

Report to the Chairman, Panel on Military Education, Committee on Armed Services, House of Representatives

June 1991

## DEPARTMENT OF DEFENSE

## Professional Military Education at the Three Senior Service Schools







United States General Accounting Office Washington, D.C. 20548

National Security and International Affairs Division

B-243736

June 20, 1991

The Honorable Ike Skelton Chairman, Panel on Military Education Committee on Armed Services House of Representatives

Dear Mr. Chairman:

In response to your request, we examined the implementation of selected Phase I recommendations at the three Department of Defense (DOD) professional military education (PME) senior service schools. These recommendations are contained in the April 1989 report of the Panel on Military Education and were developed to help DOD improve its officer education programs. This report is one of a series of reports documenting the nature and extent of the actions taken by the various service schools to improve officer education. (See app. III.)

This report compares, analyzes, and discusses the actions of the three senior service schools in implementing selected Panel Phase I recommendations. The senior service schools are the Army War College at Carlisle Barracks, Pennsylvania; the College of Naval Warfare in Newport, Rhode Island; and the Air War College in Montgomery, Alabama.

As agreed with your Office, we focused our review on the senior service schools' implementation of 38 selected recommendations contained in the Panel's report.

### Background

A primary objective of the Goldwater-Nichols Reorganization Act of 1986 was to strengthen combined and joint operations of the various military services. To fulfill this objective, the House Armed Services Committee established the Panel on Military Education in November 1987 to report its findings and recommendations regarding DOD's ability to develop joint specialty officers through its PME systems.

The Panel's April 1989 report envisioned that joint education would be an integral part of PME and would be implemented in two phases. Phase I would be taught at the intermediate level schools attended by officers primarily at the rank of major/lieutenant commander or at the senior level service schools attended by officers at the rank of lieutenant colonel/commander and colonel/captain ranks. Phase II, taught at the

Armed Forces Staff College in Norfolk, Virginia, would complement Phase I and officers would usually attend it after completing Phase I.

The Chairman, Joint Chiefs of Staff, established policies, programs, guidelines, and procedures for coordinating, among other things, the joint professional military education (JPME) of members of the U.S. Armed Forces. This guidance is contained in the Military Education Policy Document (MEPD) that was issued in May 1990. While the Panel's recommendations are advisory, military departments are required, at a minimum, to incorporate the Chairman's guidance into their own education systems.

### Results in Brief

The senior service schools reported that they have taken some positive action on at least 90 percent of the applicable Panel recommendations, but some key and other Panel recommendations concerning faculty and students have not been fully adopted.

In one instance, concerning the awarding of letter grades, all three schools adopted systems consistent with MEPD guidance, while only one school's system was consistent with the Panel key recommendation. In others, such as non-host faculty and student representation, even when the Panel report and MEPD guidance are in agreement, the schools have not fully adopted key recommendations. The five key recommendations are discussed below. Other recommendations that the schools have not adopted are discussed in appendix II.

Differences exist between the Panel's recommendations and MEPD, in part, because the Panel report and MEPD were written with different purposes in mind. The Panel's purpose was to assess PME's ability to develop joint specialty officers. It focused its recommendations on JPME at senior schools. The MEPD's purpose, broader in scope than the Panel's, was to define the objectives and policies regarding all institutions making up the military education system. The MEPD outlines the JPME curricula at service and other schools.

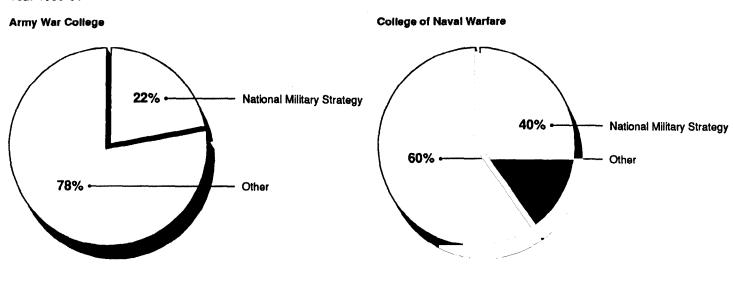
## Implementation of Key Recommendations

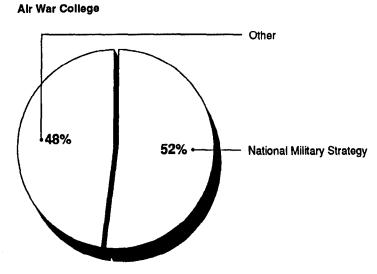
The Panel recommended that the senior schools improve their process for hiring civilian faculty by using amended legislation covering compensation and ensuring that only high quality military officers are assigned to the schools' faculties. All schools have adopted this recommendation.

