginning in FY 1980.

The final program of Undergraduate Pilot Training is Air Force training of jet pilots. All Air Force pilots, except helicopter pilots trained in the Army program, are trained in this jet program at the present time. The standard course length is 48.5 weeks. Forecasted attrition for FY 1980 is 11.8 percent, not including that which occurs in the flight screening of the Flight Familiarization Training program. Load data are shown in the following table:

Training Inputs, Outputs, Loads, Air Force Undergraduate
Jet Pilot Training, FY 1978-80

	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Active	1,018	1,222	1,985	1,500	1,613
Reserve	28	28	64	33	43
Natl Guard	64	67	96	75	77
Total	1,110	1,317	2,145	1,608	1,733

At the conclusion of Undergraduate Pilot Training, the new pilot is capable of operating an aircraft in such a manner that future training required, in order to accomplish a specific mission, is limited to advanced flight training in aircraft used in operational units and training in the employment of applicable mission weapon systems.

Undergraduate Navigator Training

The Navy trains Navy and Marine Corps personnel to become Naval Flight Officers. The Air Force trains its personnel as navigators.

The duties of Naval Flight Officers and Air Force navigators are not precisely the same because of mission differences. But at the undergraduate level, they are sufficiently similar that they are referred to collectively in this report as "navigators". (The Army does not train or use navigators.) Some navigator training has recently been consolidated, as is discussed later.

The Undergraduate Naval Flight Officer (NFO) training program is a building block training program. The training commences with Environmental Indoctrination (4 weeks for officers) or Officer Candidate School (12 week for officer candidates) where the student is provided basic aeronautical and aviation physiological foundation knowledge. After completing this phase, the student enters the Basic phase. This 15.6 week course provides the student with the basic skills and knowledge needed to safely navigate, communicate, manage aircraft systems, and to describe two-plane formation maneuvers. Successful completion of Basic qualifies students for entrance into Interservice Undergraduate Navigation Training (22 weeks) conducted at Mather AFB, California (described in a later paragraph), or the Navy intermediate phase. The intermediate phase (5 weeks) expands the knowledge gained in Basic and requires higher skill and performance standards. Practical flight skills are developed in the ID23 computerized navigation/communications training device and the 2F101/2F90 simulators, the T-2C aircraft for jet acclimatization and high-speed navigation and the T-39 aircraft for jet instrument navigation. After successful attainment of the performance standards, the students proceed to one of the following advanced naval flight officer training phases which provides specific skills and knowledge: Radar Intercept Officer (17.4 weeks), Tactical Navigation (10.7 weeks), and Airborne Tactical Data Systems Officer (10 weeks).

On 2 October 1978, the Air Force replaced the previous 33-week Undergraduate Navigator Training (UNT) course with a restructured program consisting of a 28-week basic course which includes 68 hours of flight simulator training, 384 academic hours, 68 hours of actual flight instruction in the T-43 aircraft, and 9.1 hours in the T-37 aircraft. After the basic course, a bomber, tanker, or cargo aircraft assignee continues training in the four-week Advanced Navigator Course which provides 55 additional academic hours, 26 simulator hours, and 20 flying hours in the T-43. A fighter or reconnaissance aircraft assignee receives an additional 78 academic hours, 10 hours of flight simulator, and 11.7 flying hours in the T-37 while attending the five-week Tactical Navigator Course.

The advanced segment of Undergraduate Navigator Training for Naval Flight Officers destined for the anti-submarine warfare community was merged into the Air Force program at Mather Air Force Base in California in 1976. This involves Naval Flight Officers in the program already described destined to become navigators of multi-engine aircraft.

Undergraduate Navigator Training provides sufficient skills and knowledge so that further training for the newly rated navigator can be limited to advanced flight training in operational aircraft and training in employment of applicable weapons systems. Training load data for Undergraduate Navigator Training are shown in the following table:

Training Inputs, Outputs, Loads, Undergraduate
Navigator Training, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Navy</u>					
Active	395	419	743	450	400
<u>USMC</u> ^{a/}					
Active	135	94	122	82	86
<u>Air Force</u> ^{b/}					
Active	356	388	1,212	1,094	414
Reserve	6	5	38	30	13
Natl Guard	24	44	124	120	42
<u>DoD</u>					
Active	886	901	2,077	1,626	900
Res/Gd Tot	<u>30</u>	<u>49</u>	<u>162</u>	<u>150</u>	<u>55</u>
DoD Total	916	950	2,239	1,776	955

^{a/} Does not include Marine Corps enlisted navigator loads (18 in FY 1978, 22 in FY 1979 and 19 in FY 80) which are included in Flight Training totals.

^{b/} Data for FY 1979 and FY 1980 reflect implementation of the revised UNT multiple course approach described in the preceding narrative.

Other Flight Training

This category covers miscellaneous other types of flight training as described below. Load data are displayed in the following table:

Training Inputs, Outputs, Loads
Other Flight Training, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u> <u>Load</u>	<u>FY 79</u> <u>Load</u>	<u>Input</u>	<u>FY 80</u> <u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	180	185	2,286	2,286	207
Reserve	17	14	73	73	7
Natl Guard	28	24	210	210	26
<u>Air Force</u>					
Active	311	368	2,327	2,139	394
Reserve	-	2	9	9	1
Natl Guard	5	8	73	73	6
<u>DoD</u>					
Active	491	553	4,613	4,425	601
Res/Gd Tot	<u>50</u>	<u>48</u>	<u>365</u>	<u>365</u>	<u>40</u>
DoD Total	541	601	4,978	4,790	641

The Army includes in this category courses for instructor pilots and specific pilot qualification courses in various aircraft. Most of the courses are short, in the range of two to seven weeks.

The Navy and Marine Corps do not report training in this category, noting that postgraduate flight training is conducted under operational command auspices. The Air Force Other Flight Training workload is limited largely to instructor courses for pilots and navigators and some specialized courses conducted by the Air Training Command in such fields as electronic warfare. Most Air Force postgraduate flight training is conducted under operational command auspices.

The Air Force also conducts a separate 24-day flight screening program for candidates for Undergraduate Pilot Training who have not had previous flight familiarization training. The resulting student loads are included in Other Flight Training. Similar training is provided to most Air Force Academy cadets, some Air Force ROTC cadets, and a limited number of cadets and midshipmen from the Military and Naval Academies. The associated workload is included in the Service Academy loads and in ROTC enrollment figures.

In each of the Services, graduates of undergraduate pilot and undergraduate navigator training receive supplementary training in the specific aircraft they will be flying on operational missions. Emphasis is placed on crew training and performance under conditions which would be encountered in combat. In the Army most of this training is provided as part of normal unit training by the operational unit to which the new pilot is assigned. In the other Services, is additional training is

provided by Navy fleet readiness squadrons, Marine combat crew readiness training squadrons, and Air Force combat crew training squadrons. As an exception, centrally-conducted Army advanced flight training loads are included within Other Flight Training loads. However, most such training is considered "crew and unit training" by the Navy, Marine Corps, and Air Force and is not included in the loads of this report.

Determination of Requirements for Rated Officers

Flight Training rates are developed by comparing projections of future requirements for rated officers with projections of the future status of inventories of rated officers. Due consideration is also given to the need to have sufficient aviators on hand, in appropriate grades, to fill positions in operational units. Requirements for rated officers include both the numbers needed to man the force in peacetime and the additional increment needed initially under approved mobilization scenarios when war breaks out to man and sustain the force until training output can be expanded. For analytical purposes, aviator requirements are divided into two parts: unit and individuals. Requirements for aviators for each of these categories are computed to meet both (1) peacetime needs and (2) wartime mobilization needs under approved mobilization scenarios.

Unit requirements represent the number of rated officers needed to carry out operational, training, and management activities for programmed units. Each such authorized position (that is, military space or billet) requires a rated officer as an incumbent in order to carry out the functions of the job, either because the job involves flying duties (i.e., "operational flying" positions as defined for purposes of the Aviation Career Incentive Act of 1974) or requires flying experience. Other positions which may be occupied by rated officers for career broadening or similar purposes, but which do not require rated officer incumbents for accomplishing the duties, are not included. Unit requirements have three subcomponents: force, training, and supervision.

Force requirements are the positions required to man and operate the Services' force aircraft. The number of force positions is a product of established crew ratios, or the number of crews per aircraft, which in turn take into account workload (flying hour) and readiness factors and the amount of mission flying and unit flight training which is necessary.

Training positions include the flyers who are conducting formal flight training.

The supervision component is made up of officer positions entailing actual supervision of flying and flight-related activities and the performance of staff jobs which require the expertise of a rated officer. These positions are subject to continuous scrutiny to assure that rated requirements are valid.

Individual requirements include the transients, students and other individuals needed to make it possible to provide for reasonable manning of positions in units.

Rated Officer Inventory Projections

Projecting rated officer inventories into the future must be based on historical experience, current judgment, and an appraisal of how the officers will react to conditions in the future (i.e., pay, morale, state of the civilian economy, civilian airline hiring plans, family satisfaction with service life, etc.). These estimates are projected for at least five years in the future. Comparisons of total force inventories of rated officers are then made against the computed total force requirements, and training rates for the entire five-year period are adjusted. This process is repeated each year so that adjustments can be made in training rates based on changes in requirements and/or updated inventory projections. This continuing process of adjustment is necessary to insure that the correct number of trained rated officers will be available in the future without large and expensive fluctuations in training rates.

Training Rate Adjustments

When a comparison of requirements and inventories discloses a shortage or overage of projected rated officers, training rates are adjusted upward or downward in order to bring the program back into balance. For example, if projected FY 1985 pilot requirements exceed projected inventories by 1,000, an increase in training rates (that is, output or production) of pilots of 250 per year starting in FY 1981 may be appropriate. Inputs into the training program would start in FY 1980 in order to obtain the first increase in desired output in FY 1981. This reevaluation process is repeated at least once each year, with adjustments made as necessary to avoid wide fluctuations in loads.

Determination of Training Loads

The process described above, through continuous updating of the comparison between projected rated officer requirements and inventories, leads to a requirement for phased output from the flight training establishment. The desired annual output, considering the anticipated attrition rates and the planned course lengths, as discussed in the preceding sections on the various types of flight training, establishes the size of the input necessary to achieve the target output. Training loads are then calculated, using these factors, to determine the average number of students to be on hand during the training year. For FY 1980, the currently recommended loads are those displayed previously in this chapter.

VII

PROFESSIONAL DEVELOPMENT EDUCATION

General Description

The purpose of Professional Development Education is to provide training and education to career military personnel to prepare them to perform the increasingly complex tasks which become their responsibilities as they progress in their military careers. Whereas Specialized Skill Training is directed toward specific job skills, Professional Development Education is concerned with broader professional development goals in such subjects as military science, engineering, medicine, and management. Professional Development Education is conducted at both military and civilian institutions. This category includes senior enlisted leadership training in recognition of the broad professional content of these courses, as opposed to the narrower skill-oriented training typical of most enlisted training programs. However, most of the programs in this category are for professional development of officers.

