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PANEL ON MILITARY EDUCATION  
OF THE ONE HUNDREDTH CONGRESS

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HOUSE OF REPRESENTATIVES

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PANEL ON MILITARY EDUCATION OF THE ONE HUNDREDTH CONGRESS

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## LETTER OF TRANSMITTAL

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HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
*Washington, DC, April 3, 1989.*

Hon. LES ASPIN,  
*Chairman, Committee on Armed Services,  
House of Representatives, Washington, DC.*

DEAR MR. CHAIRMAN: Attached is the report of the Panel on Military Education.

I would appreciate your approval of the report so that it may be printed.

Sincerely,

IKE SKELTON, *Chairman,  
Panel on Military Education.*

Enclosure.

Approved for printing:  
LES ASPIN.

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
*Washington, DC, November 13, 1987.*

HON. IKE SKELTON,  
*Chairman, Professional Military Education Panel,  
House of Representatives, Washington, DC.*

DEAR IKE: Under the provisions of Committee Rule 6, I hereby appoint a Panel on Military Education of the Committee on Armed Services. I would ask that you serve as chairman of the panel.

I am appointing Mr. Ortiz, Mr. Brennan, Mr. Pickett, Mr. Jack Davis as ranking minority member, Mr. Rowland, and Mr. Kyl to serve as additional members of the panel.

The Panel on Military Education should review Department of Defense plans for implementing the joint professional military education requirements of the Goldwater-Nichols Act with a view toward assuring that this education provides the proper linkage between the Service competent officer and the competent joint officer. The panel should also assess the ability of the current Department of Defense military education system to develop professional military strategists, joint warfighters and tacticians. The panel will report its findings and recommendations, as appropriate, to the committee.

The panel will be established for a period of not more than six months and shall have no legislative jurisdiction.

Sincerely,

LES ASPIN, *Chairman.*

[EDITOR'S NOTE: On November 18, 1987, Chairman Aspin added Rep. Darden as a panel member.]

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# EXECUTIVE SUMMARY

## INTRODUCTION

House Armed Services Committee Chairman Les Aspin appointed Representative Ike Skelton (D-MO) Chairman of a Panel on Military Education. Its charter calls for the panel to assess the ability of the Department of Defense (DOD) professional military education (PME) system to develop officers competent in both strategy and joint (multi-service) matters. In its examination the panel focused on the 10 intermediate and senior PME schools as well as the Capstone course for newly selected general and flag officers (see Chart ES-1).

CHART ES-1—CURRENT PROFESSIONAL MILITARY EDUCATION

(Academic year 1987-88 U.S. Officer Enrollment)

School/Course	Location	Annual U.S. Officer Enrollment
<b>Flag/General officer level:</b>		
Capstone.....	Fort McNair, Washington, DC.....	140
Subtotal.....		140
<b>Senior level:</b>		
National War College <sup>1</sup> .....	Fort McNair, Washington, DC.....	118
Industrial College of the Armed Forces <sup>2</sup> .....	Fort McNair, Washington, DC.....	175
Army War College.....	Carlisle Barracks, PA.....	215
College of Naval Warfare.....	Newport, RI.....	173
Air War College.....	Montgomery, AL.....	183
Subtotal.....		864
<b>Intermediate level:</b>		
Armed Forces Staff College <sup>3</sup> .....	Norfolk, VA.....	488
Army Command and Staff College.....	Fort Leavenworth, KS.....	765
College of Naval Command and Staff.....	Newport, RI.....	162
Air Command and Staff College.....	Montgomery, AL.....	450
Marine Corps Command and Staff College.....	Quantico, VA.....	146
Subtotal.....		2,011
Total annual enrollment.....		3,015

<sup>1</sup> Capstone meets four times per year; enrollment is about 35 officers per class.

<sup>2</sup> Joint (multi-service) schools. They are under the National Defense University.

<sup>3</sup> Armed Forces Staff College meets two times per year; enrollment is about 245 officers per class.

Chapter IV provides details on the purposes, scope, and conduct of the panel's assessment. Chapter II, "Educating Strategists," provides a detailed analysis of the attributes required of strategists and how education can contribute to their development. Chapter III, "Joint Professional Military Education," provides a similar analysis for Joint Specialist Officers (JSO), but also discusses joint

education needed by non-JSOs. Because the educational needs of strategists and joint specialists overlap, Chapter IV, "Alternatives for Educating Joint Specialists and Strategists," consolidates the analysis of alternatives and the panel recommendations on schooling for these officers. Finally, Chapter V, "Quality," describes the panel views on how to improve the quality of PME, a necessary foundation for education both in strategy and joint matters.

The basic judgment of the panel is that the DOD military education system is sound. This was brought home most clearly to the panel during its visits to European military schools. The American military schools are fully comparable to even the most prestigious foreign schools. This judgment, however, in no way diminishes the conviction of the panel that significant improvements can and should be made.

The panel's key recommendations are presented below. More detailed and complete summaries of recommendations can be found at the end of Chapters IV and V. The Secretary of Defense has overall responsibility for PME. As his principal military adviser, the Chairman, Joint Chiefs of Staff (JCS), provides him advice and assistance.

#### KEY RECOMMENDATIONS

**RECOMMENDATION 1.** *Establish a PME framework for Department of Defense schools that specifies and relates the primary educational objectives at each PME level.*

The panel believes that educational objectives should be stated clearly in terms of the level of warfare to be taught.

The DOD Committee on Excellence in Education chaired by Deputy Secretary of Defense William Clements in 1975 also pointed out the need to sharpen the focus of the war colleges. Today, of the officers in PME, more than half at the senior level and more than one-third at the intermediate level are attending either a joint school or the school of another service. The panel commends the Department of Defense for these cross-service mixtures. However, a DOD-wide framework is needed now so that each successive level of schooling can build on the previous levels. In addition, the panel agrees with Admiral William J. Crowe, Jr., Chairman, JCS, that education in joint matters should be shared between service and joint schools. Therefore, the framework should tie together curricula at the joint and service schools.

The panel believes the Chairman, JCS, having specific statutory responsibilities both for joint PME and for formulating policies to coordinate all military education, should develop and formalize this PME framework. Recognizing the responsibilities of the Chairman, JCS, the panel suggests the following conceptual framework.



## CHART ES-2—CONCEPTUAL FRAMEWORK FOR PROFESSIONAL MILITARY EDUCATION

PME level	Primary focus
Flag/General Officer.....	National Security Strategy <sup>1</sup>
Senior.....	National Military Strategy
Intermediate.....	Combined Arms Operations and Joint Operational Art <sup>2</sup>
Primary.....	Branch or Warfare Specialty <sup>3</sup>

<sup>1</sup> National Security Strategy should be taught at the proposed National Center for Strategic Studies, which should have colonel/Navy captains, as well as flag/general officers, in attendance (see recommendation 4).

<sup>2</sup> Combined Arms Operations are operations involving multiple branches. Operational Art is the art of warfare at the theater level. Operational Art is inherently joint, but the adjective "joint" is added to ensure recognition of that fact.

<sup>3</sup> Branch means infantry, armor, etc. Warfare Specialty means surface warfare, submarines, etc.

Chapter IV, "Introduction," provides the rationale for this framework.

**RECOMMENDATION 2.** *Improve the quality of faculty (1) by amending present law to facilitate hiring civilian faculty and (2) through actions by the Chairman, JCS, and the service chiefs to ensure that only high-quality military officers are assigned to faculties.*

The panel believes that the quality of faculty is the key to effective education. Improvements can be made in both civilian and military faculties and will be essential to the success of recommendations below concerning follow-on Phase II Joint Specialty Officer education at the Armed Forces Staff College (AFSC) and the proposed National Center for Strategic Studies.

For civilian faculty, the panel recommends amending Title 10 (10 USC 7478), to give the Secretary of Defense and each service secretary the same flexibility in employing and compensating civilian faculty that the Secretary of the Navy currently has.

For military faculty, the panel believes that the Chairman, JCS, and service chiefs must take the lead to ensure that faculties include a higher percentage of officers who have a clear potential for promotion and/or who have proven records of excellence and possess a specific area expertise. Faculty also should possess advanced degrees and be graduates of the appropriate level resident PME for their rank. The panel recognizes that there are special difficulties in getting quality military faculty for joint schools, especially AFSC. The Chairman, JCS, and service chiefs must resolve these difficulties.

**RECOMMENDATION 3.** *Establish a two-phase Joint Specialist Officer (JSO) education process with Phase I taught in service colleges and a follow-on, temporary-duty Phase II taught at the Armed Forces Staff College (AFSC).*

The most fundamental conclusion of the panel is that joint specialist education should take place in joint schools. Joint schools have equal mixes by military department of faculty and student bodies. They are under the control of the Chairman, JCS, so that joint matters dominate the curriculum and joint viewpoints prevail. This conclusion of the panel coincides with that of our World War II military leaders who determined that joint schools were essential.

The panel recommends that *Phase I* be provided not only to potential JSOs but to *all students* attending a service intermediate

college (or senior college as the need arises). Phase I curriculum should include: capabilities and limitations, doctrine, organizational concepts, and command and control of forces of all services; joint planning processes and systems; and the role of service commands as part of a unified command. The Chairman, JCS, should control and accredit the joint portion of the school, including curriculum, faculty qualifications, and faculty and student mixes.

*Phase II* should be given to *graduates of service colleges en route to assignment as joint specialists*. Its curriculum should build on Phase I. Phase II should concentrate on the integrated deployment and employment of multi-service forces. The course should be long enough to provide time for: (1) studying joint doctrine; (2) using case studies in both developed theaters and undeveloped contingency theaters; (3) increasing the understanding of the four separate service cultures; and (4) developing joint attitudes and perspectives. The last two factors, often referred to as "socialization" or "bonding," require finite, but difficult to determine, lengths of time. Considering the above factors, the panel believes the course should be about 3 months in length.

In principle, the panel recommends that no waivers be granted for Phase I education. Panel witnesses emphasized the first requirement for a successful joint officer is that he be an expert in his service. Intermediate schools contribute significantly to service expertise, especially to ensuring that officers have a comprehensive knowledge beyond their branch or warfare specialty.

Another factor that persuades the panel to oppose exceptions for completion of Phase I is the latitude afforded by the Critical Occupational Specialty (COS) option of the Goldwater-Nichols Act. That option allows officers in thinly manned warfare specialties, such as Navy nuclear propulsion, to acquire full joint duty tour credit with only a 2-year assignment (instead of the normal 3 years) *without requiring joint education*. These assignments also count toward the requirement that 50 percent of joint billets be filled by Joint Specialty Officers (JSO) or JSO nominees.