The schools have implemented a key Panel recommendation that would establish a phased education program for joint specialty officers.

In another key recommendation, the Panel suggested making national military strategy the primary focus at the senior schools and increasing the representation in each host school of non-host military faculty and students. National military strategy is the primary focus at all senior service schools. (See fig. 1.) However, none of the schools have fully adopted the non-host military faculty and student mix.

Figure 1: The Percent of Time Allocated for the Study of National Military Strategy at the Senior Service Schools During Academic Year 1990-91





A key Panel recommendation would involve reviewing the Navy's PME system to determine whether its officers should and can attend both intermediate and senior schools, and whether the Navy intermediate

and senior schools should have more distinct curricula. This issue is discussed in a separate report on the activities of the intermediate service schools.<sup>1</sup>

The Panel recommended requiring students to complete frequent essaytype examinations, and to write papers and reports that are thoroughly reviewed, critiqued, and graded by faculty. Although officials from all of the schools stated that their schools have rigorous curricula, only the College of Naval Warfare provides letter grades to its students.

## Non-Host Faculty Representation

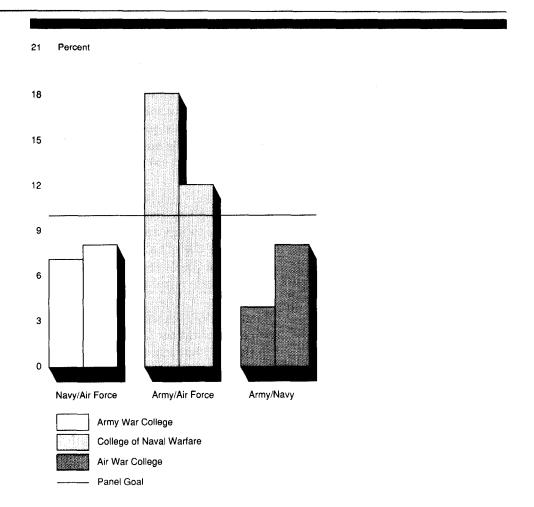
Part of a key recommendation in the Panel report called for senior schools to have approximately 10 percent of their military faculty from each of the other non-host military departments by academic year 1989-90. The Panel recommended increasing this representation to <u>25 percent</u> from each non-host department by academic year 1995-96.

MEPD requires that the senior service schools' non-host military faculty representation for primary instructors meet at least two criteria. The first is identical to the Panel's recommendation for academic year 1989-90. The other is that a combined total of military faculty from non-host departments should be no less than 25 percent of the total military faculty. MEPD did not specify a particular academic year for achieving this representation. However, the MEPD does not prohibit the schools from achieving the Panel's future goal.

The College of Naval Warfare exceeded the Panel's key goal for non-host military faculty representation in academic year 1989-90. (See fig. 2.) The other two schools did not meet the Panel's goal.

<sup>&</sup>lt;sup>1</sup>Department of Defense: Professional Military Education at the Four Intermediate Service Schools (GAO/NSIAD-91-182, June 13, 1991).

Figure 2: Non-Host Military Faculty Representation at the Senior Service Schools for Academic Year 1989-90



The Commandant, Army War College, in testimony before the Panel in April 1991, stated that non-host military faculty representation may be increased. The Commandant, Air War College, in another Panel hearing later that same month, stated that the Air War College is working with the other military departments to obtain two additional military faculty members to fulfill the MEPD minimum of no less than 25 percent from the non-host military departments.

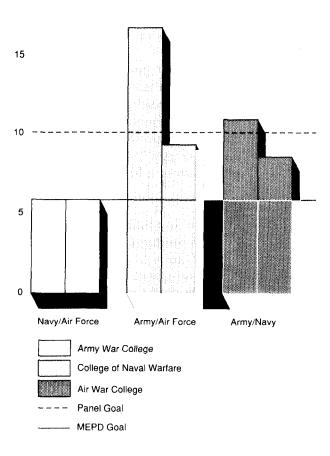
No school has plans to implement the Panel's goal for academic year 1995-96. The schools plan to implement the MEPD's requirement, which is half that of the Panel's goal.