Training loads for FY 1973-81 are as shown in the table on the following page.

Professional Development Loads, FY 1973-81

<u>Service.</u>	<u>Component</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
<u>Army</u>	Active	5,849	5,868	4,480	4,023	3,424	3,374	3,360	3,392	3,397
	Natl Guard	58	69	68	94	83	89	65	80	80
	Reserve	87	103	80	125	55	60	60	60	60
<u>Navy</u>	Active	5,112	5,723	4,081	2,767	1,762	1,616	1,832	1,980	2,034
	Reserve	12	24	15	11	10	15	6	17	17
<u>Marine Corps</u>	Active	1,874	1,079	980	801	697	728	757	773	773
	Reserve	52	16	15	15	18	16	16	28	28
<u>Air Force</u>	Active	5,596	4,889	4,704	4,491	4,324	3,520	3,474	3,397	3,383
	Natl Guard	92	39	39	39	42	36	38	37	37
	Reserve	68	49	70	32	34	39	38	36	36
<u>DoD</u>	Active	18,431	17,559	14,245	12,082	10,207	9,238	9,423	9,542	9,587
	Gd/Res Total	369	300	287	316	242	255	223	258	258
<u>DoD Total</u>		18,800	17,859	14,532	12,398	10,449	9,493	9,646	9,800	9,845

The total loads in the table show a considerable disparity among the Services in amounts of Professional Development Education. This disparity is more apparent than real, and is related mainly to somewhat different ways of categorizing Service education programs. The Air Force, for example, conducts an Enlisted Leadership Training Course, whereas the Navy does not, although it provides advanced technical training carried under Specialized Skill Training.

The first three subcategories of Professional Development Education are officer professional military development programs. These programs are at three levels: basic, intermediate, and senior.

Education in the military school system is fundamental to the development of military officers who are fully qualified to perform duties of high responsibility in both war and peace. In most non-military professions, growth in ability and knowledge is gained through experience. In the military, opportunities for full practice of the profession are limited to wartime, and even those officers with combat experience have not had the opportunity for thorough exercise of the decision skills they would require, for example, in a war in the Middle East. The military school system serves partially to fill this shortfall by educating the military officer in the skills and knowledge needed to perform his duties in a variety of locales and situations, both in peacetime and wartime.

In addition to their regular courses for active force officers, most schools in this category present nonresident courses and short seminars. Large numbers of Reserve Component officers and other military students are provided instruction through correspondence courses.

Basic Officers Professional Schools

The Marine Corps and Air Force conduct basic officer courses for officers with some experience in operational units which are Service-wide in scope and are, therefore, carried in this report under Professional Development Education. The Army and Navy conduct courses which are at a similar level, but which are oriented toward specific skills (e.g., the Navy's Surface Warfare Officers Course) or somewhat broader skills within a specific part of the Service (e.g., the Army's Armor Officer Advanced Course). The Army and Navy courses, because of their specialization, are treated in this report as part of Specialized Skill Training.

The Marine Corps Amphibious Warfare Course is designed to prepare officers in the grade of captain for duties in battalion or squadron command or on regimental-level staffs. The course length is 38 weeks. The Air Force Squadron Officer School is an 11-week course designed to prepare selected captains, after completion of some active service experience, for command and staff duties appropriate to their grade.

The training load data for FY 1978-80 associated with these Marine and Air Force courses are displayed in the following table.

Training Inputs, Outputs, Loads, Basic Officers
Professional Schools, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u> <u>Load</u>	<u>FY 79</u> <u>Load</u>	<u>FY 80</u>		
			<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>USMC</u>					
Active	121	127	182	182	135
Reserve	6	6	140	140	6
<u>Air Force</u>					
Active	557	558	2,638	2,638	558
Reserve	1	2	8	8	2
Natl Guard	3	4	21	21	4
<u>DoD</u>					
Active	678	685	2,820	2,820	693
Res/Gd Total	<u>10</u>	<u>12</u>	<u>169</u>	<u>169</u>	<u>12</u>
DoD Total	688	697	2,989	2,989	705

Intermediate Service Schools

Each of the Services maintains a Command and Staff College. In addition, the Navy is executive agent for the Armed Forces Staff College, a joint institution sponsored by the Joint Chiefs of Staff with students from all Services. While there are differences in approach and curriculum based on the requirements of the parent Service, each of the courses is designed to prepare officers for command and staff duties in all echelons of their parent Services and in joint or allied commands. A relatively small number of officers from each Service attends one of the Command and Staff Colleges of the other Services; a few attend Allied schools at the same level. Attendance at the Intermediate Service Schools is on a selective basis. The following table lists the Command and Staff Colleges and their respective course lengths.

Intermediate Service Schools

<u>Schools</u>	<u>Location</u>	<u>Course Length</u> <u>(Weeks)</u>
Armed Forces Staff College	Norfolk, VA	22
Army Command and General Staff College	Fort Leavenworth, KA	40
College of Naval Command and Staff	Newport, RI	42
Marine Corps Command and Staff College	Quantico, VA	42
Air Command And Staff College	Montgomery, Al	43

Another school presently considered to be in the Intermediate Service Schools category is the Defense Systems Management College at Fort Belvoir, Virginia. This is a joint school which conducts a primary 20-week course in management concepts and methods with the major purpose of preparing selected military officers and DoD civilian personnel for assignments in program or project management.

Load data for military personnel attending Intermediate Service Schools is shown in the following table:

Training Inputs, Outputs, Loads, Intermediate
Service Schools, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	877	804	2,028	2,028	819
Reserve	30	32	557	557	32
Natl Guard	63	39	639	639	54
<u>Navy</u>					
Active	153	189	430	433	197
Reserve	12	3	189	189	6
<u>USMC</u>					
Active	149	146	198	198	149
Reserve	5	5	140	140	17
<u>Air Force</u>					
Active	523	475	597	597	475
Reserve	15	15	132	132	15
Natl Guard	15	15	117	117	15
<u>DoD</u>					
Active	1,702	1,614	3,253	3,256	1,640
Res/Gd Tot.	<u>140</u>	<u>109</u>	<u>1,774</u>	<u>1,774</u>	<u>139</u>
DoD Total	1,842	1,723	5,027	5,030	1,779

Senior Service Colleges

Each of the Military Departments maintains a Senior Service College, or "War College," In addition, there is the National Defense University, consisting of two joint Senior Service Colleges, The National War College and the Industrial College of the Armed Forces, attended by students from all four Services. Senior Service College attendance is on a highly selective basis; students are chosen by Service selection boards from among the most promising officers in the lieutenant colonel/colonel, commander/captain grades.

The common purpose of the Senior Service Colleges is to prepare students for senior command and staff positions at the highest levels in the national security establishment and the allied command structure. The unifying focus is the study of national goals and national security

policy. Each of the Service colleges, while concentrating on the employment of the parent Service in the defense mission, also includes the study of the employment of the forces of other Services.

All of the colleges integrate the study of economic, scientific, political, sociological, and other factors into the consideration of national security problems. The Industrial College, in its approach to national security problems, emphasizes the use and management of national resources. The length of the principal courses at the Senior Service Colleges is ten months. Most colleges also conduct shorter special-purpose seminar-type courses, some particularly for Reserve Component officers. Use of these short courses is greater in the Navy.

Load data for the Senior Service Colleges are shown in the following table.

Training Inputs, Outputs, Loads, Senior
Service Colleges, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	294	264	538	538	262
Reserve	23	23	354	354	23
Natl Guard	19	19	258	258	19
<u>Navy</u>					
Active	166	176	3,008	3,009	226
Reserve	2	2	230	230	10
<u>USMC</u>					
Active	53	53	63	61	53
Reserve	5	5	139	139	5
<u>Air Force</u>					
Active	303	259	269	269	236
Reserve	7	6	43	43	5
Natl Guard	6	5	43	43	5
<u>DoD</u>					
Active	816	752	3,878	3,877	777
Res/Gd Tot.	62	60	1,067	1,067	67
DoD Total	878	812	4,945	4,944	844

Enlisted Leadership Training

The courses included in this category are intended to provide selected senior enlisted personnel the skills and knowledge needed to assume the responsibilities of the highest non-commissioned officers grades. These courses are the culmination of formal enlisted training

and are, for enlisted personnel, analogous to the officer courses discussed in the preceding sections. In addition to such subjects as methods of leadership, human relations, discipline and training, and the administration and employment of military organizations, the senior non-commissioned officer, in these higher-level schools, is given a broader perspective of the role and functions of his or her Service.

Schools, locations and course lengths are shown below:

<u>Schools</u>	<u>Location</u>	<u>Course Length (Weeks)</u>
Army: Sergeants Major Academy	Fort Bliss, TX	22
Marine Corps: Staff NCO Academy	Quantico, VA	6
Air Force: Senior NCO Academy	Gunter AFS, AL	9

Other enlisted leadership training for more junior noncommissioned officers is carried in Specialized Skill Training. This includes command NCO academies, for example. This is more properly skill related for specific types of specialized leadership responsibilities. The senior enlisted leadership training carried here is more properly thought of as professional military education in a broader sense.

Loads for Enlisted Leadership Training are shown below:

Training Inputs, Outputs, Loads, Enlisted Leadership
Training, FY 1978-80

<u>Service Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		<u>Load</u>
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	
<u>Army</u>					
Active	175	175	400	396	175
Reserve	7	5	12	12	5
Natl Guard	7	7	16	16	7
<u>USMC</u>					
Active	155	170	1,512	1,479	205
Reserve	-	-	-	-	-
<u>Air Force</u>					
Active	188	187	1,155	1,155	187
Reserve	2	2	15	15	2
Natl Guard	4	5	30	30	5
<u>DoD</u>					
Active	518	532	3,067	3,030	567
Res/Gd Total	<u>20</u>	<u>19</u>	<u>73</u>	<u>73</u>	<u>19</u>
DoD Total	538	551	3,140	3,103	586

Graduate Education Fully Funded, Full Time

The Department of Defense needs military officers with specialized advanced knowledge, at a level attainable only through graduate education, to perform effectively in certain military jobs. The purpose of the graduate education program in each of the Services is to provide graduate-level education in required disciplines to the numbers of officers required to maintain an inventory of officers qualified to fill these jobs. Under the program described in this section, military officers undergo graduate education on a full-time, fully-funded basis. An active service pay back obligation of three-for-one for the period of schooling is required of all officers entering the program, up to a maximum set by the Services. (The Funded Legal Education program established by 10 USC 2004 requires an active service commitment of two-for-one.)

The following table displays training load data for these graduate education programs. All participants are members of the Active Forces.

Training Inputs, Outputs, Loads, Graduate Education,
Fully Funded, Full Time, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	791	780	1,152	700	704
<u>Navy</u>					
Active	894	1,029	678	532	1,153
<u>USMC</u>					
Active	71	82	69	73	83
<u>Air Force</u>					
Active	<u>1,079</u>	<u>1,010</u>	<u>580</u>	<u>577</u>	<u>951</u>
DoD Total	2,835	2,901	2,479	1,882	2,891

Officer graduate students attend either a civilian educational institution or one of the two Service institutions, the Naval Postgraduate School or the Air Force Institute of Technology, depending upon where the required education can best be obtained. Curricula in the latter two institutions emphasize military-unique courses, such as in logistics management or intelligence operations, and military applications in all other courses. While these schools are primarily used by the parent Services (including Marine Corps use of the Naval Postgraduate School), they also educate some students from other Services. The following table displays programmed FY 1980 student loads for these two schools by the parent Services of the students making up the load.