In the near term, however, the panel recognizes that even with close management of joint specialists, the services, particularly the Navy, may require a limited number of waivers.

The panel recommends that the Secretary of Defense make the determination of whether any waivers are needed. Moreover, the panel believes such waivers should be kept to an absolute minimum and be granted by a level no lower than the Chairman or Vice Chairman, JCS, on a case-by-case basis and for compelling cause. The Secretary of Defense should report annually to the House and Senate Committees on Armed Services listing each waiver and the cause for the waiver. Finally, the panel recommends that each officer waived be required to have completed Phase I by correspondence or satellite course and passed a rigorous test verifying his ability to begin Phase II instruction.

**RECOMMENDATION 4.** *Adopt the proposal being developed by the Chairman, JCS, that the National War College be converted to a National Center for Strategic Studies, as both a research and educational institution.*

The panel believes that the study of strategy requires greater emphasis in the senior schools. The service war colleges should increase their emphasis on national *military* strategy (recommendation 5). At the next higher level is national *security* strategy, which includes the military, economic, diplomatic, and political elements of national power. The National Center for Strategic Studies should focus at this level and study the application of all the elements both in peacetime and during crisis and war.

The panel recommends that four institutions be included in the National Center:

(1) An institute for original thought on national security strategy and secondarily, on national military strategy. It should serve both as a "think tank" that wrestles with problems and issues faced by the Chairman, JCS, and senior civilian officials, and as a magnet for attracting national-level scholars, former high-level government officials, and former senior military leaders for the study and teaching of strategic and joint matters. Individuals associated with this institute would also contribute to the other functions of the National Center.

(2) A year-long school of national security strategy and policy for military officers and senior federal officials from branches, departments, and agencies involved in national security matters. The military officers should number about 50 and range in rank from colonel/Navy captain to major general/rear admiral. Perhaps another 25 high-level civilians from industry, labor, media, universities, and other parts of the government outside the national security arena should participate on a part-time basis, similar to the way the French conduct strategic studies at the Institute for Higher Studies of National Defense (see Appendix D). The military students should be graduates of senior PME schools or comparable programs who have the talent, experience, and potential to serve in senior intergovernmental and multinational security assignments. This school would serve as an advanced course for senior Joint Specialty Officers and others with potential for three- and four-star rank.

(3) An institute for the education of newly selected general and flag officers (Capstone, see recommendation 6).

(4) An institute for conducting seminars, symposiums, and workshops in strategy for both the public and private sectors.

**RECOMMENDATION 5.** *At the senior service colleges (1) make national military strategy the primary focus and (2) increase the mix by service of both the military faculty and military students.*

There are two reasons why the senior service colleges should increase their emphasis on national military strategy from the present 20 to 25 percent of the curricula. First, if the National War College is converted into a National Center for Strategic Studies (recommendation 4) with a primary focus on national *security* strategy and policy, the nation will not have a joint school that has a primary focus on national *military* strategy. Second, the intermediate colleges are increasingly, and correctly, teaching operational art (theater-level warfare), an area now emphasized at the senior schools. As graduates of adequate operational art programs reach

the senior colleges, the senior colleges will be able to convert time now spent on operational art to the study of military strategy.

Because national military strategy is inherently joint, the faculty and student bodies at schools teaching national military strategy should be as mixed by service as possible. Although there are difficulties in obtaining equal mixes, a number of panel witnesses recommended increasing them. As obtainable goals, the panel recommends that the service senior colleges attain mixes approximating 10 percent from each of the other two military departments in their faculty and student bodies by academic year 1989-90 and a 25-percent mix by academic year 1995-96. The Chairman, JCS, should establish a phased plan to achieve the longer term goal.

**RECOMMENDATION 6.** *Implement a substantive Capstone course that includes the study of national security strategy and national military strategy.*

The panel believes that the primary educational focus in the current 6-week long Capstone course for all newly selected general and flag officers should remain a significant component of the course. Capstone should continue to teach joint force planning and employment at the theater level. The panel strongly recommends, however, that the course also contain substantial, rigorous study of national security and national military strategy issues. Capstone's length should be increased to incorporate the additional material. In the panel's view, Capstone should be placed under the aegis of the National Center for Strategic Studies to permit shared use of the National Center faculty and facilities.

**RECOMMENDATION 7.** *Review the Navy military education system to determine whether Navy officers should and can attend both intermediate and senior colleges and whether each Naval War College school should have a more distinct curriculum.*

A "two-block" sequential system, with the senior level building on the teaching of the intermediate level, would provide Navy officers with an education more comparable to the other services. It would also help ensure that all officers going to joint schools, joint assignments, or schools of another service have studied the same levels of warfare. Specific teaching approaches will still vary. The review should evaluate whether or not the tactics, techniques, and procedures taught in the Navy's series of frequent, shorter courses could be consolidated with elements of the College of Naval Command and Staff curriculum in a manner that would fit Navy career patterns.

The panel believes the Chief of Naval Operations should conduct the review. The civilian leadership of both the Department of the Navy and the Department of Defense should, however, exercise oversight because the panel considers the issue to have national security implications for the development of the military officer corps and leadership of all services.

**RECOMMENDATION 8.** *Establish the position of Director of Military Education on the staff of the Chairman, JCS, to support his responsibilities for joint PME and for formulating policies to coordinate all military education.*

The 1945 JCS "General Plan for Postwar Joint Education of the Armed Forces," (JCS 962/2), called for such a position, but it was never established.

The recently created Joint Staff Director of Operational Plans and Interoperability (J-7) was given this responsibility. But his other responsibilities, which include war plans, interoperability, and joint doctrine, are so demanding that he has little time for PME. In fact, the senior Joint Staff position with full-time education responsibilities is at the colonel/Navy captain branch chief level. A more senior officer with the appropriate educational background should oversee tasks such as allocating joint curricula among joint and service schools, accrediting schools for joint PME, periodic joint curricula reviews, establishing joint specialist education policies, and providing high-quality faculty for joint PME. Unlike the President of the National Defense University (NDU), such a director would not be perceived as having divided interests between advising the Chairman and operating the university.

*RECOMMENDATION 9. Require students at both intermediate and senior PME schools to complete frequent essay-type examinations and to write papers and reports that are thoroughly reviewed, critiqued, and graded by faculty.*

The panel believes that such writing and evaluation are essential elements of graduate-level education. Writing requires students to organize their thoughts on specific subjects and to become actively involved in the learning process. Faculty evaluations are part of the learning dialogue and help to establish standards. Graded evaluations will also facilitate determining distinguished graduates and the panel recommends that they be designated at all colleges.

The panel heard arguments that tests fostered harmful competition among students. However, the experiences of the Naval War College and the intermediate colleges do not indicate that any resulting competition is harmful.

#### SUMMARY COMMENTS

The panel believes that the major subject of professional military education should be the employment of combat forces, the conduct of war. Other subjects such as leadership, management, and executive fitness are useful but should be secondary.

The framework of the PME system should divide the spectrum of war so that as an officer becomes responsible for larger units, the schools he attends will focus on larger scale operations. There is an implicit basis for such a framework in the current system. Each service would benefit its intermediate and senior schools by making the framework explicit. The substantial exchange of PME students between services, which the panel believes is beneficial and should increase, is an additional reason for the Chairman, JCS, to make the framework explicit.

The framework that the panel suggests for the consideration of the Chairman, JCS, is to have the primary-level schools ("basic" and "advanced" schools) focus on branch or warfare specialty, as they do now (see Chapter IV).

The intermediate schools should broaden an officer's knowledge to cover other branches of his own service (what the Army calls

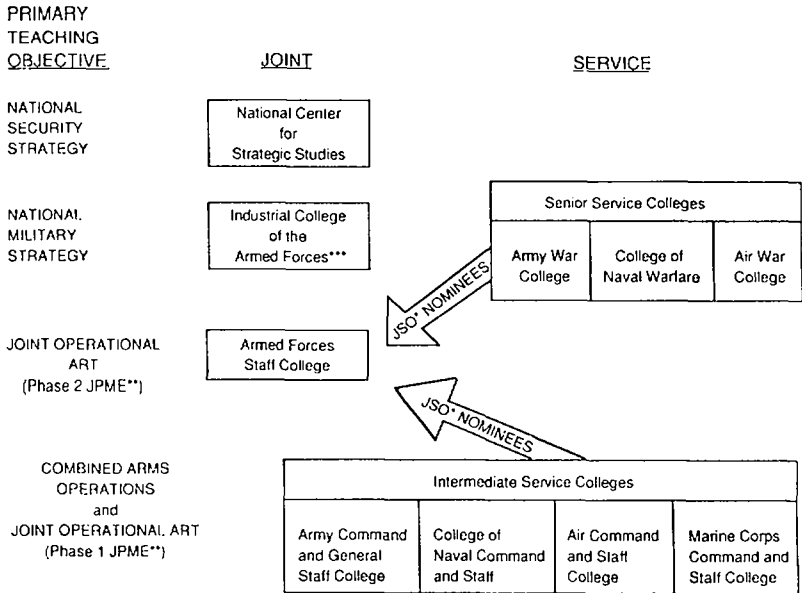
“combined arms”) and other services and should focus on operational art, or theater-level warfare. The panel believes the intermediate schools should also be the principal schools for learning jointness. Everyone who attends service intermediate schools should learn the mechanics of joint matters that all officers should know: other service capabilities, limitations, and doctrines and the relevant joint processes—the Joint Strategic Planning System and the Joint Operations Planning System. The graduates of service schools going to initial assignments as joint specialists (or nominees) should attend a second phase at a joint school, the Armed Forces Staff College (AFSC), which should focus on case studies of joint force employment and inculcate a joint perspective. The most fundamental recommendation of the panel is that this *joint specialist education should be accomplished in a joint school*.

The senior schools should focus on strategy. The panel recommends that the service war colleges increase their emphasis on national *military* strategy. Selected graduates of service war colleges with the talent and potential to work in the national *security* strategy area should attend the proposed National Center for Strategic Studies.

Capstone should continue with its focus on jointness in force employment but add the substantive study of strategy issues. If the emphasis on strategy and jointness recommended by the panel and required by the Goldwater-Nichols Act are fully realized, perhaps 10 years in the future, the mission and need for Capstone should be reexamined.