### Non-Host Student Body Representation

For academic year 1989-90, a key Panel recommendation was that the schools should have a student body representation at each school of approximately 10 percent from each of the non-host military departments. (Figure 3 illustrates the extent to which the schools have implemented this recommendation.)

Figure 3: Non-Host Military Student Representation at the Senior Service Schools for Academic Year 1989-90

20 Percent



The College of Naval Warfare exceeded the Panel recommendation for academic year 1989-90 for the number of Army students and nearly met the goal for Air Force students. The President, Naval War College, in Panel testimony in April 1991, discussed a request for incremental

increases of Air Force students. In addition, an official at this school, in May 1991, stated that in academic year 1991-92, which starts in August 1991, the MEPD goal for Air Force students will be met.

The Army War College had 6 percent representation from each non-host military department. The Commandant, Army War College, at that same hearing, discussed plans to increase non-host student representation.

The Air War College exceeded the Panel recommendation for Army students and had 8 percent of its students from the Navy department. At a Panel hearing in April 1991, the Commandant, Air War College, projected that all of the seminars in academic year 1991-92 will have one student from each of the non-host military departments.

For academic year 1995-96, the Panel's goal will increase to 25 percent from each of the non-host military departments. The MEPD requirement is at least one student from each non-host military department in each seminar. No school has plans to meet the Panel's 1995-96 goal at this time. Although MEPD does not specify academic years, the schools are not precluded by MEPD from meeting the Panel's future goal. The schools plan to meet whatever future MEPD goal is established.

### Grading

Another key Panel recommendation stated, in part, that students' written products should be graded. In various hearings, the Panel stated that the schools should award letter grades. MEPD states that the schools should establish systems to evaluate student performance and place a clear emphasis on high academic standards appropriate to graduate level education.

The College of Naval Warfare has awarded letter grades since the 1970s. The Army War College uses the following grading system: exceeds, meets, or fails to meet standards, and needs improvement. The Air War College grading system uses superior, excellent, satisfactory, marginal, and unsatisfactory.

### Observation

Each service is responsible for overseeing the professional development of its officers from precommissioning through flag and general ranks. The Chairman, Joint Chiefs of Staff, has the responsibility to establish the policy for JPME, which the services then have to incorporate into their education systems. The Chairman has fulfilled his responsibility

through the issuance of MEPD. The services have taken steps to implement the MEPD directives within the framework of their own service PME requirements. It is not unusual, therefore, to see some variance in the implementation of MEPD policy directives among the various schools.

Many of these variances are related to the long-range goals identified in the Panel's report that are not included in MEPD. For example, the Panel's report recommended goals for non-host faculty and student representation for academic year 1995-96 while MEPD does not expressly identify an academic year beyond 1990-91. Opportunities will be available to reconcile these differences as the force structure is being changed over the next several years.

## Scope and Methodology

We focused on the Panel recommendations concerning Phase I PME and selected the recommendations for which the senior service schools are either directly responsible or play a significant supporting role in their implementation. We summarized the actions taken by the schools to implement Panel recommendations and compared these actions to Panel recommendations.

We performed this review from March through May 1991 in accordance with generally accepted government auditing standards.

As requested, we did not obtain formal comments on this report. However, the views of responsible officials were sought during the course of our work and are included in the report where appropriate.

We are providing copies of this report to other appropriate congressional committees; the Secretaries of Defense, Army, Navy, and Air Force; the Commandant of the Marine Corps; and the senior service schools. We will also provide copies to other interested parties upon request.

Please contact me at (202) 275-3990 if you or your staff have any questions concerning this report. Other major contributors to this report are listed in appendix IV.

Sincerely yours,

Paul L. Jones

Director, Defense Force Management

**Issues** 

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#### **Abbreviations**

DOD	Department of Defense
JPME	joint professional military education
MEPD	Military Education Policy Document
PME	professional military education

## Summary of the Senior Service Schools' Characterization of Selected Panel Recommendations

Key 7         Distinct intermediate and senior school         NA         PI         NA           Key 9         Frequency of examinations and papers         PI         I         I           III-4         Senior school focus on national military strategy         I         I         I           III-5         Faculty teaching strategy         I         PI         PI           III-2         Service/joint expertise         I         I         III           III-3         Teaching service/joint systems         NA         NA         NA         NA           III-6         Military faculty mix         PI         II         PI         NA				Recommendation	
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(continued)