Graduate Education Loads at Service Institutions, FY 1980

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>	<u>Total</u>
Naval Postgraduate School	95	825	65	50	1,035
Air Force Institute of Technology	7	1	2	406	416

Requirements for graduate-educated officers depend upon the number of "validated billets", that is, military positions which have been determined to require an incumbent with graduate-level education in the applicable academic discipline. Each Service has established a system, ordinarily culminating in a board of senior officials in the Service headquarters, which examines the duty prerequisites for each billet nominated for validation and determines if the job does, in fact, require an officer with an advanced degree. (Requirements for included graduate legal education are determined separately; these programs were authorized in 1973 by Public Law 93-155.)

At the direction of the House Appropriations Committee, the Department of Defense has been studying the graduate education program, including the process for determining validated requirements and the operation of the Naval Postgraduate School and the Air Force Institute of Technology. A report of the study findings is being submitted to the Committee.

Other Full Time Education Programs

In addition to the Professional Development Education programs already described there is a variety of other full time programs tailored to meet the particular needs of the Services (Health Professions Education programs are discussed in a separate section at the end of this chapter).

Several programs have been designed to permit selected individuals an opportunity to work toward associate, baccalaureate or advanced degrees. These programs benefit the Services in several important ways: they increase the technical qualifications of the individuals in the program; they improve the general educational levels of Service personnel; and they provide career retention and recruiting incentives to outstanding personnel. In addition, to the extent possible, personnel in advanced education programs are later used to satisfy validated requirements and hence reduce the required student load in graduate education for validated billets.

The degree-completion programs are managed by the individual Military Departments and each has its own selection criteria. However, in general a person is not selected for a program unless the education will enhance his professional development and be of use to the Military Department. All of the programs require a payback from the individual. It should be noted that no graduate degree programs included here are fully funded.

Short-course training provides the Military Services with needed skills in a wide variety of scientific, administrative and other fields. These programs are selected to train personnel in job-oriented skills which can best be acquired through abbreviated courses. Accounting, traffic management and aviation safety are examples of skills involved. Some of this included training is conducted in DoD schools, the remainder in civilian institutions.

The following table displays load data for this category;

Training Inputs, Outputs, Loads, Other Full-Time
Education Programs, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	880	865	2,879	2,304	953
<u>Navy</u>					
Active	361	400	2,002	2,010	375
Reserve	1	1	15	15	1
<u>USMC</u>					
Active	179	179	112	87	148
<u>Air Force</u>					
Active	559	551	6,595	6,589	545
Reserve	14	13	264	264	12
Natl Guard	8	9	201	201	8
<u>DoD</u>					
Active	1,979	1,995	11,588	10,990	2,021
Res/Gd Tot	<u>23</u>	<u>23</u>	<u>480</u>	<u>480</u>	<u>21</u>
DoD Total	2,002	2,018	12,068	11,470	2,042

Health Professions Education

This subcategory is made up of a wide variety of courses for personnel of all health professions -- physicians, dentists, nurses, medical administrators, etc. The majority of the courses offered are conducted in military facilities, and vary in length from a few days to a full year. Some training is conducted at civilian medical institutions, including, in the case of the Army, some advanced degree programs. The purpose of Health Professionals Education is to expand the skills of

military medical personnel and to provide them timely information on the latest techniques in their fields. Educational programs connected with the acquisition of health professionals is carried in this report under Officer Acquisition Training. In this category, the Navy provides long-term training. The Army and Air Force rely on short courses.

The following table shows load data for Health Professions Education.

Training Inputs, Outputs, Loads, Health Professions
Education, FY 1978-80

<u>Service</u> <u>Component</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	357	472	13,923	13,919	479
<u>Navy</u>					
Active	155	193	78	71	163
<u>Air Force</u>					
Active	<u>411</u>	<u>434</u>	<u>1,921</u>	<u>1,919</u>	<u>445</u>
DoD Total	923	1,099	15,922	15,909	1,087

VIII

RESERVE COMPONENTS TRAINING

In addition to training members of the active forces, the Service training establishments also train members of the Reserve Components. Reserve Component training, as part of individual training and education, involves Reservists and Guardsmen who are on active duty for formal school training. It does not include training of Reserve Component members provided under the following circumstances:

- Training received while members are on extended active duty (this training is included in active force aggregates);
- Training conducted by the Reserve Components themselves;
- Training received on annual active duty, except if provided through courses conducted by the active training establishment;
- Any training received while the individual is not in an active military status; as a minor exception, some Reserve and Guard technicians attend military schools in Civil Service status.

The purpose of this chapter is to summarize the amount and types of training of Reservists and Guardsmen which are conducted by the active training establishments. The training loads discussed in this chapter are included within the loads attributed to the various Reserve Components in the previous chapters.

Training of members of the Reserve Components will comprise approximately 12.0 percent of all individual training and education in FY 1980. Training loads for each of the Reserve Components for each of the major categories of training for FY 1980 are shown in the following table.

Training Loads, Reserve Components, FY 1980a/

<u>Component</u>	<u>Recruit</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition</u>	<u>Specialized Skill</u>	<u>Flight</u>	<u>Professional Development</u>	<u>Total</u>
Army Reserve	1,567	1,556	2	3,107	36	60	6,328
Army National Guard	2,604	6,631	206	5,006	89	80	14,616
Naval Reserve	282	-	40	567	-	17	906
USMC Reserve	1,694	-	325	1,109	-	28	3,156
Air Force Reserve	362	-	17	790	71	36	1,276
Air National Guard	536	-	-	1,260	125	37	1,958
Total, Reserve Components	7,045	8,187	590	11,839	321	258	28,240

a/ Loads in this table are a summary of Reserve Components loads displayed previously in this report, and are not additive to them.

The following table summarizes load data for entry-level Reserve Component basic qualification training for FY 1980.

Enlisted Entry-Level Training, Reserve Components, FY 1980

	<u>Inputs</u>	<u>Outputs</u>	<u>Loads</u>
Recruit Training	50,290	46,046	7,045
Initial Skill Training	51,550	46,378	8,360
One-Station Unit Training	<u>39,718</u>	<u>35,206</u>	<u>8,187</u>
Totals	141,558	127,630	23,592

Entry-level training of Reserve Component members accounts for 14.0 percent of all Recruit Training, 11.9 percent of all Initial Skill Training (Enlisted), and 29.5 percent of all Army One-Station Unit Training programmed in the Department of Defense for FY 1980.

Although entry-level training for enlisted personnel makes up about 84 percent of total Reserve Component training loads, Reserve and Guard officers and enlisted personnel beyond the initial entry stage also are trained by the active establishment. The majority of this training is at the more advanced levels of Specialized Skill Training, and fills the same demands for skill progression or new equipment training that these types of training provide for active members. Reserve Component participation in Flight Training is relatively minor, since most aviator requirements in Reserve Component units are filled by experienced aviators who join after extended service in the active components. Reserve Component participation in the professional military schools portions of Professional Development Education accounts for about 6.6 percent of total DoD officer training at the basic, intermediate and senior levels and about 3.2 percent of Enlisted Leadership Training.

Reserve Component personnel participate in a variety of non-resident courses sponsored by Service Schools; Reservists and Guardsmen make use of these training opportunities on the same basis as active personnel. For many Reserve and Guard officers, consideration for promotion depends upon successful participation in Professional Development Education programs.

Beyond the training covered in the training loads, the active training establishment makes other valuable contributions to the state of training of the Reserve Components. Perhaps the most important is realized through former active members who join the Reserve Components after having been trained on active duty. The Reserve Components also receive graduates of Army and Air Force ROTC who are not called to extended active duty.

The great majority of training of Reservists and Guardsmen is in Recruit and Specialized Skill Training and, for the two Army Components, One-Station Unit Training. Within Specialized Skill Training, most of this training is in Initial Skill Training for enlisted personnel. The combination of Recruit and Initial Skill Training or One-Station Unit Training for enlisted personnel, including Reservists and Guardsmen, provides them basic qualification training which transforms the untrained civilian into a service member with a useable skill.

Enlisted members of the Reserve Components without prior service receive the same basic qualification training as active service members. Each non-prior service enlistee in the Reserve Components undergo, as a minimum, twelve weeks of active duty training. This statutory requirement is carried out by sending the new recruit through Recruit Training and on through Initial Skill Training. Alternatively, many Army Guardsmen and Reservists are provided similar training in certain skills through One-Station Unit Training. Trainees who graduate from Recruit Training proceed to Initial Skill Training in their occupational specialty. This may consist of a course in a Service school or Advanced Individual Training at an Army training center. If a course in the proper skill is not available, the trainee may be assigned to on-the-job training in an active duty for training status. The actual length of active-duty training, in comparison with the statutory twelve weeks minimum, varies from twelve weeks to twelve months, depending on the occupational specialities involved.

In summary, training of members of the Reserve Components forms a significant portion of the workload of the active training establishment. Particularly at the entry level, this training is indispensable to the readiness of individuals and organizations of the Reserve Components and to the realization of the Total Force policy.

TRAINING MANPOWER

General Description

Manpower associated with the individual training missions in the Department of Defense can be divided into two parts: first, the trainees and students being trained, and, second, the military and civilian manpower which conducts and supports the training. These two classes of manpower are discussed and explained in this chapter.

Trainees and Students

Manpower undergoing training in the Defense training establishment is defined and quantified in three different ways, each of which serves a somewhat different purpose with regard to manpower accounting and resource allocation.

1. Training Loads. These are the "military training student loads" which are detailed in Chapters III through VII of this report -- the average number of military trainees, students and cadets of each Service and component in training during a given fiscal year, which is subject to annual congressional authorization. Training loads include all military manpower of a given Service or component who are undergoing individual training, regardless of whether the training is conducted by the parent Service, one of the other Services, a DoD school, or by an agency or institution outside the Department of Defense, such as a civilian college or university. Training loads also include all military personnel in training regardless of their assignment status. Some trainees and students are assigned to the training activity; others are attending training in a temporary duty (TDY) or temporary additional duty (TAD) status while remaining assigned to their parent units; still others are attending while in transit from one permanent assignment to another.

Since training loads are an annual average and most courses are much shorter than a year in length, the actual number of students and trainees who enter training, and the number who graduate, is considerably greater than the training load. For example, the total programmed training load for Recruit Training in FY 1980 is less than 50,200, yet over 326,300 persons are to enter Recruit Training and about 304,700 are to graduate.