The successive and progressive framework for PME schools that the panel suggests is shown on Chart ES-3.

**CHART ES-3**  
**RECOMMENDED FRAMEWORK**  
**FOR PROFESSIONAL MILITARY EDUCATION**



\*JSO = Joint Specialty Officer

\*\*JPME = Joint Professional Military Education

\*\*\*ICAF is at the same level as the Senior Service Colleges; its primary teaching objective is in the mobilization area.

### CONCLUSION

The panel believes its recommendations are in conformity with the hard-gained insights and wisdom of American World War II military leaders. During the middle of that war, the Joint Chiefs of Staff created the Army-Navy Staff College (ANSCOL). Its purpose was to increase the numbers of senior officers with the knowledge and skills to employ joint forces. George Marshall, Ernest King, and "Hap" Arnold established the precedent that joint education should be accomplished in joint schools.

The panel believes that two joint schools—the Armed Forces Staff College and the proposed National Center for Strategic Studies—should become the premier schools for teaching joint operations and strategy. The Armed Forces Staff College should become the flagship educational institution that serves as a gateway for

entry into joint specialist assignments, and the National Center for Strategic Studies should stand at the pinnacle of the study of strategy. The panel believes that by adopting this course our country can combine greater operational competence with sound, imaginative strategic thinking.



## CHAPTER I—INTRODUCTION

### ESTABLISHMENT OF THE PANEL ON MILITARY EDUCATION

On November 13, 1987, House Armed Services Committee Chairman Les Aspin established the Panel on Military Education and appointed Rep. Ike Skelton (D-Mo.) as its chairman and Rep. Jack Davis (R-Ill.) its ranking minority member. Other panel members are: Reps. Solomon Ortiz (D-Tex.), George (Buddy) Darden (D-Ga.), Joseph E. Brennan (D-Maine), Owen B. Pickett (D-Va.), John G. Rowland (R-Conn.), and Jon Kyl (R-Ariz.).

#### BACKGROUND

Creation of the panel signifies recognition by the Congress that rigorous, high-quality professional military education (PME) is vital to the national security. It is an investment in the future military leadership for war and peace. Committee interest in PME is a direct consequence of its earlier work, from 1982 until 1986, on defense reorganization. With the passage of the Goldwater-Nichols Department of Defense Reorganization Act of 1986, Congress reached back to the lessons concerning the importance of joint military operations learned by such World War II leaders as Eisenhower, Marshall, and Nimitz and insisted that today's defense establishment reflect their hard-won insights.

The primary objective of the Goldwater-Nichols Act is to strengthen the joint elements of the military, especially the Chairman of the Joint Chiefs of Staff (JCS) and the commanders in chief (CINC) of the combatant commands. The act's primary method is to change organizations and their responsibilities. These organizational changes are centered in Title II, "Military Advice and Command Functions," which designated the Chairman, JCS, "the principal military adviser to the President, the National Security Council, and the Secretary of Defense" and gave the CINCs clear command authority over subordinate commands and forces assigned.

In order to benefit fully from these organizational changes, Congress believed it had to improve the performance of officers assigned to joint elements. The required personnel changes are contained in title IV of the act, "Joint Officer Personnel Policy." These personnel changes are designed to ensure quality and two related factors—experience and education. This study focuses on education.

Education is important both for learning facts and for affecting attitudes and values. Specifically, joint education can broaden an officer's knowledge beyond his own military service to joint, multi-service matters and can help the officer develop a joint perspective. The Goldwater-Nichols Act would enhance joint education both to meet the increased responsibilities of the joint elements and to provide officers with joint perspectives. Education on joint matters is a

basic link between a service competent officer and a joint competent officer. Further, joint education is a major way to change the professional military culture so that officers accept and support the strengthened joint elements.

Using educational change to supplement and reinforce organizational change is not unique to the Goldwater-Nichols Act.

In 1898 the Spanish-American War made it clear that the Army's organization suffered from divided authority that could not meet 20th-century needs. Secretary of War Elihu Root established the Army War College in 1901 and by 1903 had legislation creating a Chief of Staff and an Army General Staff. All three changes increased integration of the Army.

After World War II, the joint schools were established—the National War College and the Industrial College of the Armed Forces in 1946 and the Armed Forces Staff College in 1947. Further, the National Security Act of 1947 (as amended in 1949) created the Secretary and Department of Defense, and formally established the Joint Chiefs of Staff. Again, both the organizational and educational steps were unifying ones.

Military leaders are not the only ones who have emphasized the importance of military education. In fact, it was Winston Churchill in 1946 who best described the contribution of professional military education to U.S. success in World War II:

That you should have been able to preserve the art not only of creating mighty armies almost at the stroke of a wand—but of leading and guiding those armies upon a scale incomparably greater than anything that was prepared for or even dreamed of, constitutes a gift made by the officer corps of the United States to their nation in time of trouble . . . I shall always urge that the tendency in the future should be to prolong courses of instruction at the colleges rather than to abridge them and to equip our young officers with that special technical professional knowledge which soldiers have a right to expect from those who give them orders, if necessary, to go to their deaths. Professional attainment, based upon prolonged study, and collective study at colleges, rank by rank, and age by age—those are the title reeds of the commanders of the future armies, and the secret of future victories.

Recognizing the importance of professional military education, many studies have assessed the schools. Thus, the services have conducted numerous reviews of their PME systems and the Joint Chiefs of Staff have studied service and joint PME, especially during and soon after World War II. The Office of the Secretary of Defense has conducted a few studies, the most notable being the DOD Committee on Excellence in Education chaired by Deputy Secretary of Defense William Clements in 1975. However, the Skelton Panel on Military Education is the first Congressional review of overall professional military education.

#### THE PANEL'S CHARTER

The panel was chartered by Chairman Aspin to study two areas of professional military education. First, it was to "assess the abili-

ty of the current Department of Defense military education system to develop professional military strategists, joint warfighters and tacticians." Second, it was to "review Department of Defense plans for implementing the joint professional military education requirements of the Goldwater-Nichols Act with a view toward assuring that this education provides the proper linkage between the service competent officers and the competent joint officers."

A third area of inquiry, though not stated, was implicit in the terms of the panel's charter and also required explicit examination. This area was the quality of military education. Quality is important because it is the foundation for successful education in both strategy and joint matters. Further, considerations of quality can logically be discussed separately from the other two. Accordingly, this report addresses three PME areas: strategy, jointness, and quality.

### SCOPE OF THE STUDY

To determine where to concentrate its efforts, the panel had to relate the areas of its examination to the levels of existing PME schools. The first level of military education—precommissioning education—is accomplished in service academies, in Reserve Officer Training Corps (ROTC) units at civilian colleges, and at Officer Candidate Schools (OCS).

#### LEVELS OF PME

After commissioning, formal officer PME can generally be categorized into four levels for the purposes of this study:

(1) *Primary Level.* These courses are normally attended within the first 8 years after commissioning and are focused on the officer's branch or specialty. At this level, the Army requires the basic and advanced courses, for example, in infantry or armor. In the Navy, there are warfare specialty courses, for example, the submarine warfare officer or department head courses. Also included in this category are courses that teach leadership and staff skills or introduce officers to aspects of their service outside their specialty. The Army Combined Arms and Services Staff School (CAS3) and Air Force Squadron Officers School (SOS) are typical examples of these schools.

(2) *Intermediate Level.* These courses are normally attended between the 10th to 15th year of service when the officer is a major or lieutenant commander. At the Army intermediate school at Fort Leavenworth, the primary focus is not on how a single branch operates, but how various branches, say infantry, armor, and artillery, fight together, as a "combined arms" team. In addition, the Army school focuses on "operational art," i.e., war at the theater level. The four service command and staff colleges and the joint Armed Forces Staff College (AFSC) comprise this category.

(3) *Senior Level.* These courses are normally attended between the 16th to 23rd year of service when the officer is a lieutenant colonel or colonel (Navy commander or captain). While curricula vary, the war colleges generally study both operational art and strategy. The three service war colleges and the two joint colleges—the National War College and the Industrial College of the

Armed Forces—make up the senior category of schools. The Marine Corps has no senior school; it sends its officers to the other schools.

(4) *General/Flag Officer Level.* In the past, the services created short courses for their flag officers. By the early 1980s many had come to believe that senior officers were not being adequately prepared for joint command and staff responsibilities. Starting in 1983, the Joint Chiefs of Staff established a joint course, called Capstone, for newly selected general and flag officers. Initially Capstone was an optional program, but in 1986 the Goldwater-Nichols Act made it mandatory (with some exceptions) for all newly selected general and flag officers.

During its review, the panel found a broad consensus that as an officer ascended in rank and assumed broader responsibilities, his focus on both joint matters and strategy should increase. Although officers are introduced to both areas in primary-level schools (and precommissioning schools as well), they are not studied in depth until the intermediate level. The panel agrees that the intermediate level is the appropriate point to begin intensive study of joint matters and strategy. Consequently, *the panel's inquiry centered on the highest three PME levels: intermediate, senior, and general/flag officer* (see Executive Summary Chart ES-1).

#### PROGRAMS RELATED TO FORMAL PME

The panel's focus on formal PME excluded detailed enquiry into a number of closely related areas, the most important being the following:

*Experience On-the-Job.* Experience is the most basic and the most in-depth education. However, in the complex national security area, no one can directly experience everything he or she needs to know, especially during peacetime. The panel recognizes that formal education tours essentially are nodes in what should be career-long educational development.

*Self-development.* In his testimony to the panel, Army Chief of Staff General Carl Vuono put the importance of self-development to an officer's career in excellent perspective when he stated that the Army officer education system rests on three fundamental pillars: individual self-development, operational experience, and formal education. Even though this study focuses primarily on formal schooling, the panel fully agrees with the importance of all three pillars. The panel believes that education in schools can and should also play a role in self-development. Schools can acquaint officers with books, journals, faculty, interested fellow students, and other resources, and motivate officers to study on their own.

The panel believes command emphasis is also required to encourage self-development. It commends the many instances it found of such emphasis, but nevertheless believes more should be done. The Army's 1985 "Professional Development of Officers Study" said, "A lifestyle of life-long education is a must, not an option. An officer must be *expected* to study, not allowed to."

*Civilian Universities.* Education in civilian universities can be very useful, especially for studying strategy. Civilian universities can also help in education on joint matters, for example, in the study of military history, area studies, and international relations.