Appendix I Summary of the Senior Service Schools' Characterization of Selected Panel Recommendations

			Recommendation characterization <sup>b</sup>	
Panel report <sup>a</sup>	Subject	Army	Navy	Air Force
V-16	Commandant/president as general/ flag officers and involvement in instruction	1	ı	1
V-23	Active/passive instruction		1	PI
V-24	Rigorous performance standard	lq	I	19
V-25	Evaluation of examinations and papers	Pl	J	ļ
V-26	Distinguished graduate program	NI	ı	
V-27	Officer efficiency reports	NI	ı	NI

<sup>a</sup>Key recommendations are those recommendations that the Panel identified as key in the executive summary to its report. Recommendations II-4 and II-5 appear in Panel report chapter II, entitled "Educating Strategists." Recommendations III-2 through III-8 appear in Panel report chapter III, entitled "An Expanded Role for Joint Education." Recommendations IV-1 through IV-24 appear in Panel report chapter IV, entitled "Realigning Professional Military Education." Recommendations V-1 through V-27 appear in Panel report chapter V, entitled "Quality."

<sup>b</sup>Status of recommendations:

I = Implemented

PI = Partially implemented

NI = Not implemented

NA = Not applicable

#### GAO notes:

<sup>c</sup>The school has not made plans to implement the Panel's goals for academic year 1995-96. Changes in faculty and student body mixes are coordinated by the service schools, and the service secretaries.

<sup>d</sup>Although the school offers a rigorous program, it does not award letter grades and has no plans to adopt them at this time.

<sup>e</sup>The Panel did not specifically recommend that retired three-and four-star officers are to become full-time faculty members as the College of Naval Warfare has interpreted the recommendation.

<sup>f</sup>The school has not made plans to implement the Panel's goals for academic year 1995-96. Changes in faculty mix are coordinated by the service schools and the service secretaries.

<sup>9</sup>The school has not made plans to implement the Panel's goals for academic year 1995-96. Changes in student body mix are coordinated by the service schools and the service secretaries.

<sup>h</sup>This school does not have Navy career educators. Navy policy does not permit the establishment of this cadre or an educational specialty.

'The school does not offer military career educators promotional opportunities and quality assignments similar to other professionals (legal and medical) as recommended by the Panel. They are competitive with the military officers who have operational and functional area specialties.

<sup>1</sup>The ratio is higher than the Panel's goal when only teaching faculty members are used.

<sup>k</sup>This school does not have an exchange program with an academy as the Panel envisions, primarily because the College is at the graduate level while the academies concentrate on undergraduate studies.

## Curriculum, Faculty, and Student Issues

This appendix covers the schools' activities in addressing Panel recommendations dealing with curriculum, faculty, and student issues.

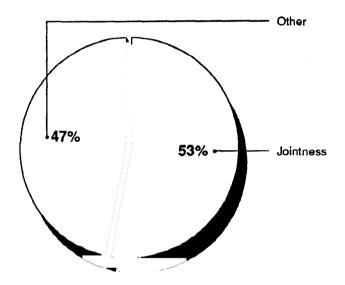
### Curriculum Issues

#### Joint Curriculum

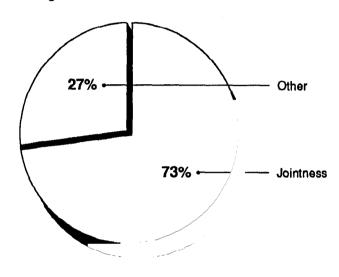
The Panel recommended strengthening the focus of the schools' curricula on joint matters. All three schools are implementing this recommendation. (See fig. II.1.) The curricula at these schools also incorporate the Military Education Policy Document (MEPD) guidance on joint curricula to include joint operational warfare, joint systems, and joint operational planning. Before academic year 1988-89, the Army and the Air Force schools had a separate curriculum specifically for officers selected to fill joint assignments. These schools have since revised their programs to provide joint education to all students.