2. Training Workloads. The total number of trainees and students undergoing training within DoD includes some trainees and students of foreign nations, DoD civilian employees, and members of other departments and agencies of the U.S. Government, notably the Coast Guard. In addition, many U.S. military students and trainees are trained by a Service

other than their own. Consequently, the average number of students being trained by a given Service, or its training workload, usually differs from its training load. For example, the Marine Corps has a programmed Flight Training load of 713 in FY 1980; however, since the training is conducted by other Services, its Flight Training workload is zero. On the other hand, because the Navy trains many personnel from other Services and Coast Guard and foreign students as well as most of its own students, the Navy's Specialized Skill Training workload is higher than its training load.

Since training workload, in conjunction with other applicable considerations, is the major determinant of the resources (manpower, funds, materiel and facilities) required to conduct training, it, rather than training load, is appropriately used in considering the allocation of resources to a Service or a training activity. Programmed training workloads for each of the Services in FY 1980 are displayed in the following table.

Training Workloads, FY 1980
(Thousands)

<u>Category</u>	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>	<u>DoD</u>
Recruit	14.1	16.0	10.6	9.4	50.1
Officer Acquisition	4.9	5.6	0.4	5.7	16.6
Specialized Skill	48.7	47.5	8.6	27.5	132.3
Flight	1.6	2.0	-	3.6	7.3
Professional Development Education	1.9	2.5	0.4	2.9	7.6
One-Station Unit Training	<u>27.8</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>27.8</u>
Total	99.1	73.6	20.0	49.1	241.9

Note: Detail may not add due to rounding.

3. Students, Trainees, and Cadets. In the Individuals accounts of the Defense Manpower Requirements Report, military manpower is included for each Service as "Trainees and Students" and (except for the Marine Corps) "Cadets". Conceptually, this manpower represents the number of military trainees, students, cadets and midshipmen programmed to be assigned (PCS as opposed to TDY/TAD) for training on the last day of a given fiscal year. Student, trainee, and cadet manpower is similar to training load in that both represent military members of the reporting Service in training status. Nevertheless, there are substantial differences in the way the amount of manpower in these two manpower aggregations is calculated, with the result that the totals are seldom the same. The major reasons for these differences are:

- Training loads are many years in training status, as has been mentioned, whereas trainees, students, and cadets are end-strengths, or

numbers in training on the last day of the fiscal year. Trainee, student, and cadet numbers are thus affected by the seasonality of enlistment patterns, described in Chapter III, while the element of seasonality is evened out in training loads.

- Training loads include students attending training in a temporary duty (TDY or TAD) status as well as those attending in a PCS status. In the Defense Manpower Requirements Report TDY and TAD students are carried in the categories of their parent units. In addition, some individuals attending training while in transit from one permanent assignment to another are included in training loads but are classified as "Transients" in the Defense Manpower Requirements Report.

Training loads are a more accurate measure of the amount of training which is needed to meet military requirements than are the categorizations; "trainees," "students," and "cadets."

Manpower in Support of Training

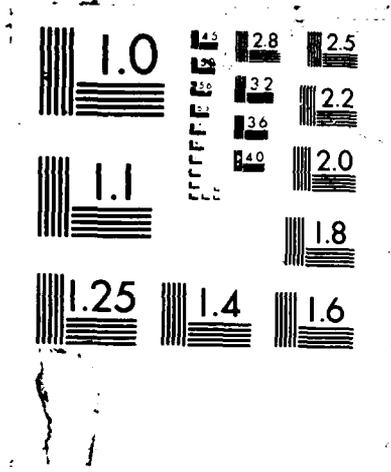
Military and civilian manpower is required to accomplish the individual training mission. This manpower conducts and supports instruction, operates training bases and facilities, maintains training equipment, produces training aids, provides personal and community services to students, trainees, and other military members, plans and manages training, and performs all the other tasks necessary to conduct and support individual training

ROTC students are not military members in an active duty status and are not included in military manpower training loads. To be consistent with this treatment of ROTC students, manpower supporting ROTC programs is not included in the following manpower tables.

The following tables sum up manpower in support of training, by the general functions Conduct of Individual Training, Training Base Operating Support, and Management Headquarters. The function Conduct of Individual Training includes the following types of manpower: instructors, instructional support, school/training center staffs, student supervisors and direct training support such as training aids and literature, audio-visual resources, and instructional systems development.

DoD Manpower in Support of Training,
Conduct of Individual Training Function
(End Strengths, Thousands)

	FY 78		FY 79		FY 80	
	Military	Civilian	Military	Civilian	Military	Civilian
Army	42.1	10.7	37.6	10.3	39.3	10.7
Navy	26.2	3.6	25.9	3.4	24.2	3.4
Marine Corps	7.7	0.2	7.5	0.2	7.5	0.2
Air Force	17.9	5.2	18.4	5.4	18.5	5.4
DoD	93.8	19.7	89.4	19.3	89.5	19.7



DoD Manpower in Support of Training,
Base Operating Support Function
(End Strengths, Thousands)

	<u>FY 78</u>		<u>FY 79</u>		<u>FY 80</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	13.6	24.7	11.7	21.9	11.2	21.3
Navy	5.2	8.1	6.3	7.1	6.0	6.8
Marine Corps	4.6	1.9	3.4	1.9	3.4	1.9
Air Force	<u>11.4</u>	<u>8.8</u>	<u>11.2</u>	<u>7.7</u>	<u>11.1</u>	<u>7.3</u>
DoD	34.8	43.5	32.6	38.6	31.7	37.3

DoD Manpower in Support of Training, Management Headquarters Function
(End Strengths, Thousands)

	<u>FY 78</u>		<u>FY 79</u>		<u>FY 80</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	0.7	0.9	0.6	0.9	0.6	0.9
Navy	0.3	0.5	0.4	0.5	0.3	0.5
Marine Corps	*	*	*	*	*	*
Air Force	<u>0.8</u>	<u>0.5</u>	<u>0.9</u>	<u>0.5</u>	<u>0.9</u>	<u>0.5</u>
DoD	1.8	1.9	1.9	1.9	1.8	1.9

*Less than 50.

DoD Manpower in Support of Training, All Functions
(End Strengths, Thousands)

	<u>FY 78</u>		<u>FY 79</u>		<u>FY 80</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	56.4	36.3	49.9	33.1	51.2	32.9
Navy	31.7	12.1	32.6	11.0	30.6	10.6
Marine Corps	12.4	2.2	10.9	2.2	11.2	2.1
Air Force	<u>30.1</u>	<u>14.5</u>	<u>30.5</u>	<u>13.5</u>	<u>30.8</u>	<u>13.1</u>
DoD	130.6	65.1	123.9	59.8	123.8	58.7

Service
Est., Non-
Training
Attributable (16.0) (19.8) (15.9) (16.4) (15.9) (16.2)

Note: Totals in all the above tables may not add due to rounding.

Manpower estimates in this report are based on DoD's Five Year Defense Program (FYDP). Past reports used adjusted FYDP data to reflect Service estimates on the level of manpower not attributable to training. The current report discontinues that practice in order to provide information in a manner consistent with the President's Budget. The parenthetical entries in the above table indicate adjustments that should be made to the current estimates, in order to make comparisons with previous reports. The Service estimates of non-training attributable manpower include staff and support manpower that do not contribute to the production of student output and loads but are reported as training resources in the Five Year Defense Program (FYDP). The majority of the non-training attributable manpower is for Base Operating Support (BOS) given to non-training tenant activities at training installations.

Trends in Manpower in Support of Training

The following tables show changes in total military and civilian manpower in support of training between FY 1978 and 1980. Manpower for each year is first shown by the functions Conduct of Individual Training, Base Operating Support, and Management Headquarters.

Trends, Manpower in Support of Training,
FY 1977-80, By General Function
(End Strengths, Thousands)

	FY 77			FY 78			FY 80			Percent Change	
	Mil	Civ	TOT	Mil	Civ	TOT	Mil	Civ	TOT	FY 77-80	FY 78-80
Conduct of Individual Training	108	22	130	94	20	114	90	20	110	-16	- 3
Base Operating Support	36	45	81	35	44	78	32	37	69	-15	- 12
Management Headquarters	<u>2</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>4</u>	-	-
TOTAL	145	70	215	131	65	196	124	59	182	-15	- 7

Note: Detail affected by rounding

As the table shows, military and civilian manpower in support of training is being reduced by 13,200 spaces or 6.7 percent between FY 1978 and 1980.

As shown in the following tables, training workloads are about six percent higher in FY 1980 than in FY 1978; considered with the reduction of 7 percent in manpower in support of training, this implies a notable increase in manpower productivity.

Trends, Training Workloads, FY 1977-80
(Thousands)

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Change</u>	
					<u>FY 77-80</u>	<u>FY 78-80</u>
Army	99	90	95	99	-	+10
Navy	67	72	72	74	+11	+ 2
Marine Corps	21	19	20	20	+ 5	+ 7
Air Force	<u>51</u>	<u>47</u>	<u>48</u>	<u>49</u>	<u>- 3</u>	<u>+ 5</u>
DoD	238	228	236	242	+ 2	+ 6

Note: Detail affected by rounding.

Trends, Training Manpower and Training Workloads, FY 1977-80
(Thousands)

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Percent Change</u>	
					<u>FY 77-80</u>	<u>FY 78-80</u>
Manpower in Support of Training	215	196	184	182	- 15	- 7
Training Workloads	238	228	236	242	+ 2	+ 6

The lower level of manpower in support of training in FY 1980 is due to a number of management actions:

- Training Base Operating Support manpower is projected to be lower than in FY 1978.
- Interservice training consolidations in Flight Training are either already in or proposed for FY 1980.
- Support manpower is reduced through such innovations as the Army's One-Station Unit Training program.
- Staffing standards are being tightened generally in training activities.

The decrease in overall support manpower reflects the Department's decision to achieve substantial efficiencies in support manpower. This situation is not unique to the training community; rather it is found throughout the Department's requests for resources. The manpower reductions result both from the provisions of the Civil Service Reform Act of 1978, which put a limit on civilian employment, as well as from Departmental initiatives to find more economical methods, such as contracting with the private sector for support services. The Defense Manpower Requirements Report, dated February 1979 provides more data on these initiatives.

Training Manpower Detailed by Service and Type of Training

As was noted early in this chapter, training workloads, in conjunction with other factors, are the determinants of the resources required to conduct training. The workload/resource relationship is not a simple one, but depends upon the nature of training and training support involved. For example, Flight Training normally requires a great deal of support manpower for aircraft maintenance; weapons training requires close instructor supervision for safety considerations.