However, civilian universities have difficulty replicating the environment of military schools in terms of selected, experienced officers serving both on the faculties and as students, and in access to current, often classified, military information. The interaction among students with 10 to 25 years' experience in the major subject being taught is a benefit that is unique to PME schools. The role of civilian education in PME is addressed in Chapter II.

*Specialized Joint Military Schools.* The panel did not address in detail specialized joint military schools, such as the Defense Systems Management College at Fort Belvoir, Virginia, and the Defense Intelligence College at Bolling Air Force Base, Washington, D.C. Because approximately 1,200 of the over 8,300 billets on the joint duty assignment list require intelligence officers, the panel initially considered looking at the Defense Intelligence College and the role it could play in joint education. In the end, however, the panel decided that the issue should be left for the military to address after more basic issues are resolved.

*Foreign PME Schools.* The panel recognizes the U.S. military sends a number of students to foreign PME schools. It believes attendance by U.S. students is beneficial. We make excellent contacts and learn different ideas about the employment of forces and teaching PME as well as learning about other countries and their armed forces. While the panel did discuss this education during its visits to European schools, it did not address the subject in detail.

*Service Graduate Education Institutions.* The panel also did not address in detail the two service institutions of graduate education, the Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio, and the Naval Postgraduate School at Monterey, California. Neither school focuses on PME, is under control of a joint authority, or has equal service mixes of faculty and student bodies. Therefore, they would not be appropriate schools for joint education. However, the Naval Postgraduate School does have a Department of National Security Affairs that can contribute to education on strategy. This is discussed in Chapter II.

## HOW THE STUDY WAS CONDUCTED

After the panel was chartered, the House Armed Services Committee established a professional military education panel staff under the guidance of permanent committee staff. The PME panel staff consisted of a permanent committee staff member and four officials assigned for 1 year from the Department of Defense to the panel chairman. These four were representatives from the Office of the Secretary of Defense (OSD) and the three military departments—the Army, Navy, and Air Force. Collectively, they graduated from six of the intermediate and senior military colleges and two of them had been on war college faculties. Besides their knowledge of the military and its PME, they served as conduits for obtaining information from the four services.

The panel reviewed previous studies and collected data and historical studies about the PME system from the Department of Defense. It received briefings from OSD, the Organization of the Joint Chiefs of Staff, and the services, particularly from education and personnel offices. The panel interviewed over 100 current and

former, military and civilian, educators, officials, leaders, and critics. It talked with individuals responsible for education, those conducting it, those employing graduates, and students themselves (see Appendix D for a list of interviewees).

The panel visited all 10 U.S. senior- and intermediate-level PME schools and held hearings with all the school commandants and presidents. It attended classes and talked separately with school faculties, senior staff, and students. The panel supplemented the visits with data, interviews, briefings, previous reports, and other literature.

The panel also heard testimony from the Deputy Secretary of Defense, the Chairman of the Joint Chiefs of Staff, all four service chiefs, four commanders in chief (CINC) of combatant commands, civilian educators, and former service chiefs, CINCs, civilian defense officials, and military educators. In all, 48 witnesses formally testified at 28 hearings in Washington and at the schools (see Appendix C for a list of hearings). A verbatim record of the hearings is published in a separate volume.

The panel also visited or was briefed on the British, French, and German military schools that most closely compare with the U.S. intermediate- and senior-level colleges. In Britain, these were the Royal College of Defence Studies in London; the Joint Service Defence College and the Royal Navy Staff Course, both in Greenwich; the Army Staff College and the Higher Command and Staff College, both in Camberley; and the Royal Air Force Staff College in Bracknell.

In France, the panel visited the Center for Higher Military Studies (CHEM) and its associated civilian Institute of Higher National Defense Studies (IHEDN); the Army/Navy/Air Force/Joint Senior Staff Colleges; and the Allied Staff College, all in Paris.

In West Germany, the panel visited the Fuhrungsakademie (called in English the General/Admiral Staff College) in Hamburg.

The Congressional Research Service (CRS) of the Library of Congress and the General Accounting Office (GAO) provided editorial assistance. The panel especially appreciates the work of Robert L. Goldich of CRS and Douglas E. Cole of GAO.

## ASSUMPTIONS

This inquiry accepts the provisions of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Public Law 99-433, October 1, 1986), as amended, and its intent as understood by the panel. In fact, the panel members' acceptance and support of the intent of title IV of the act, "Joint Officer Personnel Policy," to establish a category of officers called Joint Specialty Officers (JSO), was a major factor in shaping the conclusions and recommendations of study.

The panel also accepts as a given for its study the size—about 8,300 positions—of the Joint Duty Assignment (JDA) list established by the Secretary of Defense in response to a Goldwater-Nichols Act requirement. Therefore, all the educational alternatives the study considered had to be able to meet the educational requirements of that number of positions.

Despite acceptance of the JDA list for purposes of the study, the panel believes the list, which is far larger than originally expected, can and should be both improved and reduced significantly. In the first place the list was not compiled using a position-by-position analysis as Congress expected. Instead it was compiled using a method that invited the inflation that occurred—counting as joint positions either 100 percent of those in joint organizations directly responsible for joint planning and employment (joint staffs and OSD) or 50 percent of those in joint organizations providing support for joint planning and employment (defense agencies). The panel believes that a position-by-position review would reduce the list's size. Moreover, because the number of officers who require education in a joint school is calculated from the JDA list, a reduction would also decrease the requirement for joint specialty officer education and could, thus, save money.

The panel also assumes that Coast Guard, National Guard, and Reserve officers will continue to participate in PME schooling as in the past. It believes these officers are an important part of our "total force" and must have opportunities for PME.

### OVERALL PANEL VIEWS

Chapters IV and V analyze and present the panel's views on its three principal areas of investigation—strategy, jointness, and quality. However, the panel developed certain views that are essential to understanding the remainder of the report.

*First*, professional military education is vital to our national security. This fundamental view was reconfirmed during all of our visits. There are two steps to the logic of why PME is vital. One is the necessity of preparation for war. As our first Commander in Chief, George Washington, said "to be prepared for war is one of the most effectual means of preserving peace." Second, officer professional military education is an essential part of that preparation. In *The Military Policy of the United States*, published in 1904, civil war brevet Major General Emory Upton, wrote:

In every military system which has triumphed in modern war the officers have been recognized as the brains of the army; and to prepare them for their trust, governments have spared no pains to give them special education and training.

*Second*, the panel believes that PME is becoming increasingly important. A former Army Chief of Staff observed that technological change alone, not to mention political, social, and international turmoil, requires that our officer corps receive more education. The 1988 Report of the Commission on Integrated Long-Term Strategy, *Discriminate Deterrence*, highlighted future technology's potential impact:

Dramatic developments in military technology appear feasible over the next twenty years . . . these developments could require major revisions in military doctrines and force structures.

A case can be made that if in the future resources constraints become tighter, better PME can help offset these constraints. After World War II, former Secretary of War Robert Patterson observed:

. . . in the 1920's and 1930's the Army was too poor to hold maneuvers. Schools cost very little, so the Army, denied the training opportunities afforded by maneuvers, went the limit in sending soldiers to school. It never made a better investment.

*Third*, the panel occasionally heard the argument that requirements to serve operational tours preclude the best officers from attending PME schools. "If the best officers are sent to school, readiness will suffer," the panel was told. The panel believes, however, that the best officers can and should have both operational duty and education. While today's readiness may suffer slightly when a fine commander goes to school, when he returns from school his increased knowledge should mean higher future payoffs. Particularly if PME focuses on warfighting, we can help avoid the difficulty Maurice Comte de Saxe identified when he said:

Few men occupy themselves in the higher problems of war. They pass their lives drilling troops and believe this is the only branch of the military art. When they arrive at the command of armies they are totally ignorant, and *in default knowing what should be done—they do what they know.*

A related view on the need for both field experience and education is given by the noted British soldier and author of the last century, Sir William Francis Butler:

The nation that will insist on drawing a broad line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards.

A modern perspective was expressed by Chairman of the Joint Chiefs of Staff, Admiral William J. Crowe, Jr., who wrote in the spring 1987 edition of *Parameters*:

Our instincts work all too often in favor of improving capabilities for action, while capacities for reflection languish and atrophy. I can testify that the military half of the great American civil-military partnership is especially vulnerable to capture by these dynamics. In today's world it would be a tragedy to neglect the intellectual dimensions of leadership, and we must continue the fight to keep the war colleges not only healthy but constantly improving and intellectually expanding.

*Fourth*, a basic judgment of the panel is that the DOD military education system is sound. This was brought home clearly to the panel during its visits to European military schools. The American military schools are fully comparable with the prestigious foreign schools the panel saw.

The panel was impressed with the presidents and commandants of our military colleges. Some are exceptionally able, and their ef-



forts to improve their schools were apparent. Many faculty members were outstanding and obviously dedicated to teaching. The student bodies universally were first rate. Even within this high overall quality, certain aspects stood out as examples worth emulating. One was the outstanding civilian faculty and strategy curriculum at the Naval War College at Newport, Rhode Island. Another was the Army's School of Advanced Military Studies (SAMS) at Fort Leavenworth, Kansas, with its knowledgeable and enthusiastic seminars focused sharply on operational art—theater-level war-fighting.

*Fifth*, our basic view is that despite the soundness of the system, improvements can be made. The following chapters contain alternatives and recommendations for improving PME in strategy, joint matters, and quality.

One needed improvement transcends these three subject areas: the Department of Defense should have a clear and coherent conceptual framework for the PME school system as a whole.

### CONCEPTUAL FRAMEWORK FOR PME SCHOOLS

What does a “conceptual framework for PME schools” mean and why is it important? As used by the panel, such a framework consists of at least four elements. First, the framework identifies the levels of professional schooling (e.g., primary, intermediate, senior, and flag/general officer). Second, it clearly and distinctly establishes the primary focus of each level in terms of its primary teaching objective (in military terms, its “mission”). Third, the framework links the education levels together into an overall structure, relating the principal teaching objectives so that each level of school prepares officers for the next level as they progress through the system. Fourth, the framework identifies the unique contribution of each school within its level. The resulting framework should clearly distinguish and relate the primary focus of each of the 10 intermediate and senior schools plus general/flag officer courses.

#### NEED FOR PME FRAMEWORK WITH DISTINCT TEACHING OBJECTIVES

The panel believes that for a number of reasons distinct primary teaching objectives are needed. First, they clarify purposes. General Andrew Goodpaster, USA (Ret.), formerly Supreme Allied Commander Europe, Superintendent of the U.S. Military Academy, and Commandant of the National War College, said:

In fact, until you're clear about the purpose in institutions of that kind, you run the risk of diffusion of effort and lack of clear sense on the part of all the participants, as to just what is it they're trying to do.