Figure II.1: The Percentage of Time Devoted to the Study of Joint Issues at the Senior Service Schools for Academic Year 1990-91

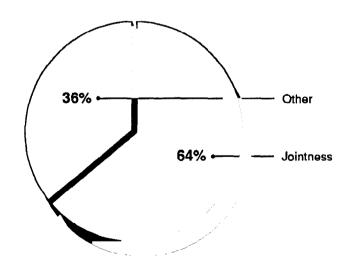
#### **Army War College**



#### College of Naval Warfare



#### Air War College

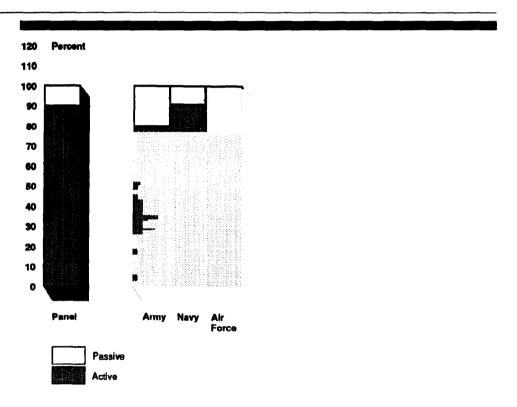


Active/Passive Education

The Panel recommended emphasizing active over passive learning techniques, citing the 10-percent passive instruction at the Army intermediate school as a model for other schools. In implementing the Panel's

recommendation, all senior service schools emphasize active learning over passive learning. While all senior service schools define active and passive learning in a consistent manner, there were variances in the methodology used to calculate the percentages. For example, the Army and Air War Colleges exclude class preparation time from their active hours percentage while the College of Naval Warfare includes this time. Such variances complicate comparisons to the Panel recommendation. (See fig. II.2.)

Figure II.2: Active Versus Passive Education at the Senior Service Schools for Academic Year 1990-91



While MEPD parallels the Panel recommendation of emphasizing active instruction, it does not establish a numeric goal. In addition, MEPD offers no guidance in calculating the amount of active learning to ensure more consistency among the schools.

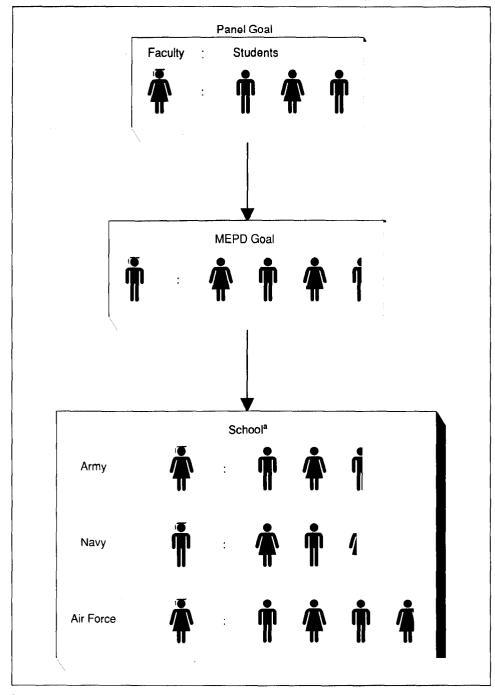
Appendix II Curriculum, Faculty, and Student Issues

### Faculty Issues

### Student/Faculty Ratio

The Panel recommended a student/faculty ratio of three students for each faculty member (3 to 1). MEPD requires that the ratio be lower than 3.5 to 1. The Air War College's ratio does not meet the Panel and MEPD goals; the other two schools indicate that they have met these goals. However, comparisons with the Panel recommendation require additional explanation. (See fig. II.3.)

Figure II.3: Student/Faculty Ratios at the Senior Service Schools for Academic Year 1990-91



<sup>a</sup>The student/faculty ratios are: Army 2.6 to 1 Navy 2.2 to 1 Air Force 3.9 to 1 Appendix II Curriculum, Faculty, and Student Issues

The Army War College's ratio of 2.6 to 1 includes part-time instructors. The ratio is 3.7 to 1 when only the teaching faculty is used. The Commandant, Air War College, in Panel testimony in April 1991, stated that the Air War College ratio of 3.9 to 1 is expected to be reduced in academic year 1991-92 to 3.5 to 1.

### Graduating Students Retained as Faculty

The Panel opposed the widespread practice of retaining graduating students as faculty. For the Army War College, one of the 1990-91 military teaching faculty (2 percent) was a graduate from the prior academic year. In some years, it has not retained any graduating students; students are retained for faculty assignments on a case-by-case basis for immediate follow-on assignment. Seven percent of faculty members at the Air War College are graduates from the prior academic year. In addition, six other graduates were retained as command chairs—liaisons between their commands and the school—for 1 year as part-time faculty members.