Training Manpower by
Service and Type of Training, FY 1980
(Thousands)

Training Activity

	<u>Army</u>		<u>Navy</u>		<u>Marine Corps</u>		<u>Air Force</u>		<u>DoD</u>	
	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>
Recruit Officer	3.6	0.1	1.5	*	2.3	*	0.8	*	8.2	0.2
Acquisition	1.1	1.3	0.8	1.0	0.3	-	1.3	0.8	3.5	3.0
Specialized Skill	16.8	4.3	13.3	0.8	4.6	0.2	8.4	2.1	43.1	7.4
Flight Professional	1.4	0.5	7.9	0.6	0.4	-	6.3	1.0	16.0	2.0
Development	0.5	0.6	0.2	0.6	0.2	0.1	1.0	0.5	1.9	1.8
One-Station Unit Training	7.2	0.4	-	-	-	-	-	-	7.2	0.4
Medical Training	1.8	0.6	0.5	0.1	-	-	0.5	0.1	2.8	0.8
Direct Training Support	6.9	3.0	0.2	0.3	-	-	0.5	0.7	7.6	4.0
Base Operating Support	11.2	21.3	6.0	6.8	3.4	1.9	11.1	7.3	31.7	37.3
Management Headquarters	<u>0.6</u>	<u>0.9</u>	<u>0.3</u>	<u>0.5</u>	<u>*</u>	<u>*</u>	<u>0.9</u>	<u>0.5</u>	<u>1.8</u>	<u>1.9</u>
TOTAL	51.2	32.9	30.6	10.6	11.2	2.1	30.8	13.1	123.8	58.7
Service Estimate Non-Training Attributable	(10.6)	(12.7)	(1.7)	(1.8)	(-)	(-)	(3.7)	(1.8)	(15.9)	(16.2)

*Less than 50

Manpower data in the six categories of training (e.g. Recruit through One-Station Unit Training) includes instructors, school/training center staffs and student supervisors. Direct training support includes such items as training aids and literature, audiovisual resources and instructional systems development.

Economies of scale, are also important in determination of Department of Defense training manpower requirements. Training installations tend to have relatively high overheads and "fixed" manpower. Until the training base can be realigned to take account of training workloads, the training establishment must operate its existing facilities below optimum capability levels and less efficiently than if fewer installations handled the same workload.

TRAINING MANAGEMENT AND FUNDING

General Description

Chapters III through VII of this report describe and explain the military training student loads requested to be authorized for each military component. These student loads represent patterns and levels of training effort which require manpower and other resources. The purpose of this chapter is to describe and explain the resources (other than manpower which is discussed in Chapter IX), funding and costs associated with the conduct of individual training.

In considering training resources, it is important to distinguish between the training loads required by a Service but conducted in part outside the Service, and the workloads representing training conducted by the Service. As discussed in the previous chapter, the workloads, which represent training conducted by a Service, are the basis for resource requirements (manpower, materiel, facilities, and funds) needed to conduct and support the training which the Service executes.

Management of Individual Training

Detailed management of individual training is carried out by the four Military Services. Each of the Services, except the Marine Corps, has a training commander immediately subordinate to the Service chief who is responsible for most of the individual training conducted within that Service. Some training is managed directly by the Service headquarters. However, the most prevalent pattern of control is through a training command headquarters that manages most Service military schools, training centers, and other training facilities.

Staff Responsibilities

Within the Office of the Secretary of Defense, staff responsibility for individual training and education policies rests with the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics), with a strong influence over the allocation and use of resources being exercised by the Assistant Secretary of Defense (Comptroller). The staffs of these two offices work closely together in the management of DoD individual training and education. Other OSD offices, such as Health Affairs, Intelligence, and Research and Engineering, participate as appropriate. The OSD role is generally one of policy formulation, allocation of resources, overview of Service training programs, and coordination among the Services.

Within each Service headquarters, a principal staff officer has responsibility for individual training. Other staff members may have primary responsibility for certain types of training, as, for example, a Service Surgeon General for professional medical training. Other staff members have collateral responsibilities for the allocation of manpower and funds to the training function.

Primary responsibility on the Army staff for individual training rests with the Deputy Chief of Staff for Operations and his subordinate, the Director of Military Personnel Management. Within the Navy, the principal staff officer is the Deputy Chief of Naval Operations, Manpower, Personnel, and Training. Headquarters, Marine Corps, manages training through the Deputy Chief of Staff for Operations and Training and his subordinate, the Director of Training. Commanders of the separate major subordinate training activities report directly to the Commandant of the Marine Corps, dealing with the headquarters training staff. Within the Air Force, the Director of Personnel Programs, under the Deputy Chief of Staff for Manpower and Personnel, has staff responsibility for individual training.

Training Commands

The Army, Navy and Air Force each has a command headquarters which manages most of the individual training conducted by that Service.

The Army's principal training command headquarters is Headquarters, Training and Doctrine Command (TRADOC), located at Fort Monroe, Virginia. TRADOC's control is exercised through training installation and school commanders throughout the United States.

The Chief of Naval Education and Training, headquartered at Pensacola, Florida, exercises control, through subordinate functional commanders, of education and training conducted in training centers, schools and programs throughout the Navy.

Headquarters, Air Training Command, at Randolph Air Force Base, Texas, directly controls individual training centers and units.

The Service-wide training commands are not responsible for all individual training and education conducted. As already noted, the Surgeons General are responsible for most health professional and medical technical training. Other examples include the Service Academies, which are under the responsibility of the respective Service Chiefs.

Training Facilities

Appendix B lists the principal individual training facilities of the four Services for each of the major categories of training. Projected average training work-loads and training support manpower for FY 1980 are also shown for each facility listed.

Training Funding and Costs

The training costs addressed in this section include funding in the President's Budget for Fiscal Year 1980 requested for individual military training and education. These costs differ from life-cycle costs, which would take account of retirement and other costs that are not funded during FY 1980. Depreciation costs of training facilities and equipment are not included, although training investment costs estimated for FY 1980, such as procurement and construction costs, are included.

This year for the first time the report uses the data in the DoD's Five Year Defense Program (FYDP) as the basis for all estimates of the manpower and funds devoted to training and education. In previous years, the Services adjusted FYDP data to eliminate certain resources which, in their judgment, were not attributable to training. However, the Planning, Programming and Budgeting System (PPBS) of the Department considers all these resources in allocating resources to training. Thus, the current report exhibits the data in a way consistent with the overall Defense management structure. This change is a major improvement to the the report because it facilitates the comparison of data in the report to data in other DoD budget and planning documents.

Nevertheless, it may be useful to know the Services judgment about the funds attributable to training and the volume of resources which support other ancillary responsibilities. Therefore, Appendix C shows estimated adjustments made by the Services. These adjustments are mainly in resource allocations for management headquarters and base operating support. The adjusted data will enable users to compare the resources attributed to training with those of previous reports.

Another change this year is in the presentation of resources for management headquarters and base operating support. Prior reports allocated proportional shares of these resources to the five major categories of training. In effect, these secondary allocations were estimates of previous attributable estimates. Since the Department does not have systematic ways of making these secondary allocations, this practice has been discontinued in the current report.

The costs in this chapter include funding for military pay and allowances for both PCS and TDY/TAD students, pay and allowances of military and civilian personnel in support of training, training related PCS costs, base operating costs in support of training, training-related operations and maintenance costs (including civilian support personnel pay and allowances), training investment costs for construction and procurement, and overhead costs for training administration and command.

For a given Service, the requirement for funding for training arises from two factors: first, the need to fund the pay and allowances of its own military training student loads, regardless of where or by whom the students are trained; and, second, the need to provide for the level of individual training and education effort necessary to meet the Service's commitments to accomplish training for its own and other students.

Funding estimates used here exclude the funding requested and justified in budget documents for programs not included in the training loads requested and explained in this report (e.g., ROTC).

Total load-related training funding, by Service and major training category, is detailed in the following table for FY 1980. Special caution should be exercised in using these costs for comparisons among Services. Differences in missions among the Services, differing operating and training conditions, and differences in the mix of component Service training programs, degrade the soundness of comparisons based on aggregated data such as these.

Funding of Individual Training
by Service and Type of Training, FY 1980
(\$ Millions)

	<u>Army</u>	<u>Navy</u>	<u>USMC</u>	<u>Air Force</u>	<u>DoD</u>
Recruit	137.3	292.2	113.3	109.4	652.2
Officer Acquisition	76.4	76.1	12.2	88.9	253.6
Specialized Skill	600.5	691.0	171.9	375.1	1,838.5
Flight	206.9	297.2	25.8	297.6	827.5
Professional					
Development Education	122.5	62.3	18.2	95.2	298.2
One-Station Unit					
Training	273.8	-	-	-	273.8
Medical Training	94.2	47.4	-	63.2	204.8
BOS and Direct					
Training Support	1,190.6	365.8	96.7	483.4	2,136.5
Management					
Headquarters	36.9	19.7	0.3	31.0	87.9
PCS Cost					
for Training	148.8	98.1	39.9	36.1	322.9
TDY and Reserve					
Component Pay					
and Allowances	<u>408.1</u>	<u>103.2</u>	<u>57.6</u>	<u>152.5</u>	<u>721.4</u>
Total	3,296.0	2,053.0	535.9	1,732.4	7,617.3

Note: May not add due to rounding.

For purposes here, which are illustrative rather than analytical, student pay and allowance totals for a Service's requested military student training load have been added to pay and allowances for the staff and support manpower for each Service's workload. This simplification can produce significant distortions in the use of these aggregates for assessing training efficiency (e.g., in the Marine Corps where significant loads are trained by other Services).

Appendix C shows a distribution of funds in the table above by appropriation.

The table on page X-4 includes substantial segments of cost which are not normally sensitive to significant shifts (say up to fifteen percent) in training load. These include certain command, base, facility, and equipment costs. These "fixed" costs need to be considered in program and budget adjustments because, within a reasonable range of output, they remain approximately the same and do not vary as the training load varies. They change, instead, with decisions to change the manner of accomplishing training, most often through training investment decisions or base realignments.

It should be noted that there are often substantial year-to-year fluctuations in funding for fixed costs. These costs are termed "fixed", not because they do not change from year to year, but because their changes characteristically are not "variable" with changes in workloads from period to period. Funding of these costs reflects significant increases, however, for years in which there are major procurements of, for example, simulators, aircraft, or construction in support of training.

Thus, the proportion of total funding requested to support training differs significantly among the Services and among categories of training; the proportion in the short run, however, is seldom less than one-third of total cost. This has important implications for the extent of funding adjustments appropriate to changes in the level of activity or size of a training program. Other things equal, if training funds are to be adequate for the needs of a reduced program, they must be reduced by a smaller proportion than the program loads in order to account for fixed costs. By the same token, program increases, within reasonable capacity limits, may not require a proportional increase in total program funding.

Training costs are affected by inflation, both because of price rises for goods and services and because of the pay of the military and civilian personnel involved as students, instructors, and support. Some training program costs are strongly affected, in addition, by energy cost increases, especially in flight training.

All of these factors contribute to the challenge confronting the Department of Defense for further improvements in management of training and the utilization of trained manpower resources.

TRAINING IMPROVEMENTS

General Description

The purpose of this chapter is to discuss some of the actions being taken by the Department of Defense to make individual training more effective in producing qualified graduates or more efficient in its use of resources. The chapter discusses joint training, measures of training effectiveness, and the use of training technology.

Interservice and Joint Training

Interservice training is training performed by one Service for one or more of the other Services; joint training is that conducted in a school with a multi-Service faculty, usually operating under a Defense-wide charter. The distinction is not important for the purpose of this report, since both types of training act to lessen duplication of training among the Services and to make better use of resources. "Joint training" will therefore be used in this report to describe all cooperative training arrangements among the Services.