The clearer, sharper and more distinct that primary mission is, the better the school can carry it out.

Second, they ensure coherence so that each succeeding level of school builds on the earlier level and avoids *unnecessary* overlap. The panel recognizes that there is need for overlap in the PME system, but it should be consciously chosen and not be the result of unclear mission statements.

Third, distinct teaching objectives avoid gaps in needed education. For example, the past failure to teach theater-level warfare (operational art) may have been partly related to the absence of a clear focus at each level of school.

Fourth, they facilitate cross-service officer education. This is even more important now than in the past because today *over half of the officers in senior schools attend either a joint or other-service school*, as do over one-third of the officers in intermediate schools. The panel believes this cross-service education contributes significantly to jointness and should increase.

#### SHORTCOMINGS OF THE CURRENT PME FRAMEWORK

Establishing a coherent PME system is the legal responsibility of both the Secretary of Defense and the Chairman, JCS. Title 10 US Code makes the Chairman responsible for "formulating policies for coordinating the military education and training of members of the armed forces." Since passage of the Goldwater-Nichols Act, it also assigns specific responsibility for *joint* military education to the Secretary of Defense, with the advice and assistance of the Chairman, JCS.

In fulfilling the coordination functions, the Chairman has issued the "Joint Professional Military Education Policy Document" (SM-189-84, March 23, 1984). The document, whose stated purpose is to provide a framework for professional military education, provides both general objectives for all PME programs and specific objectives for each level. The policy document has two flaws.

First, it lists six specific PME objectives at the intermediate level and eight at the senior level, but establishes no priorities among them. With so many unprioritized objectives, each school can choose its own primary focus.

Second, even the specific objectives for the intermediate- and senior-level schools are stated in such general terms that they do not provide a sharp enough focus for either level. An example is the document's objectives for joint and combined warfare. At the intermediate level the objective is "to provide a basic understanding of joint and combined warfare." At the senior level the objective is "to provide knowledge about, and to enhance individual capability to participate in, the planning and employment of joint and combined forces." Again, this vagueness gives the schools too much latitude to decide what they will concentrate on.

In short, the panel finds that the Joint PME Policy Document is not a useful framework for coordinating PME because it contains indistinct teaching objectives. The present school system is the result and it is not a coherent system. In these judgments, the panel is not alone.

For example, the President of the National Defense University, Lieutenant General Bradley Hosmer, said in testifying before the panel:

I think it is fair to describe PME as a whole as a collection of individual organizations and missions which have grown up quite properly addressing individual problems. The service colleges have responded to service requirements for professional military education and have done so

very well. But backing off and looking at the system as a whole, what I see are piecemeal answers to piecemeal problems.

In 1975 the DOD Committee on Excellence in Education, chaired by the Deputy Secretary of Defense William Clements, also found this lack of sharp focus or distinct teaching objectives. About the senior colleges, it reported:

The criticism is that in spite of a degree of individual focus inherent in each college by virtue of its title and the vernacular of its subjects, the depth and concentration actually devoted to each particular field is not on a level requisite for national educational institutions devoted to excellence in these fields. To the extent that criticism is valid, the Committee considers the appropriate response to be a *sharpening of focus and a deepening of true expertise* in the avowed mission fields. (Italics added.)

Whatever the historic reason for the "piecemeal" structure of PME, the panel agrees that a sharpening of focus is still required not only for the senior colleges but also for the intermediate colleges.

As the quote from the Clements' report suggests, there is an implicit basis for a framework in the current PME system. The difficulty is that the current focus of each level is not explicit and clear. The results in the current system are a lack of concentration on what should be the primary focus, a diffusion of efforts, and unnecessary redundancy. In military strategy terms, there has not been a determination of the "center of gravity" in the curricula on which each level of schools should focus.

To solve these problems, the panel believes a framework that has distinct primary teaching objectives and that integrates the PME schools into a coherent system should be developed and implemented. To establish and codify the PME framework, the Chairman, JCS, should revise the "Joint Professional Military Education Policy Document" with more specific objectives for the entire PME system.

After Chapters II and III examine education in strategy and joint matters respectively, Chapter IV evaluates alternatives and presents a proposal with a clear, coherent PME framework. Chapter V examines and presents recommendations on quality, which serves as a foundation for education in both strategy and joint matters.

## RECOMMENDATIONS

1. The Department of Defense should develop and implement a clear and coherent conceptual framework for the professional military education school system. The framework should have distinct primary teaching objectives. It should clearly distinguish and relate the role of each of the 10 PME schools plus general/flag officer courses. Each level of schooling and each school should have a primary focus that provides students with a foundation for future growth through experience and operational and staff assignments and through additional education at high-level PME schools.

2. The Chairman, JCS, should revise the "Joint Professional Military Education Policy Document" to establish and codify the PME framework with more specific objectives for the entire PME system.

3. The joint duty assignment list, which is far larger than originally expected, can and should be both improved and reduced significantly.

## CHAPTER II—EDUCATING STRATEGISTS

### INTRODUCTION

A major part of the panel's effort was directed at assessing how well the current professional military education system encourages strategic thinking and the development of strategists. The panel's focus on strategy was prompted by a perception of shortcomings in the formulation and articulation of U.S. strategy and a concern about whether the PME system is nurturing officers, as it did in the past, who can contribute to both the development and execution of U.S. military and national security strategy.

Although the panel does not necessarily agree with those who criticize U.S. strategy, it does believe that U.S. strategy is too important to leave to chance. Recognizing that the formulation of a national strategy is essentially a political process, the panel nonetheless believes that:

—Well-educated military officers who can think strategically have an important contribution to make to the development of strategy.

—There is an overwhelming need for the military education system to improve its contribution to strategic thinking.

In the past, geography and technology enabled the United States to wait until wartime to draw upon the strategic vision of its military leaders. However, the era of violent peace that emerged after World War II has created a need for military officers who can contribute their strategic vision during peacetime. The panel, by its emphasis on strategy, intends to underscore the fact that the development of officers who can think strategically is as vitally important to U.S. security as effective weapons systems and adequate supplies of munitions.

In making its assessment, the panel first focused on the *definition* of the term "strategy" and the *attributes* of a "strategist." This effort helped the panel to understand better the contribution of education, and particularly professional military education, to the development of strategic thinkers. The panel was then in a position to examine the adequacy of the strategy curricula at the senior PME schools. Finally, the panel looked at how carefully the Department of Defense manages what will even in the best of circumstances be a very scarce resource—military officers who think strategically. Following a brief discussion of the adequacy of U.S. strategic thinking and the contribution of military officers to its development, this chapter addresses each of the above subjects in turn.

## MILITARY PARTICIPATION IN STRATEGIC THINKING

Critics of U.S. strategic thinking often point to specific incidents involving the use of military force or to issues concerning the linkage between military force and national goals. Examples frequently cited by such critics include:

- The American experience in Vietnam.
- The concern that U.S. military capabilities are inappropriately skewed toward unlikely contingencies and as a result, are inadequate for more probable low-intensity conflict.
- The belief that inadequate attention is paid to the arms control implications of defense policy.
- The lack of attention paid to the affordability of weapons systems or force structure.
- The tendency for the annual defense debate to focus on the number of fighters, tanks, and frigates with too little consideration of how individual weapons systems contribute to either our military capability or our overall national security objectives.

Some experts have even questioned whether the U.S. has a clearly articulated national security strategy. For example, House Armed Services Committee Chairman Les Aspin is among those who see the need to shift the emphasis of the debate over defense policy from the weapons we buy to the strategy we employ to secure our national objectives. According to Chairman Aspin, decisions on military forces are only tenuously related to overall national security objectives:

Anyone with the barest knowledge of military history knows you don't prevail with weapons alone; you have to start with a strategy. Right now, I fear, our strategy is be everywhere and do everything. That's no strategy; that's a prescription for disaster.

Historically, according to some scholars, the formulation and execution of U.S. military policy has been hindered by a difficulty in clearly linking military policy with a strategic perspective. This school sees the American tradition of pragmatism—in the words of de Tocqueville, the tendency to “take a straight and short road to practical results”—as impeding strategic thinking. Strategic thinking requires the connection of diverse but interrelated issues into a systematic pattern.

In the panel's view, a related problem has impeded a more noteworthy contribution to strategic thinking by U.S. military officers. Service interests, unenlightened by a larger perspective, have tended to dominate the development of U.S. military policy. A major objective of the Goldwater-Nichols Act, as discussed in Chapter I, is to encourage a larger perspective on the part of the military officer corps. In this context, the strengthening of joint institutions and joint military advice (in contrast to narrower service viewpoints) is closely related to the panel's focus on how well the PME system is encouraging military officers to think strategically.

Does professional military education still nurture strategic thinkers? Does our military spend so much time studying tactics and weapons systems that there is no time for strategic thinking? A fundamental concern that contributed to the panel's focus on strategy is the perception that Hiroshima and Nagasaki marked not only the dawn of the nuclear era but also the beginning of a decline in the contribution of military officers to the development of U.S. strategy. With few exceptions, military officers have been absent from the ranks of prominent post-World War II strategic thinkers.

In this respect, the last 40 years differ from the more distant past. The United States has been blessed during its history with military leaders who were also outstanding strategic thinkers: the father of modern naval strategy, Admiral Alfred Thayer Mahan; the architect of victory during World War II, General George C. Marshall; and the man responsible for the theoretical basis of today's NATO strategy of flexible response, General Maxwell D. Taylor. Each of these officers made a profound and lasting contribution to national security by stimulating debate over U.S. strategy or by sound and imaginative strategic advice to American political leaders. As they matured professionally, these officers were given the opportunity and encouragement to think strategically.

The 1930s appear to have been a relative high-water mark for the education and development of military thought in the United States. Many retired officers interviewed by the panel pointed out that prior to World War II attendance at an intermediate or senior military school was considered a necessary tour of duty and even a reward. Many renowned World War II military leaders such as Eisenhower, Nimitz, Arnold, and Bradley attended a senior PME school. Admiral Halsey, who commanded the Central Pacific amphibious campaign against the Japanese, attended both the Army and the Navy war colleges. Subsequent assignment as a faculty member was highly prized duty reserved for only the very best officers. For example, General Marshall taught at the Army War College and was the Assistant Commandant of the Army Infantry School; Admiral King was the head of the post-graduate department at the Naval Academy.