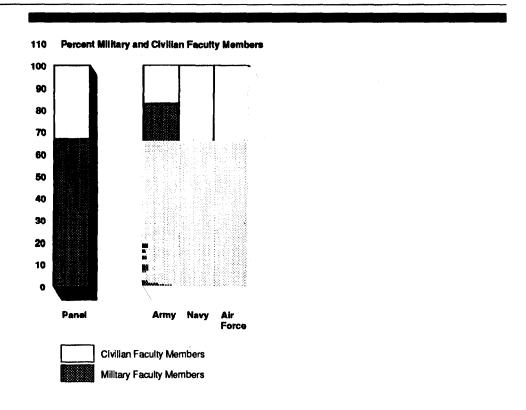
Graduating seniors are a significant, but not a primary source of the College of Naval Warfare's military faculty. The school retained 28 percent of the current faculty from graduating students over a 3-year period from academic years 1987-88 through 1989-90, combined.

### Percent of Civilian Faculty

The Panel emphasized the importance of recruiting and maintaining a qualified faculty at PME schools in several of its recommendations. According to the Panel, the military component of the schools' faculty should include high-quality military officers with operational and educational experience. The civilian component should also be of high quality in that faculty members should be well-respected in their field of expertise, continue to research and publish to maintain academic credibility, and possess advanced degrees. The Panel also emphasized that civilian faculty at the senior schools should comprise about 33 percent of the faculty. MEPD states that the services should determine the appropriate number of civilians on their school faculties.

The Army War College has not achieved the goal set forth by the Panel. The other two schools have exceeded the Panel's recommended 33 percent. (See fig. II.4.)

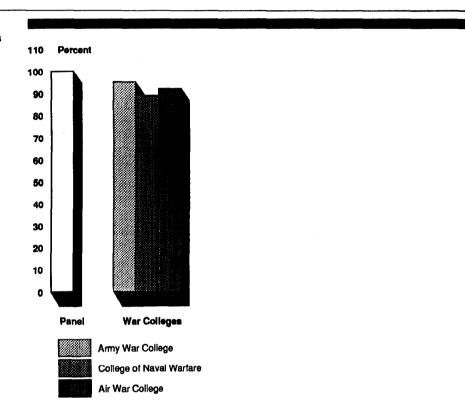
Figure II.4: Percent of Military and Civilian Faculty at the Senior Service Schools for Academic Year 1990-91



## Advanced Degrees at the Senior Service Schools

The Panel recommended that, as a goal, all members of the faculty at senior schools should have advanced degrees. The Panel emphasized that doctoral degrees are preferable. The MEPD emphasized that faculty members should be of the highest caliber, combining functional expertise, educational expertise, or operational experience, with an ability to teach. Faculty members, as stated in MEPD, should possess strong academic credentials. (See fig. II.5.)

Figure II.5: Percentage of Faculty Members at the Senior Service Schools With Advanced Degrees



The Army War College figure of 94 percent is for academic year 1989-90. The school is attempting to have 100 percent of the faculty members with advanced degrees. The College of Naval Warfare figure is 84 percent, while the Air War College's is 88 percent for academic year 1990-91.

## Faculty Development Programs

To ensure that military faculty are prepared professionally, the Panel recommended the development of programs to qualify military faculty. These faculty development programs were to be specifically designed to help military faculty, who lack teaching experience, assume responsibilities in the classroom. (See table II.1.)

Table II.1: Description of Faculty
<b>Development Programs at the Senior</b>
Service Schools

Senior School	Faculty Development Program
Army	Faculty representatives attend different seminars, conferences, and meetings worldwide to broaden their perspectives. A week-long program to develop and orient faculty members is also held.
Navy	The program includes symposia and conferences at the school and other academic institutions, as well as in-house learning sessions where faculty members discuss teaching methods, materials, and their experiences before each session is taught.
Air Force	All new faculty members are required to attend a specially tailored orientation course to develop or enhance their teaching skills before entering the classroom. In addition, supervisors provide evaluations and feedback during their class visits.