Interservice and joint training arrangements have existed for many years, but systematic efforts to increase the amount of those types of training have been in effect for about six years. Essentially, each Service historically has been responsible for training its own members to satisfy its own requirements. To carry out this responsibility, each Service has developed and maintained training bases, activities and programs to meet its own requirements. Until recently, with some exceptions, little emphasis has been placed on the potential for structuring training systems which are usable by other Services. The major exception has been Navy training of Marines, particularly in Flight Training and other aviation-related skills.

Advantages and Limitations of Joint Training. Significant efficiencies in faculties, staffs, and support establishments, and in operating costs, may be realized by reducing the total number of training activities and combining them into fewer and larger organizations. Another advantage of consolidation is better utilization of equipment and systems required to support courses of instruction. Joint training also stimulates the interchange of new training ideas and methods.

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With regard to the practical limitations to the use of joint training, it is preferable and cost effective for each Service to provide the first phase of training to its own new members in order to orient and motivate them to the unique roles and missions of that Service and to inculcate the Service's standards, customs, and traditions. This is accomplished in Recruit Training and Officer Acquisition Training. For practical purposes, then, joint training is limited to Specialized Skill Training, Flight Training and Professional Development Education; to a degree, the uniqueness of Service roles and missions are also a limiting factor in these types of training.

Beyond this consideration, another limitation to the extension of joint training is that Service training facilities are sized, in many cases, to accommodate only their own students, and consolidating courses or schools may require additional facilities. Other limitations are differing skill requirements among the Services, the diversity of equipment used by the Services, possible excessive travel costs if interservice facilities are not economically located for joint use, and the possibility that a joint training center would not meet Service needs in the event of mobilization for some particular reason.

The general criteria used to determine what training will be conducted jointly are that joint training should not lead to unacceptable loss of training quality or failure to meet valid requirements of the participating Services; that it should not require a capital investment in either facilities or equipment, or other one-time costs, which cannot be amortized over a reasonable period of time; and that the courses under consideration should have sufficient commonality to allow for common-core training or enough common equipment utilization to produce savings.

Mechanisms for Increasing Joint Training. The primary mechanism for increasing joint training within DoD is the Interservice Training Review Organization (ITRO), directed by the training chiefs of the four Services and comprised of interservice committees and working groups. The committees and working groups perform the detailed analysis which leads to decisions on the feasibility of consolidation or other cooperative arrangements among the Services. When the Services cannot reach agreement on an issue, the potential for consolidation is further analyzed by the Office of the Secretary of Defense and a decision may be recommended to the Secretary of Defense.

Joint Training in FY 1980. The following table shows, for each Service (active and Reserve Components combined), the amount of training it expects to have conducted by one of the other three Services or DoD schools in FY 1980.

Loads Trained by Other Services or in DoD Schools, FY 1980
(Active and Reserve Component, Thousands)

	Trained By Other Service or DoD Schools	Total Parent Service Loads	Percent Trained By Other Services or DoD Schools
<u>Specialized Skill Training</u>			
Army	1.7	43.7	4
Navy	0.9	38.0	2
Marine Corps	4.4	12.9	34
Air Force	1.8	24.7	7
DoD	8.7	119.3	7
<u>Flight Training</u>			
Army	-	1.2	-
Navy	0.1	1.3	10
Marine Corps	0.7	0.7	100
Air Force	0.1	2.7	3
DoD	0.9	5.9	15
<u>Professional Development Education</u>			
Army	0.2	3.5	7
Navy	0.2	2.0	9
Marine Corps	0.3	0.8	38
Air Force	0.1	3.5	4
DoD	0.8	9.8	9

The figures above do not include the members of the host Service who are being trained in the same courses with members of other Services. For example, the figures for Specialized Skill Training include Marines being trained as tank crewmen by the Army but not the much larger number of Army trainees in the same course.

Initiatives in Joint Training. The most important current initiative in joint training is in undergraduate helicopter pilot training. The Department of Defense, in the FY 1977, FY 1978 and FY 1979 President's Budgets, proposed to consolidate all Defense undergraduate helicopter pilot training under Army at Fort Rucker, Alabama, but the proposal was not accepted by the Congress. Since review has reconfirmed that consolidation would save money while producing the required quality pilots, the proposal has been included in the FY 1980 President's Budget. The consolidated program would replace the current system under which the Army trains its own and all Air Force helicopter pilots and the Navy trains its own and those of the Marine Corps. The consolidated program would contain training modules to meet Service-peculiar requirements. Substantial savings are made possible through this consolidation because of lower operating costs, economies of scale, and the elimination of the need to buy training aircraft and other training equipment in the future to support the separate Navy program.

The following table lists some of the major skill areas or courses which are conducted as joint training.

SELECTED MAJOR COURSES/SKILL AREAS TRAINED IN OTHER SERVICES

<u>Sponsoring Service</u>	<u>Major Interservice Course/Skill Areas</u>	<u>Other Participating Services</u>
Army	Undergraduate Helicopter Pilot Training	Navy (proposed) Marine Corps (proposed) Air Force Coast Guard (proposed)
Army	Construction Equipment Operator	Marine Corps Air Force
Army	Airborne	Navy Marine Corps Air Force
Army	Artillery	Marine Corps
Army	Armor	Marine Corps
Army	Explosive Ordnance Disposal	Navy Air Force
Army	Redeye Missile	Marine Corps
Army	Satellite Communication Fundamentals	Navy Air Force
Army	Tracked Vehicle Repair	Marine Corps
Army	Security Police Correction Management Training	Air Force Marine Corps
Army	Postal Clerk	Navy Marine Corps
Army	Foreign Language Training	Navy Marine Corps Air Force
Army	Information Specialist	Navy Marine Corps Air Force
Navy	Aviation Maintenance	Marine Corps Coast Guard

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Navy	Cryptologic Courses	Army Marine Corps Air Force
Navy	Diving	Army Marine Corps Air Force Coast Guard
Navy	Musician	Army Marine Corps
Navy	Electronic Principles	Marine Corps Air Force
Navy	Cryptographic Maintenance	Marine Corps Air Force Coast Guard
Navy	Teletype Maintenance	Marine Corps
Air Force	Navigator Training	Navy Marine Corps
Air Force	Tempest (Cryptologic Courses)	Army Navy Marine Corps
Air Force	Cryptologic Equipment Maintenance	Army Navy Marine Corps
Air Force	Precision Measurement Training	Army Marine Corps
Air Force	Aircraft Pneudraulic Repair	Army
Air Force	Weather Training	Army Navy Marine Corps
Air Force	Military Dog Handler	Army Navy Marine Corps
Air Force	Law Enforcement	Navy Marine Corps

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Air Force	Fire Control Specialist	Army Marine Corps
Air Force	Nondestruct Inspection	Army Navy Marine Corps
Air Force	Defense Sensor Interpretation and Application Training	Army Navy Marine Corps
Air Force	Air Intelligence Training	Army Navy Marine Corps
Air Force	Lineman Training	Army Marine Corps
Air Force	Professional Comptroller	Army Navy Marine Corps
Air Force	Radio Communications Analysis	Army Navy Marine Corps
Air Force	Voice Processing	Army Navy Marine Corps
Air Force	Cryptoanalysis	Army Marine Corps

Other courses currently under review could provide new interservice training courses. The major subject areas currently under review involve about 125 courses in cryptologic training. Other areas under review include transportation management and firefighting and damage control.

The sole objective of individual training for military personnel is to produce knowledgeable, disciplined, dedicated service members who are capable of functioning effectively in the military job structure and contributing to the combat capability and mission readiness of military units. The measure of training effectiveness, then, is the degree to which individual training meets this objective; the ultimate measure is combat success.

INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD)

Training effectiveness measures are part of the Instructional Systems Development (ISD) process used by the four Services. Instructional Systems Development is intended to insure that

- o Courses are designed to teach only those tasks which, based upon objective field research and analysis of the tasks needed to be performed, the graduate will use and which can most efficiently and effectively be taught in a formal training course.
- o Tests, the requisite for graduation, are accurate indicators of the ability to perform the required tasks.

Phase One of the ISD process includes five steps: analyzing the job; selecting tasks for training; constructing job performance measures; analyzing existing courses; and selecting the organizational setting.

Phase Two of the ISD process, the design phase, includes detailing training objectives and tests, describing student entry characteristics, and determining the sequence and structure of the training. The objectives result from the job analysis of what is actually performed in the field. The tests are designed to determine if the students meet each objective rather than how well the students perform in relation to the other students in the course.

The development of the training, Phase III of the ISD process, includes specification of learning activities, the instructional management plan and delivery system, reviewing and selecting available existing materials, and developing and validating new instruction. Validation of the instruction is important in that it insures that the training teaches what it is designed to teach before it is put into operation.

Phase IV of ISD, the implementation of the instruction, includes using the complete management plan and conducting the actual course in its designated setting.

The final phase of ISD is quality control--as long as the training is being offered, the effectiveness of the training is monitored.

- o Internal evaluations consist of collecting progress data, process data, performance data, and pertinent data from students, instructors and administrators to insure that the actual learning outcomes equal the intended learning outcomes.
- o External evaluations require following graduates of the training program to their job assignments to determine whether they can do the job for which they were trained. Data are collected through job performance measures, questionnaires to supervisors

and graduates, and personal interviews. Informal feedback to the external evaluation process includes comments from field commanders on the quality or comprehensiveness of the training as evidenced by the performance of graduates, results from unit training exercises showing deficiencies in graduates' skills, and performance of graduates on skill qualification tests and skill knowledge tests for promotion.

Specialized Skill Training courses use job task analysis for course design and mixtures of performance-based end-of-course tests, field performance surveys or visits, results of promotion tests and field initiated feedback to measure the effectiveness of the training. Job task analysis is less appropriate for Professional Development Education as Professional Development Education is not directed toward acquisition of specific skills. Professional Development Education is concerned with broader professional development goals in such subjects as engineering, management, and military science. Course design and effectiveness measures for Professional Development Education are more appropriately determined by panels of experts from the field, the school, and the civilian community.

The Defense training establishment uses measures of effectiveness to insure that its training establishment is doing its job. Measures wherever possible are performance-based. Performance based tests are hands-on tests to determine, for example, whether a nurse can read a blood pressure meter or a rifleman can fire a qualifying score with an M-16. Military training is conducted on a pass-fail basis. If the trainee can perform the required tasks he graduates; if he cannot he is either retrained, enrolled in a different type of training, or discharged. Field follow-up evaluations insure that training is relevant to tasks performed in the field and that graduates can perform the tasks well. Defense continues to strive to improve the effectiveness and economy of the Defense training establishment.

Progress in Training Technology

The Military Services have been the leaders in the development and use of training technology for many years. Training technology is used to improve the efficiency and effectiveness of military training and, in some cases, to provide training which cannot be provided in any other way. The term "training technology" is used here to encompass methods to structure training courses and the use of hardware, such as computers or simulated equipment for instruction.