The panel appreciates that the basic formulation of a national security strategy—of which military strategy is only one component—is essentially a political process. It firmly believes, however, that civilian leadership needs and should be able to draw upon military advice that is solidly grounded in an appreciation of overall U.S. national security goals.

#### WHAT IS STRATEGY?

Although an assessment of how our military education system develops strategists was a specific task of the panel, defining the term "strategy" was not. For the purposes of this report, however, it was necessary to define the term strategy as used by the panel.

Witnesses before the panel defined strategy in numerous ways, but there was a basic concept underlying each of their definitions: that strategy is the link that translates power into the achievement of objectives. For its purposes, the panel found it useful to dif-

ferentiate between two specific types of strategy—national *security* strategy and national *military* strategy—and between operational art and tactics.

Both national security strategy and national military strategy focus on the relationship between means and ends, but the former encompasses a wider range of factors. For purposes of this report, the panel adopted the Joint Chiefs of Staff definitions (JCS Publication 1.02) of military strategy and national strategy (which are referred to throughout the panel's report as national military strategy and national security strategy):

*National Military Strategy.* The art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force or the threat of force.

*National Security Strategy.* The art and 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.

As these definitions suggest, strategy encompasses the development of military capabilities that would be effective in preserving *peace*, during a *war*, and in an intermediate range of *crisis* situations. In other words, military strategy must address uses of the armed forces in peacetime to forestall war as well as the application of force during hostilities to achieve national security goals. As will be discussed later in this chapter, the panel believes that the distinction between national military and national security strategy has important implications for the PME system, one of whose goals is to encourage the development of strategic thinking.

Apart from national security and national military strategy, which the panel views as national-level endeavors, the panel also found it necessary to be specific about operational art, a concept also used in reference to the employment of armed forces and the achievement of objectives. JCS Pub. 1.02 contains no definition of operational art. The panel used the Army Field Manual (FM 100-5) definition:

*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.

Operational art focuses on the employment of large military formations, larger than corps and normally from all the services. It is at the level of operational art that national military strategy is translated into the specific forces and employment plans needed to prevail in a campaign.

Tactics involve smaller military units—for example, an Army company or even an entire corps—and the achievement of specific battlefield objectives. Tactics, then—in contrast to operational art—focus on a narrower, more specific range of goals.

What is termed “operational art” today could be considered roughly equivalent to the 19th-century concept of strategy. As military forces grew in size and complexity and wars became global conflicts, the scope of what is meant by “military strategy” in-



creased. Nevertheless, the need to plan and develop doctrine for geographically defined theaters of war continued. That is now the province of operational art.

National security and national military strategy, operational art, and tactics all contribute to and are influenced by one another. For example, U.S. national military strategy must be affordable, must reflect arms control considerations, and must factor in alliance concerns and contributions—all issues that are of concern to military strategists *and* also to national security strategists, those who look at the military input as only one component of an overall national strategy. As a result of these types of interrelationships, the study of each of the above subjects cannot be neatly confined to one level of professional military education. But the area of concentration, the “center of gravity,” of the various PME levels should be focused on one subject, as discussed in Chapter I. Moreover, the 10 PME schools should be linked together by a conceptual framework in which any overlap is conscious rather than the result of unclear mission statements.

### ATTRIBUTES OF A STRATEGIST

Scholars have long remarked about the educational and professional diversity among innovative strategists such as Carl von Clausewitz, Alfred Mahan, Giulio Douhet, Bernard Brodie, and Herman Kahn.<sup>1</sup> Given this notable diversity, do strategists have any shared attributes? John Collins, a Senior Specialist in National Defense at the Library of Congress, has written that strategists, despite diverse backgrounds, generally do share a common set of attributes. Many of the characteristics he identifies were also mentioned by other witnesses and individuals interviewed by panel staff.

From the numerous attributes identified, the panel has distilled four characteristics—prerequisites, if you will—of the “ideal” strategist.

First, a true strategist must be *analytical*. He has to be able to move beyond isolated facts or competency in any given subject area to see and develop interrelationships.

Second, he must be *pragmatic*. The accelerated pace of change in today’s world, especially technological change, is self-evident. A true strategist is on top of emerging trends and aware of the need to constantly revalidate his strategic constructs.

Third, he must be *innovative*. Fashioning strategies is, after all, a creative process—one that frequently challenges the status quo.

Fourth, he must be *broadly educated*. Thinking strategically requires individuals who are generalists rather than specialists. Given the potential impact of many different subject areas on stra-

<sup>1</sup> Briefly, Clausewitz was a 19th-century Prussian military officer whose magnum opus, *On War*, analyzed and codified the methods of warfare; Mahan was a 19th-century American naval officer whose military career led him to the Naval War College where he wrote *The Influence of Sea Power upon History, 1660-1783*; Douhet was an early 20th-century Italian military officer who recognized the potential of air power; Bernard Brodie contributed to the first major academic work on nuclear strategy, *The Absolute Weapon*, published in 1946, and wrote the first influential textbook on the subject, *Strategy in the Missile Age*; Kahn was a contemporary political-military theorist and nuclear strategist who is perhaps best known for his book *On Thermonuclear War*.

tegic thinking—trends in political, technological, economic, scientific, and social issues, both domestic and international—strategists must have the broadest possible educational base.

Few officers possess all of these attributes. It is rare to find individuals capable of a high degree of conceptualization and innovation—the attributes that most distinguish the theoretical from the applied strategist. Fortunately, the objective of the PME system is *not* the creation of a *large* pool of military officers who are strategists on the order of a Mahan. In the view of the panel, only a small number of genuine theoretical strategists are needed. More officers, however, can and should become skilled in the application of strategy. As John Collins noted in his testimony before the panel:

Strategy, like science and technology, occupies two planes, one basic, the other applied. Theoreticians must feed fresh concepts to practical problem solvers, who otherwise would starve intellectually. The U.S. military education system should develop both.

Practical problem solvers—applied strategists—should be relatively easier to nurture and more numerous. A large number of the nearly 1,100 general and flag officers should be applied strategists.

Overall, the panel believes that it is within the capacity of the military education system to produce applied strategists and to identify and nurture theoretical strategists. Thus the goals of the PME system with respect to strategists should be two-fold: (1) to improve the quality of strategic thinking among senior military officers and (2) to encourage the development of a more limited number of bona fide theoretical strategists. The panel believes that these goals are realistic and achievable.

### DEVELOPING STRATEGISTS

In attempting to answer the question of how strategists are developed, the panel found it necessary to address four questions:

How important is education?

What type of education is relevant?

What are the roles of PME schools as compared to other institutions?

What type of faculty is needed?

The panel believes that the answers to each of these questions are important for optimizing the contribution of education to the development of strategists.

#### HOW IMPORTANT IS EDUCATION?

Panel witnesses identified three major components in the development of a strategist—talent, experience, and education. In the panel's view, the selection, assignment, and education systems need to be better coordinated in order to maximize the inherent synergy of these three factors. In addition, the work of the panel suggests that much more can be done to make PME relevant to the development of both strategic thought and strategists. Although the panel focused its effort on the educational component, a few comments on the relationship of the three components are in order.

Innate talent probably is the most fundamental component for the development of a strategist. Officers who are intelligent, imaginative, articulate, and interested in studying strategy must be identified as early as possible during their careers so that their development can be facilitated by appropriate personnel policies.

Talent alone is insufficient; it must be reinforced by both *appropriate* experience and *relevant* education. A former Army Chief of Staff told the panel that both assignments and schooling help to build on the natural abilities of potential strategists. The development of a strategist such as General George C. Marshall was, in his view, the result of Marshall's (1) being taught to think broadly and (2) taking the time to read extensively and reflect on that reading. In a similar vein, Admiral Bobby Inman, former Director of the National Security Agency, stressed that in addition to the academic foundation provided by the PME system, future strategists also need firsthand experience in how the real world works.

A later section in this chapter discusses how DOD can better capitalize on the experience factor. The remainder of this section addresses the panel's views on how education should contribute to the development of strategists.

#### RELEVANT EDUCATION AND THE ROLE OF PME SCHOOLS

The broad goals of the educational system that must nurture the development of strategic thinkers are closely related to the attributes of a strategist discussed earlier.

Both the constituent schools and the education system as a whole should emphasize analysis, foster critical examination, encourage creativity, and provide a progressively broader educational experience with each level of schooling building on the previous level. All students—regardless of whether or not they have the potential to think strategically or to develop into *bona fide* strategists—would benefit from this approach to education.

Beyond this broad generalization, what specific expertise should potential strategists be developing as they progress through various schools both within and outside of the PME system? The panel believes that there are three "building blocks" for strategists:

The first educational building block in the development of a strategist is a *firm grasp of an officer's own service, sister services, and joint commands*. To the extent such expertise can be obtained through education, it must be found in PME schools. Furthermore, officers seeking to develop their capacity for strategic analysis must remain professionally current, that is, keep up with the rapid pace of technological change. The panel recognizes that to some extent maintaining this currency competes with the education and experience required of a strategist. A retired general interviewed by the panel stressed that the complexity of today's weapons systems requires officers to spend more time both in the field and in school learning how to operate those systems. The panel firmly believes, however, that some officers are capable of becoming competent in their warfare skills *and* of developing the competencies required of a true strategist. For this reason, the panel believes that it is especially important to identify such officers as early as possible in their careers.

The second educational building block for strategists is a *clear understanding of tactics and operational art*. Knowledge in the employment of combat forces is a prerequisite to the development of national *military* strategy. Furthermore, those military strategists who can contribute to the formulation of national security strategy should also possess expertise in the various skills required to employ combat forces. Force employment is clearly a subject area that the PME system can make an important contribution to and, as will be recommended in Chapter IV, it should be the primary subject matter of PME schools.

The third educational building block is an *understanding of the relationship between the disciplines of history, international relations, political science, and economics*. Each of these disciplines is critical to the formulation of strategy.

*History*, or more specifically the lessons of history, provides insights into how nations have adapted their military and security strategies over time to deal with changing domestic and international environments. Strategy is, after all, dynamic. It must take into account changing realities and circumstances. Military history is especially important. The history of combat operations, including an understanding of why a commander chose a given alternative, is at the heart of education in strategy.