#### Cadre of Career Educators

The Panel recommended that the schools establish a cadre of professional educators from among their officers. They should have academic foundations, preferably a doctorate, in the area they are to teach as well as an exemplary military record based on solid performance. The Panel believes this cadre of career educators would provide the long-term stability and continuity necessary to achieve excellence in education. The Panel said that these educators should be given the opportunity to strengthen their academic credentials and their careers should be managed like other professionals, such as legal and medical professionals. The schools have addressed this recommendation to varying degrees. (See table II.2.)

Table II.2: Military Career Educators at Senior Service Schools

Senior School	Status of Career Educators
Army	The eight tenured positions are filled. Tenured positions are reserved for outstanding teachers and tenured faculty are permitted to remain at the school until retirement. They continue to maintain academic credentials through publishing, attending conferences, and other continuing education forums.
Navy	No such positions have been established. Navy policy does not permit the school to establish a cadre or educational specialty. The school has Army and Air Force career educators on its faculty. The school also relies more heavily on faculty members with operational experience, classroom teaching potential, and an academic background in nominating Navy officers as faculty members.
Air Force	The five career educators positions are filled. These educators are expected to continue to strengthen their credentials through publishing, attending conferences, and continuing education. Promotional opportunities and quality assignments similar to other professionals (legal and medical) as recommended by the Panel are not offered. They are competitive, however, with the military officers who have operational and functional area specialties.

## Faculty Exchange Programs

The Panel recommended that the schools consider using members of service academy faculties on an exchange basis to teach at senior schools. The senior service schools do not have faculty exchange programs as the Panel envisioned. The schools view the academies as undergraduatelevel schools with academically oriented disciplines, and view themselves as graduate-level schools. (See table II.3.)

## Table II.3: Description of Faculty Exchange Programs at the Senior Service Schools

Senior School	Faculty Exchange Program
Army	The school has one academy faculty member as a student in each resident class. This individual also teaches in his/her area of expertise when appropriate and school officials see some benefit in this arrangement.
Navy	A fellowship program has one Army service academy member at the school as a student and faculty member.
Air Force	School officials said no program exists because academy faculty do not possess the comparable expertise needed for the school's curriculum.

### **Student Issues**

## Distinguished Graduate Program

The Panel recommended that all PME schools have distinguished graduate programs. These programs should single out those officers with superior intellectual abilities for positions where they can be best used in the service, in the joint system, or in the national command structure. When the Panel visited the schools, the College of Naval Warfare already had a distinguished graduate program. The other two schools still did not. (See table II.4.)

Table II.4: Summary of Senior Service Schools' Activities Relating to Distinguished Graduate Programs

Senior School	Distinguished Graduate Program
Sellior School	Distriguished Graduate Program
Army	This school does not rank the top percentile of, or identify officers for service, joint, or national command structure assignment. Only 6 percent of eligible officers are selected to attend this school and about two-thirds of the graduating officers were assigned in one of the above areas. School officials said that the objective is to meet or exceed the academic criteria, not achieve a basis of comparison with peers.
Navy	The top 5 percent of each class graduates "with highest distinction" and the next 15 percent "with distinction" designations.
Air Force	The Commandant, Air War College, testified in a hearing before the Panel in April 1991, that the concept of this program will be revisited at the end of academic year 1990-91.

### Officer Efficiency Reports

The Panel recommended using officer efficiency reports to evaluate officer performance rather than training reports. The Panel, in its report, stated that the schools' mission is education, not training. Education involves improving the ability to think, which requires hard work and study, followed by demonstrated performance in writing and classroom discussions. Officer efficiency reports evaluate performance and are a key to the high quality officer corps.

The College of Naval Warfare is using these reports to evaluate officer performance, while the other two schools use other methods. Officials at the Army War College are required by Army policy to use academic evaluation reports for education purposes. The Army's academic evaluation report system is designed to measure the soldier's degree of success within the Army's school and is tailored to meet the unique requirements of a school environment.

Officials at the Air War College stated that training reports are used for student academic accomplishment. They said training reports are geared more toward a school setting, whereas the officer efficiency report is better suited to an operational environment. In addition, they also noted that training reports become a part of an officer's permanent record.

## Reports on Professional Military Education

Professional Military Education (GAO/T-NSIAD-91-4, Feb. 5, 1991).

Marine Corps: Status of Recommendations on Officers' Professional Military Education (GAO/NSIAD-91-88FS, Feb. 12, 1991).

Air Force: Status of Recommendations on Officers' Professional Military Education (GAO/NSIAD-91-122BR, Mar. 13, 1991).