Training Technology in Structuring Courses. Each Service uses Instructional Systems Development (ISD) to determine what should be taught in a given course and the most effective and efficient way of conducting the instruction. Tasks which can most effectively be taught in a formal training setting become the basis of the course; those which can be effectively learned on the job are taught in the operational unit. The course is then structured to teach the essential tasks in the

most effective and efficient way. Through application of ISD to initial skill training courses, the Air Force has reduced average course lengths by 35% since 1970.

Air Force initiatives reflected in the FY 1980 budget request include:

- o reduction of over 75 electronics related courses since FY 1975 through reductions in the electronic fundamentals and principles portions of the courses. Only those electronic fundamentals actually required for job performance were retained. Manpower savings from this initiative have allowed the Air Force to shift over 1500 spaces from training.
- o reductions in course lengths through workshop conferences between the Air Staff, Air Training Command, major commands, training centers, and others to review course contents versus user requirements. Over 100 career ladders have been scrubbed with a projected FY 1979 savings of 2.5 weeks in the training courses. Although this procedure will be applied to additional courses, savings will be of much smaller magnitude in future years because most of the high student load courses have been completed.
- o moving from a six-hour classroom day with two hours of directed self study to an eight-hour instructor contact classroom day. The savings in training time has been incorporated in the reduced average course length in FY 1980.

In the Army, use of ISD to develop One-Station Unit Training has resulted in training time reductions of one to four weeks per MOS and a savings of over 3,000 trainee manyears annually. The Army also recently restructured its basic medical specialist course, reducing the length from eight to six weeks. This action will save about 450 trainee manyears annually starting in FY 1979.

The Navy is establishing special Instructional Program Development (IPD) centers to implement ISD throughout the Naval Education and Training Command. Two of the five planned centers have been established; establishment of the remaining centers is planned over the next three years.

Use of Training Equipment. The Services are making increased use of computers as means of improving instruction and reducing costs. The Air Force completed its service test on the Advanced Instructional System (AIS) in August 1978. The Advanced Instructional System is a prototype computer-based multi-media system for the administration and management of student training. To date it has shown significant reductions in training time. A project is now underway to develop a low-cost operational system, built on lessons learned with the prototype system.

The use of modern, highly capable flight simulators is increasing in undergraduate flight training and elsewhere in the Services. The FY 1980 budget includes a total of approximately \$268 million for procurement of new flight simulators and modifications and repair parts for existing simulators which will result in reduced flying hour costs.

Other modern simulators are being used, or introduced, to support training courses other than flying courses. Navy recently began to use its 1200 PSI Propulsion Plant Trainer at the surface warfare officer school. The trainer is a full scale operational mock-up of equipment in the engine room, fire room, auxillary machine room and electrical control room for FF-1052 (frigate) class ships. Equipments directly related to steam generation, propulsion, and electrical generation are operable with computer indicators; inoperable mock-ups of other equipments are provided. Capabilities and readings, indicators, sounds and visual effects will be simulated under control of an instructor who sets initial conditions, introduces malfunctions, controls casualties and monitors students' performance.

The first phase of the Naval Electronic Warfare Training System (NEWTS) is planned for FY 1980. This generalized basic trainer consists of 30 student stations, instructor/operator stations and a data storage and retrieval computational system. Student stations have generalized displays and controls for operation in a simulated electromagnetic environment which will prepare officer and enlisted students to adapt to the specific surface, subsurface or air weapon system platform to which they will be assigned.

Application of Training Technology in the Field Units. Although the training establishment exists primarily for the support of individual training programs, certain innovations initiated within the training establishment have important benefits in crew and unit training in the field. Unit training benefits the individual in increasing his proficiency as well as making him a more effective member of the unit.

Army is using various engagement simulation devices to train under conditions more nearly approaching combat than anything before available. To teach battle skills to infantry units, an engagement simulation system based upon low power lasers and microcomputers has been developed. Training units are furnished with rifles, machine guns, tank and anti-tank weapons that are equipped with eye-safe lasers. Sensors, connected to a microcomputer carried by each man or weapon, are mounted on each infantryman, vehicle, and weapon. When a weapon is "fired" a blank round is fired from the weapon and a light beam containing a distinctive code is emitted from the laser. Any sensor that detects the beam records a "kill" if the sensor is located in an area where a hit from that kind of weapon would normally disable the target. The computer signals the soldier when he has been hit and automatically disables his weapon, removing him from the exercise. Initial operational capability is scheduled for June 1980 in the United States Army, Europe. These and

other simulators not only make possible improved combat readiness, but they also possess the potential for cost savings through reduced ammunition expenditures.

Army is developing better tools for judging individual proficiency in the field. These tools are new soldiers manuals and skill qualification tests which specify in advance the critical skills required of a soldier in a particular MOS and provide precise standards against which to measure these skills. Army is supplying training extension courses to active and reserve units for training of individuals in these units. Training extension courses can also be used to help prepare individuals for the skill qualification tests. Army is also developing similar techniques for unit training evaluation, the Army Training and Evaluation Program, ARTEP. The ARTEP provides commanders a document from which to prepare, conduct, and evaluate unit training. In the ARTEP precise, quantifiable goals are specified to permit accurate evaluation.

The Department of Defense will continue to take advantage of available and emerging training technology from these initiatives and from other training research and development activities to improve the quality of training and to reduce training time and costs.

APPENDICES

APPENDIX A

DETERMINING TRAINING REQUIREMENTS

Discussions of the determination of training requirements in this report reflect a generally uniform approach. The following overview of the methodology for assessing and calculating training requirements is provided as a framework for understanding this approach. As noted, details in calculation may differ to some extent among the Services and among the training categories.

Requirements

All training is accomplished to satisfy the need for personnel with certain types and levels of skills to man the approved or projected force. The Services, over the years, have developed detailed, systematic methods of determining the manpower needed to man and support the forces. The Manpower Requirements Report discusses this process. From these force requirements for manpower, the need for trained personnel with specific skills can then be derived. For example, a given force structure establishes the number of trained enlisted personnel needed. The number of authorized positions within that force structure for radar technicians establishes the basic requirement for trained personnel with that skill. This process is reiterated on a phased basis for all skills and skill levels for each Service, for both officer and enlisted skills. The total of all personnel in all skills needed to perform all the jobs in the force at a point in time represents the total requirement for trained manpower projected for that date.

Inventory Projections

The requirements identified through this process must be measured against the available assets, in terms of trained personnel on hand in each skill and skill level. From this asset base, estimates are made of how many trained personnel will be available at various points of time in the future. These estimates take into account probable rates of change to the current inventory -- through reenlistment, promotion, discharge, death, retirement, or other causes. These estimates are based on the best historical information available, tempered by judgment of how in the future personnel policies, the state of the economy, behavioral patterns, and other factors, many of them difficult to predict, will affect the probabilities that a trained individual will remain in the Service. A comparison of skill requirements and skill inventory projections, over time, establishes the extent of shortage or surplus likely to exist in each skill area by month and year. Adjusting the inventory may entail retraining personnel who are in surplus skills, but to a much greater degree, adjustment is likely to require the training of new accessions at entry level in shortage skill areas. The process

places a demand on the personnel management and training establishments continually to analyze information about attrition as it occurs, by skill and skill level, in order to produce the right number of trained personnel with the proper skills needed to restore and maintain the balance of the skill inventory. The workload thus placed on the training establishment is detailed by graduates needed from courses of various lengths and is measured in terms of average student load, or "training load."

Average Training Loads

Resources (men, money, and materiel) needed for any particular category of training vary with the number of students undergoing training at any given time. Facilities must be constructed and maintained to accommodate these students in training. The training establishment must maintain a sufficient staff of qualified instructors to conduct instruction for the "load" of students. Students and Trainees, as described in the "Individuals" chapter of the Manpower Requirements Report, must be programmed to account for the fact that these personnel are in formal school training and are not available for duty with operational units. All of these personnel must be paid, housed, and supported. The basis for establishing these resource requirements is the "average training load."

The aggregate training load of courses of instruction within a given training category or sub-category for a given period is computed in accordance with the the following formula, except as noted:

$$L = \frac{\sum_{i=1}^n \left(\frac{E_i + G_i}{2} \right) t_i}{y}$$

where L is Average Training Load,

i is a class (1,2,...n) scheduled for a training course within the training category under consideration,

E is number of expected entrants to scheduled class i,

G is number of expected graduates from scheduled class i,

t is the calendar length of the syllabus of class i, and

y is the length of a calendar year expressed in the same units as t (1 year = 12 months = 52 weeks = 365 days).

Fractions of carryover classes conducted during the year are included as though they were separate classes. However, individuals remaining in class at the end of a period are not counted as graduates, nor are individuals already in a class at the beginning of a period counted as entrants except for purposes of computing training loads for these fractions of courses.

The training load for a category or sub-category of training (e.g., Specialized Skill Training or Functional Training within that category) is the sum of the loads computed for all classes of courses within the category or sub-category.

This method of computation implies "straight-line" attrition, under an assumption that net class attrition occurs at a constant rate during a course. In the relatively few cases when attrition patterns experienced characteristically produce a significantly different distribution of attrition, the more appropriate attrition pattern is used in lieu of the term $\frac{E + G}{2}$.

2

Since attrition varies for different training programs and is not always spread uniformly throughout the length of a course of training, determining training loads becomes a complex problem in estimation. This process of estimation involves two related factors.

First, across the spectrum of training programs that are within the scope of this report, attrition varies from nearly zero to as high as 25 to 30 percent. Most officer Professional Development Education programs have practically no attrition. For FY 1980, the Services estimate that about 9 percent of new recruits, on a DoD average basis, will not complete Recruit Training because they will be found, in the course of undergoing training, not to have the mental or physical qualifications, or the motivation, for military life. Of these, some will fall ill or go absent without leave. Attrition rates in Specialized Skill Training vary widely, with the longer and more demanding courses tending to have higher losses. Pilot training is near the top of the scale in attrition; the higher rate of losses is based on lack of aptitude or motivation for flying, accidents, and similar causes which are intensified in this type of training. While historical data provide a basis for projecting attrition rates for all types of training, there is a considerable possibility for error based on variance in such factors as student quality and motivation.

A second necessary step in evaluating the effect of attrition is to estimate the phasing of attrition for each training program. In some courses, attrition tends to be higher in the early stages of a course when the inept and those lacking motivation are discovered. In other courses, the bulk of attrition may occur toward the end of the course. The patterns of losses vary widely among types of training and, to the detriment of precise planning, over time. The complexities of the

attrition variable makes it necessary for the Services to use computer simulations in their training load calculations which take into account the rates and time-phasing of attrition.