*International relations* provides an understanding of the framework in which both military and national security strategies must be developed. Worldwide political, economic, military, and social trends have a basic impact both on national goals and how a nation seeks to achieve them. Foreign area studies are also important; a strategist must be knowledgeable about both U.S. adversaries and allies and familiar with regions in which there is a potential for conflict.

*Political science* provides an understanding of the basic values of different societies and how they develop a consensus on goals. Such insights are critical if U.S. strategy is to influence successfully the policies of other nations. Specialties within political science, such as national security studies, are directly relevant to the development of strategists. Finally, conflicts between nations require an understanding of political objectives. The political dimension of conflict is particularly important with respect to low intensity conflict and terrorism, both of which frequently entail political responses.

*Economics*, including international economics, provides insights into how changes in growth and prosperity can affect national power. The soaring or plummeting value of the dollar, U.S. budget deficits, the emergence of Japan as an economic superpower, and the trauma caused by large increases in the price of oil are but a few examples of economic issues that can affect U.S. military strategy and national power. In any future large-scale conflict, the United States, no longer by itself the "arsenal of democracy," would need the help of its allies.

Together, these disciplines constitute related components of national security strategy. Although the panel is convinced that national security strategy from a military perspective should be the primary focus of the National War College or the proposed Nation-

al Center for Strategic Studies, potential strategists cannot wait until the end of their field grade years, when they would normally be selected to attend such a school, to begin developing a competency in these disciplines.

At what schools and at what point in the career of a potential strategist should competency in these disciplines be developed? The panel believes that if military officers are to contribute to the development of national military and national security strategy, they must look outside the PME system to develop competencies that PME schools cannot and should not be expected to impart.

Fortunately, the services already afford some officers the opportunity for educational development outside the formal PME system. For example, all of the services send selected officers to prestigious civilian graduate schools and encourage officers to accept Rhodes, Olmstead, and other scholarships. While in graduate school officers often study disciplines related to strategy such as history (including military history), political science, international relations, and economics. They are usually awarded master's degrees and a few receive doctorates. Admiral William J. Crowe, Jr., Chairman of the Joint Chiefs of Staff, who earned a Ph.D. from Princeton University, testified that officer participation in civilian education programs is beneficial and that, in his view, these programs should continue.

Original and independent strategic thinkers can be shaped and molded by a variety of educational experiences, but PME must be an important part of these diverse experiences. The first two educational building blocks for a strategist can be provided only by military schools. Education outside the PME system may be necessary for the development of strategists, but it should not be viewed as a substitute for professional military education. Retired Army General Andrew Goodpaster, who also received a doctorate from Princeton, expressed this view in stating that educational opportunities at civilian universities are very beneficial and should continue to be pursued, but not to the extent that the service and joint education programs suffer.

The panel also recognizes that there are several military education and research programs that both use and contribute to the development of strategy and military strategists. The Army's Strategic Studies Institute, the Navy's Strategic Studies Group, and the National Defense University's Strategic Concepts Development Center can be valuable programs. They allow small groups of individuals to concentrate on specific issues of strategic importance in a setting that is relatively free of the press of day-to-day business. The panel believes, however, that to ensure that only experienced and appropriately educated officers participate, these programs should be more selective. The goals are to encourage noteworthy contributions to strategic thinking and at the same time to further the development of potential strategists, not to reward competent officers without that potential.

Concerning the relevance and quality of contributions made by strategic study groups or similar programs, it is the panel's impression that their products have at times been insular and self-serving. Their value to national policymakers is limited because study results are seldom debated by an audience outside the sponsoring

service. One suggestion to overcome this insularity and make the products more relevant to policymakers would be to expose the products to scrutiny and debate. The panel recommends that the Chairman, JCS, sponsor a yearly conference, hosted by the National War College (or the National Center for Strategic Studies), to discuss the best individual studies on strategy and related subjects produced by the study groups, students, and faculties of the five senior colleges. The presence of key national security strategy decisionmakers at such a symposium would also help to stimulate a more relevant, higher quality product. See Chapter IV for additional discussion.

Finally, the panel recognizes that graduate-level education obtained at the Naval Postgraduate School or provided by private universities under the sponsorship of the Air Force Institute of Technology may also contribute to the education of strategists. The Naval Postgraduate School offers degrees in national security affairs and in other areas of study directly related to strategy such as international organizations and areas studies.

#### WHAT TYPE OF FACULTY IS NEEDED?

The nature and caliber of faculty are key to the development of strategic thinking and true strategists. The panel found that faculty quality at PME schools varies significantly and needs to be improved. Chapter V addresses this issue more comprehensively. It also identifies two restrictions on faculty compensation, both rooted in law, that are obstacles to improving the quality of faculty at PME schools. A few comments on the attributes of the faculty at the senior PME schools that focus on national military and national security strategy are provided here.

The panel's hearings suggest the faculty of such schools should consist of a select mix of civilian scholars, active duty military officers, and a few retired senior military commanders.

To ensure that students have access to the depth of knowledge that only a career of scholarship in a particular area can produce, respected civilian educators who are recognized experts in specific disciplines related to the teaching of strategy should be faculty members at senior schools. A retired four-star general told the panel that some long-term civilian faculty appointments are essential in order to improve pedagogy and depth of study. He added that the schools should only recruit recognized civilian educators. The panel agrees and considers it noteworthy that military as well as civilian witnesses concurred with this suggestion.

Active duty or retired military officers with actual experience in the strategic arena are also needed at senior PME schools that focus on strategy. Such officers can bring credibility and realism to the classroom and help students to relate their classroom work to current operational realities. These officers must be competent in their academic fields and have outstanding records in command and staff assignments.

In addition to civilian educators and mid-level active duty and retired military officers, the panel believes that a few carefully selected, retired three- and four-star officers could contribute significantly to the teaching of operational art, campaign analyses, national military strategy, and national security strategy. Some

senior officers have had extensive experience in these areas over many years of active duty and could contribute immeasurably to faculty expertise and credibility.

The panel recognizes that some schools, notably the Naval War College, already have a prestigious civilian faculty. In order to optimize student exposure to both academic insights and military realities, the college pairs a civilian professor with an experienced military officer in its strategy and policy seminars.

### STRATEGY INSTRUCTION AT PME SCHOOLS

Earlier portions of this chapter defined strategy, identified the attributes of strategists, and elaborated on the role of education in their development. This section assesses the adequacy of the existing strategy curricula at the five senior PME schools.

The panel's review of senior war college syllabi suggested that the curricula of each war college are not focused enough in general and not enough on strategy specifically. This conclusion is consistent with the testimony of a number of witnesses, including John Collins and Professor Williamson Murray, both of whom remarked on the lack of depth in the war college strategy curricula. Of course, breadth and depth are two sides of the same coin: the scope of a curriculum has a direct impact on its depth. Collins, a retired Army colonel and a national defense specialist at the Congressional Research Service, testified that:

Time is the critical constraint in multi-purpose U.S. military colleges, which must cover many subjects besides strategy during a 10-month academic year. The best they can hope for is breadth, but not depth. Every course is an introductory survey that allows little time to study strategic matters or current U.S. strategies, much less debate merits and compare alternatives. The National, Army, and Air War Colleges, in search of time, have long strained to stretch each academic day.

Similarly, Murray, a military history professor at Ohio State University's Mershon Center, told the panel that:

Except at Newport, the educational philosophy is one of teaching a little bit of everything that the war colleges think students should know: a little political science, a little area studies, a little management, a little about the Soviet military, a little about the American military, a little bit about strategy, a little bit about organizational behavior, the list goes on and on. This is very much the Pecos River approach—a mile wide and an inch deep. Unfortunately there is little time available at the war colleges and if one wants to teach the students something about war—the most complex and difficult endeavor in which human beings engage—one must make hard choices regarding curriculum.

As noted earlier, the panel believes that one fundamental reason for these deficiencies is lack of an explicit focus at each level of professional schooling within the current PME system. Sharpening the focus at PME schools would permit those subjects that remain

in the curricula to be addressed in greater depth. The panel recommends that the schools be focused as follows:

*National War College* (or the proposed National Center for Strategic Studies)—national security strategy.

*Service War Colleges*—national military strategy.

*Intermediate Schools*—operational art with an introduction to military strategy.

Using the JCS definitions of national military and national security strategy provided earlier and the above framework as its criteria, the panel analyzed the degree to which each of the five senior PME schools addresses strategy. More specifically, the panel estimated the number of classroom hours in the core curricula devoted to the study of both national military and national security strategy. It did so by reviewing the syllabus of every core course at each college and counting seminar, lecture, exercise, and symposium hours. The panel took a "strict constructionist" approach to determining what subjects and activities would be considered strategic studies under the definitions.<sup>2</sup> The panel recognizes that its methodology does not capture time spent outside the classroom reading, conducting research, and preparing papers; nor does it take into account pedagogical differences that affect the quality of education at each of the various colleges.

The analysis led to the following observations about the four war colleges and the Industrial College of the Armed Forces:

(1) The treatment of national *military strategy* at the three service war colleges represents only about one-quarter to one-third of the core curriculum classroom hours at each school. A significant amount of the remaining time at the Army and Air War Colleges is devoted to area studies and decision-making processes. The Naval War College spends most of its remaining time on national security decision-making and joint operations.

(2) Of the five schools, the National War College devotes the most extensive portion of its core curriculum to *strategy overall*, that is, both national military and national security strategy. However, the former receives substantially more emphasis and time.

(3) ICAF devotes as much time as any service war college to strategy overall. But, while it treats national security strategy extensively, it devotes little time to national military strategy.

These general observations, when measured against the conceptual framework outlined at the beginning of this section, suggest that several significant changes are needed in how our war colleges teach strategy.

*Service War Colleges.* The panel recommends that the service war colleges explicitly make national *military strategy* their primary focus and increase the amount of time spent on this subject. This focus is consistent with another panel recommendation that the

<sup>2</sup> The panel consciously excluded area studies and decision-making systems/processes—subjects that account for significant portions of the curricula at several colleges. In addition, courses that ostensibly dealt with military strategy but that on further examination appeared to focus primarily on the operational level of war were also excluded. Strategy and operational art do overlap, but they are different subjects, as discussed earlier in this chapter.



primary study of the operational level of war should occur earlier in an officer's career—at the intermediate level of education.