Army: Status of Recommendations on Officers' Professional Military Education (GAO/NSIAD-91-121BR, Mar. 21, 1991).

Navy: Status of Recommendations on Officers' Professional Military Education (GAO/NSIAD-91-124BR, Mar. 25, 1991).

Department of Defense: Professional Military Education at the Four Intermediate Service Schools (GAO/NSIAD-91-182, June 13, 1991).

## Major Contributors to This Report

National Security and			
Internation	onal Affairs		
Division,	Washington,		
D.C.	,		

George E. Breen, Jr., Assistant Director Frank Bowers, Senior Evaluator Meeta Sharma, Staff Evaluator David E. Moser, Staff Evaluator Grace Alexander, Reports Analyst

## Atlanta Regional Office

Al Davis, Regional Management Representative Magdalene Harris, Site Senior Sally Gilley, Staff Evaluator

### **Boston Regional Office**

Carol Patey, Regional Management Representative Jeffrey Rose, Regional Management Representative Morgan Donahue, Site Senior Joseph Rizzo, Staff Evaluator

### Philadelphia Regional Office

Frederick P. German, Regional Management Representative Jim Ungvarsky, Site Senior Doug Sanner, Staff Evaluator

## Glossary

Active Instruction	Teaching method that incorporates such things as reading, research, writing, and attending seminars, thereby requiring the student's participation. This is in contrast to passive instruction, which refers to auditorium lectures, panels, symposiums, and films.
Faculty	Those members of an educational institution who conduct research, or who teach, prepare, or design curricula.
In-Resident Education	That portion of PME received at an intermediate or senior service school and not through a non-resident or correspondence program.
Intermediate Service School	This school is generally the third level of an officer's formal PME and officers with about 10 to 15 years of military experience attend one of the four intermediate schools. (These schools are the U.S. Army Command and General Staff College at Fort Leavenworth, Kansas; the College of Naval Command and Staff in Newport, Rhode Island; the U.S. Air Command and Staff College, Montgomery, Alabama; and the U.S. Marine Corps Command and Staff College in Quantico, Virginia.) An officer is usually at the major rank in the Army, Air Force, and Marine Corps, or lieutenant commander in the Navy. At the intermediate level, the focus is on several branches of the same service as well as on the operations of other services.
Joint Professional Military Education	This education encompasses an officer's knowledge of the use of land, sea, and air forces to achieve a military objective. It also includes different aspects of strategic operations and planning, command and control of combat operations under a combined command, communications, intelligence, and campaign planning. Joint education emphasizes the study of these areas and others from the perspectives of the Army, Navy, Air Force, and Marine Corps services.
Joint School	Joint PME from a joint perspective is taught at the schools of the National Defense University located at Fort McNair in Washington, D.C., and another location in Norfolk, Virginia. For the most part, officers attending a joint school will have already attended an intermediate and/or senior service school.

Joint Specialty Officer	An officer who is educated and experienced in the formulation of strategy and combined military operations to achieve national security objectives.
Operational Art	The employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations.
Phase I	That portion of joint education that is incorporated into the curricula of intermediate and senior level service colleges. Phase I joint education is taught from the perspective of the four services: Army, Navy, Air Force and Marine Corps. The Phase I program is 10 months long with the academic year usually starting in August and ending in June of the following year.
Phase II	That portion of joint education that complements Phase I and is taught at the Armed Forces Staff College. Phase II joint education is taught from a joint perspective in terms of integrating employment and support of all services in the pursuit of national objectives.
Senior Service School	This level is normally attended by lieutenant colonels and colonels in the Army, Air Force, and Marine Corps and by Navy commanders and captains with about 16 to 23 years of military service. The senior service schools generally offer an education in strategy. (The four senior level schools are the Army War College at Carlisle Barracks, Pennsylvania; the College of Naval Warfare in Newport, Rhode Island; the Air War College in Montgomery, Alabama; and the Marine Corps Art of War Studies Program in Quantico, Virginia.)
Service School	One of the individual Army, Navy, Air Force, or Marine Corps intermediate or senior PME institutions.
Strategy	National military strategy is the art and science of employing the Armed Forces of a nation to secure the objectives of national policy by applying force or the threat of force. National security strategy is the art and

Glossary

science of developing and using the political, economic, and psychological powers of a nation, together with its Armed Forces, during peace and war, to secure national objectives.

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