An additional variation is introduced into the conceptual process of forecasting requirements and planning training loads as described above by the seasonal and cyclical nature of new accessions to the Services. Inputs to many of the more stable training programs -- Professional Development Education, Flight Training, the Service Academies, and the most advanced portions of Specialized Skill Training -- are readily predictable. Inputs to the training programs which are dependent on new accessions, Recruit Training and Initial Skill Training for graduates of Recruit Training, are considerably more volatile. The volume of inputs to these types of training depends on such intangibles as job opportunities in the civilian economy and the decisions of young people to enlist, delay enlisting, or not enlist. Moreover, enlistments are seasonal in nature, following a long-term pattern of "good" and "bad" recruiting months, whereas phased requirements may move independently of these seasonal patterns. As a result, training loads for the initial active duty training programs are generally based on a compromise involving the timing of predicted enlistments and the capacity of the training base as well as when the new personnel are needed to fill vacancies in the job structure. Most of the courses in these programs are relatively short, and program adjustments can readily be made.

APPENDIX B

INDIVIDUAL TRAINING FACILITIES BY MAJOR LOCATION
AND TRAINING CATEGORY, FY 1980

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>
<u>A. Recruit Training</u>			
<u>Army</u>			
Fort Bliss, TX	861	0	0
Fort Dix, NJ	2,249	854	5
Fort Jackson, SC	4,605	1,138	40
Fort Knox, KY	1,092	438	31
Fort Leonard Wood, MO	2,250	758	31
Fort McClellan, AL	1,605	218	4
Fort Sill, OK	1,449	192	2
<u>Navy</u>			
Great Lakes, IL	6,226	573	6
Orlando, FL	5,108	469	0
San Diego, CA	4,630	443	13
<u>Marine Corps</u>			
Parris Island, SC	5,518	1,202	5
San Diego, CA	5,125	1,050	5
<u>Air Force</u>			
Lackland Air Force Base, TX	9,440	791	19

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>

B. Officer Acquisition Training

Army

Fort Benning, GA	435	48	2
Fort Monmouth, NJ	277	46	22
West Point, NY	4,162	1,016	1,260

Navy

Annapolis, MD	4,278	742	945
Newport, RI	439	57	15
Pensacola, FL ^{b/}	161	0	0

Marine Corps

Quantico, VA	448	231	3
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Air Force

Colorado Springs, CO	4,505	1,020	789
Lackland Air Force Base, TX	1,169	198	21

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

b/ Manpower not separately identified by training category in manpower documents.

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>

C. Specialized Skill Training

Army

Aberdeen Proving Ground, MD	2,525	1,198	174
Charlottesville, VA	164	28	37
Fort Belvoir, VA	1,156	689	228
Fort Benning, GA	2,634	1,086	158
Fort B. Harrison, IN	2,183	374	85
Fort Bliss, TX	2,415	1,464	335
Fort Bragg, NC	581	628	111
Fort Devens, MA	1,356	847	102
Fort Dix, NJ	51	22	23
Fort Eustis, VA	1,741	877	210
Fort Gordon, GA	4,160	1,431	440
Fort Huachuca, AZ	802	487	124
Fort Jackson, SC	3,156	632	40
Fort Knox, KY	2,217	1,274	241
Fort Lee, VA	4,578	1,030	361
Fort L. Wood, MO	1,720	682	69
Fort McClellan, AL	643	149	39
Fort Rucker, AL	1,101	328	108
Fort Sam Houston, TX	6,204	1,831	625
Fort Sill, OK	2,558	1,345	257
Fort Wadsworth, NY	142	68	23
Monterey, CA	3,242	221	621
Redstone Arsenal, AL	1,263	872	301
Rock Island, IL	221	0	84
Savanna Army Depot, IL	75	0	47
Texarkana, TX	176	0	40
Fort Ord, CA	98	47	19
Norfolk, VA	227	107	0

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>
<u>Navy</u>			
Athens, GA	326	34	16
Bethesda, MD	232	13	0
Charleston, SC	519	380	19
Dam Neck, VA	1,530	981	65
Denver, CO (Medical) ^{b/}	57	0	0
Great Lakes, IL	8,850	1,440	52
Groton, CT	2,213	12	18
Gulfport, MS	371	122	12
Idaho Falls, ID	800	540	0
Indian Head, MD	230	72	7
Jacksonville, FL ^{b/}	255	0	0
Lakehurst, NJ	407	104	18
Little Creek, VA	633	94	10
Mayport, FL	226	84	201
Memphis, TN	7,539	881	196
Meridian, MS	802	95	7
Newport, RI	688	102	39
Norfolk, VA	1,727	629	24
Oakland, CA	142	22	8
Oceanside CA	27	156	2
Orlando, FL	4,496	486	18
Pearl Harbor, HI	431	327	13
Pensacola, FL	2,199	64	0
Philadelphia, PA	369	81	1
Port Hueneme, CA	481	147	29
Portsmouth, VA	302	66	4
Sam Houston, TX	51	6	0
San Diego, CA	8,917	1,721	187
San Francisco, CA	185	87	13
Schenectady, NY	584	612	0
Vallejo, CA ^{b/}	873	0	0
Washington, D.C.	101	73	6
Windsor, CT	214	147	0
Whidbey Island, WA	142	104	1

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

b/ Manpower not separately identified by training category in manpower documents.

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>
<u>Marine Corps</u>			
Albany, GA	39	30	0
Camp Lejeune, NC	2,233	842	23
Camp Pendleton, CA	2,092	549	6
Parris Island, SC	469	35	0
Quantico, VA	1,220	1,012	42
San Diego, CA	395	45	0
Twentynine Palms, CA	1,644	509	48
<u>Air Force</u>			
Chanute Air Force Base, IL	4,215	1,301	520
Fairchild Air Force Base, WA	168	281	21
Goodfellow Air Force Base, TX	1,182	401	32
Homestead Air Force Base, FL	45	109	2
Keesler Air Force Base, MS	5,252	1,819	574
Lackland Air Force Base, TX	4,676	1,054	558
Lowry Air Force Base, CO	3,957	1,514	325
Sheppard Air Force Base, TX	4,775	1,347	598

a/ Reflects manpower end-strength (E/S) to include instructors, school/
training center staffs, student supervisors. Excludes training
support, Management Headquarters and Base Operating Support.

<u>Facility Location</u>	<u>Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>

D. Flight Training

Army

Fort Rucker, AL	1,577	1,360	463
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Navy

Chase Field, TX	156	1,224	137
Corpus Christi, TX	239	572	12
Kingsville, TX	156	1,322	110
Meridian, MS	100	917	60
Pensacola, FL	717	1,639	186
Whiting Field, FL	666	511	60

Air Force

Columbus Air Force Base, MS	379	1,304	160
Lackland Air Force Base, TX	101	19	1
Laughlin Air Force Base, TX	434	1,412	151
Mather Air Force Base, CA	791	514	64
Randolph Air Force Base, TX	188	851	149
Reese Air Force Base, TX	441	1,268	210
Sheppard Air Force Base, TX	211	254	31
Vance Air Force Base, OK	424	423	45
Williams Air Force Base, AZ	472	1,383	207

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

<u>Facility Location</u>	<u>Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>

E. Professional Development Education

Army

Carlisle Barracks, PA	228	101	115
Fort Belvoir, VA	215	19	61
Fort Bliss, TX	217	101	22
Fort Leavenworth, KA	813	177	145
Fort McNair, DC	323	90	177

Navy

Monterey, CA	1,324	76	401
Newport, RI	463	0	154
Norfolk, VA	278	18	71

Marine Corps

Quantico, VA	319	208	58
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Air Force

Gunter Air Force Station, AL	234	56	8
Maxwell Air Force Base, AL	1,419	584	197
Wright-Patterson Air Force Base, OH	903	223	262

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

<u>Facility Location</u>	<u>Student Work-Load</u>	<u>Training Staff E/S</u> ^{a/}	
		<u>Military</u>	<u>Civilian</u>

F. One-Station Unit Training (OSUT)

Army

Fort Benning, GA	5,593	1,790	33
Fort Dix, NJ	2,837	577	8
Fort L. Wood, MO	3,657	484	5
Fort Sill, OK	2,717	816	54
Fort Gordon, GA	4,280	1,361	204
Fort McClellan, AL	2,918	478	22
Fort Knox, KY	5,788	1,662	193

^{a/} Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

APPENDIX C

SUMMARY OF TOTAL FUNDING FOR INDIVIDUAL
TRAINING AND EDUCATION, BY SERVICE
AND APPROPRIATION, FY 1978-80
(\$ millions)

FUNDING RELATED TO MILITARY STUDENT TRAINING LOADS

<u>Appropriation</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
	<u>Army</u>		
Operations and Maintenance	\$1,024.8	\$1,086.9	\$1,142.2
Military Personnel	1,560.0	1,614.7	1,652.5
Reserve Personnel	65.9	63.5	69.5
National Guard Personnel	173.0	172.3	169.0
Aircraft Procurement	40.6	42.3	29.0
Missile Procurement	5.7	2.8	4.2
Procurement Weapons and Tracked Combat Vehicles	45.4	71.5	34.0
Procurement of Ammunition	16.2	11.0	8.6
Other Procurement	61.9	55.5	85.9
Military Construction	<u>30.6</u>	<u>84.0</u>	<u>101.1</u>
Total Army	\$3,024.1	\$3,204.5	\$3,296.0
Service Estimate, Non-training Attributable	(575.9)	(643.3)	(645.5)

<u>Appropriation</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Navy</u>			
Operations and Maintenance	\$ 417.5	\$ 446.2	\$ 482.6
Military Personnel	1,297.4	1,352.5	1,375.5
Reserve Personnel	9.8	10.6	10.5
Aircraft Procurement	106.1	63.7	64.0
Other Procurement	58.0	84.1	93.0
Military Construction	<u>7.8</u>	<u>63.8</u>	<u>27.4</u>
Total Navy	\$1,896.6	\$2,020.9	\$2,053.0
Service Estimate, Non-training Attributable	(349.5)	(331.7)	(326.5)
<u>Marine Corps</u>			
Operations and Maintenance	\$ 61.6	71.6	68.3
Military Personnel	384.9	421.5	423.5
Reserve Personnel	43.2	41.2	41.8
Procurement	<u>17.1</u>	<u>9.0</u>	<u>2.3</u>
Total Marine Corps	\$ 506.8	\$ 543.3	\$ 535.9

<u>Appropriation</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Air Force</u>			
Operations and Maintenance	\$ 539.7	\$ 542.0	\$ 607.9
Military Personnel	1,001.6	1,012.7	1,040.1
Reserve Personnel	14.0	17.1	17.4
National Guard Personnel	17.7	24.5	23.0
Aircraft Procurement	18.9	12.0	15.2
Other Procurement	9.1	10.9	12.5
Military Construction	<u>20.4</u>	<u>28.3</u>	<u>16.3</u>
Total* Air Force	\$1,621.4	\$1,647.5	\$1,732.4
Service Estimate, Non-training Attributable	(257.3)	(259.9)	(283.2)
Total Department of Defense	\$7,048.9	\$7,416.2	\$7,617.3
Total Service Estimates, Non-training Attributable	(1,182.7)	(1,234.9)	(1,255.2)

Note: Totals may not add due to rounding. These totals exclude funding for individual education and training programs for which loads are not requested and for which funds were not shown in the funding tables in Chapter X (e.g., ROTC).

END

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