The Army and Air Force are already placing greater emphasis on the operational level of war in their command and staff college (intermediate-level) programs. As graduates of improved operational art programs reach them, the Army and Air Force war colleges will be able to convert time now spent on operational art to the study of national military strategy. For the Navy, this recommendation involves shifting more effort from national security decision-making and from joint theater operations to the strategy course at the senior-level College of Naval Warfare. Correspondingly, the operational level of war—principally joint operations—would be emphasized at the intermediate-level Naval Command and Staff College by decreasing the amount of time devoted to national military strategy and national security decision-making.

Although not prepared at this time to recommend a specific percentage, the panel strongly recommends that each service war college gradually but significantly increase the portion of its curriculum devoted to national military strategy.

*National War College.* As the service war colleges significantly increase their focus on national military strategy, the National War College should decrease the amount of time devoted to national military strategy and become a center for the study of national security strategy. If the military students were graduates of service war colleges, they would have a good understanding of national military strategy and be able to focus on the integration of military power with the nonmilitary elements of national power.

*Industrial College of the Armed Forces.* In the panel's view, the ICAF curriculum currently devotes an appropriate amount of time to strategy but needs to establish a better balance between national military and national security strategy. Currently, the ICAF mission includes mobilization planning, acquisition policy, and joint logistic planning. The first two subject areas are closely related to national security strategy while joint logistic planning is an element of national military strategy. As noted earlier, however, the panel's analysis revealed that ICAF currently devotes relatively little time to national military strategy. The Chairman, JCS, has initiated a review of the ICAF mission. Whatever the outcome of that study, the strategy focus should be more closely aligned with the college mission than it currently is.

## PROPOSED NATIONAL CENTER FOR STRATEGIC STUDIES

The panel strongly supports the proposal of Admiral William J. Crowe, Jr., Chairman, JCS, advanced during his testimony before the panel. Admiral Crowe suggested that a National Center for Strategic Studies be established at Fort McNair in Washington, D.C., where selected senior military officers, high-level government officials, congressional staff members, and private sector media, labor, industry and other leaders could be brought together to research and study national strategy. The center would be made up of four components: a revamped National War College with its year-long program of study adapted to focus on national security strategy and to accommodate a smaller number of more senior,

highly select officers; a "think-tank" for the study and formulation of national security and national military strategy; the Capstone course; and an institute for conducting seminars, symposiums, and workshops in strategy for both the public and private sectors.

Currently, formal study in PME schools ends at the war college level—at the rank of colonel/Navy captain. The only significant, formal education program above that level is the Capstone course, which new flag and general officers (with some few exceptions) are required by law to attend. Capstone does not focus on strategy; rather it is a 6-week familiarization course on the services, the unified and specified commands, and the Joint Staff. The panel believes that it should also address strategy.

#### IDEAS FOR A NATIONAL CENTER

The French senior-level schools, which the panel visited, provide some excellent insights into how the National Center proposed by Admiral Crowe might be structured. After World War II the French, realizing that modern war is primarily joint, combined their three senior-service schools into a Center for Higher Military Studies (CHEM), nicknamed the "School for Field Marshals." Each year about 20 colonels/Navy captains attend CHEM for about 10 months to concentrate on national and defense policy and strategy. It is rare that a graduate of CHEM is not promoted to general officer, although not all French generals are graduates of CHEM.

Allied with the CHEM is the Institute for Higher Studies of National Defense (IHEDN). It is comprised of a student body of one-third high-level civil servants, one-third executives from industry, and one-third military officers (the student body of CHEM). IHEDN combines these groups in six seminars that meet 3 half-days each week. The seminars conduct multi-discipline studies of national security policy and strategy issues. The groups also tour military and industrial sites within France and travel overseas.

A national center utilizing the French ideas for a smaller, highly select, and more senior student body with part-time participation from the private sector has great potential. Panel proposals on the National Center involve both jointness and strategy issues and are addressed in Chapter IV. Specific strategy study and research issues are discussed below.

#### COURSE OF STUDY

During the panel hearing at the Naval War College, Rep. Skelton requested that Professor Alvin H. Bernstein, Chairman of the Strategy Department, propose a course of study for future flag and general officers to develop their capacity for strategic thought. The panel believes that Professor Bernstein's response deserves consideration as the conceptual framework for the study of strategy at the National Center's revamped National War College. Moreover, a shorter, more concentrated version should be taught as a part of the Capstone course.

Professor Bernstein's proposal would "require students to formulate strategies of their own, in preparation for the time when they may be involved in strategy making in the real world." His program is divided into three phases that seek "progressively to . . .

increase the ability of the officers to formulate appropriate strategies."

*Phase 1, "How to Think About Strategy"*: officers will read and write papers about the works which present alternative ways of analyzing the proper relationship between military means and political goals. Clausewitz, Sun Tzu, the academic students of deterrence theory, systems analysts, and business planners have all offered ways to look at the problem of relating available means to longer term objectives. None have provided a completely satisfactory answer, but taken together, they offer a range of intellectual approaches for thinking about strategy which the officers can evaluate and use.

*Phase 2, "Case Studies in Making Strategy"*: officers will be presented with specially written case studies focusing on modern problems in strategic choice. To the extent possible, the case studies will present original documents and evidence that were actually available to the contemporary decision makers as they faced national security problems and tried to develop adequate responses, so that the real intellectual difficulties and limits facing the makers of strategy are recreated.

*Phase 3, "Strategies for the Future"*: officers will be presented with a statement of American political goals and a specific challenge to it in a functional or geographic theater that may actually occur over the next ten to twenty years. They will then be asked to develop a long term strategy for handling that problem. The officers should be broken down into smaller, inter-service groups and, if possible, the assignment of officer to problem should reflect both past experience and future posting.

The panel believes that students in the national strategy center should follow a rigorous, challenging, advanced course of study. Course materials and faculty presentations should be based on the assumption that military officer students arrive with a solid background in political-military history and national military strategy. This background must be learned at the service war colleges, in fellows programs, or in civilian institutions that offer degrees in political-military disciplines.

#### STRATEGY-RELATED STUDIES

In addition to providing higher education in strategic studies and related subjects, the mission of the center should be to conduct strategy-related studies for the Chairman, JCS, the Secretary of Defense, and other senior executive branch officials. The panel agrees with Admiral Crowe that the center should devote attention to:

. . . such challenges as how to protect U.S. interests without leading the nation into war, without paying tribute to the world's troublemakers, and without an open-ended erosion of national wealth. Such concerns are at the

heart of national security policy formulation and implementation.

Research should focus at the national level and include the economic, military, and political elements of national power in peacetime, crisis, and war.

Seminar groups made up of civilians and officers from different services can contribute to "think tank" studies for the Chairman, JCS, and others. Seminar assignment considerations should include an officer's past experience and future assignment prospects. Similarly, civilian participants should be divided among the seminar groups, with consideration given to their backgrounds and likely future responsibilities. Early in the course, participants could organize, formulate, and start to develop and research their studies. During periods when the part-time civilians are away from school, the full-time students could continue to work individually on assigned parts of the study. An alternative would be to have them communicate with their classmates by phone and possibly computer link. (A system for linking war college cohorts was proposed to the panel by a retired general officer.)

Besides having the strategy school seminar groups contribute to the think tank research, the panel recommends that the Chairman consider the formulation of a Joint Strategic Studies Group (JSSG) at Ft. McNair using the best aspects of the Navy's Strategic Studies Group (SSG) at Newport, Rhode Island, and the Army's Strategic Studies Institute at Carlisle Barracks, Pennsylvania. A JSSG could employ a small number of colonels and brigadier generals (and their equivalents) who would study and research a strategic issue of specific interest to the Chairman, JCS, and report directly to him. Officers selected should (1) have outstanding military performance records in both operational and staff assignments, (2) be graduates of senior PME institutions or comparable programs, and (3) have proven intellectual capacity in the area of strategy. An alternative method of selection would be to have each war college nominate two or three top students to spend the year following graduation at the JSSG (a method similar to the way the Army selects officers for its School of Advanced Military Studies). Assignment to the JSSG should count as a joint duty assignment. Reassignment at the end of an officer's JSSG tour should be to important strategy or operations and plans billets on a joint or equivalent staff. The JSSG and the best elements of NDU's existing Institute for National Strategic Studies (INSS) could be used as early steps in establishing the research portion of the National Center for Strategic Studies.

#### EXECUTIVE COURSES

The panel also agrees with Admiral Crowe's suggestion that, in addition to its primary educational and research efforts, the National Center should offer a number of short, directed courses for senior flag and general officers and senior government officials. These courses could be modeled after similar ones offered to senior Army officers at the Army War College and to senior executives at Harvard, Massachusetts Institute of Technology, and other educational institutions. For example, a course for senior officers being

assigned to NATO would acquaint them with the issues and organizations they will encounter. The courses should be available to all similarly assigned senior officers and should be taught from a joint perspective. At the Air University, the Air Force and Army jointly administer a series of war games for two- and three-star officers of all services that could also serve as a model for National Center exercises involving even broader participation and focusing on national military and national security strategy.

#### MANAGING A SCARCE RESOURCE: STRATEGIC THINKERS

A defense establishment that seeks to encourage the development of strategists must ensure that this scarce national resource is used in the most effective manner possible. Currently, only two service personnel systems—the Army's and the Navy's—specifically identify officers who have educational experience in the area of strategy. And only the Navy has a system for monitoring and assigning officers to strategy billets. Both the Air Force and Marine Corps personnel systems consider assignments on the basis of experience and a review of personnel records, but neither specifically tracks and assigns officers based on strategy-related education or experience.

##### NAVY

In addition to a primary warfare specialty, such as aviation or submarines, Navy officers can also have a subspecialty, such as strategy. Recognition as a subspecialist is based upon:

- education, such as a master's degree in a strategy-related discipline; or
- experience, for example, having served in a strategy-related staff position such as the Strategy and Concepts Branch of the Deputy Chief of Naval Operations (Plans, Policy and Operations); or
- a combination of both education and experience, which requires a board review of the officer's academic credentials and job performance in a strategy-related assignment.

Overall, the Navy has approximately 120 officers who have been awarded one of these three types of strategy subspecialties. Once an officer has been designated a strategy subspecialist, subsequent billet assignments must be approved by a subspecialty coordinator. This procedure ensures that subspecialists are used to the maximum extent possible in their field of expertise. Navy strategy subspecialists can expect assignments on the staff of the Chief of Naval Operations (Plans, Policy, and Operations); on fleet or unified command staffs; in strategy or policy positions on the Joint Staff or in the Office of the Secretary of Defense; or on the staff of the National Security Council.

##### ARMY

The Army also recognizes expertise in the area of strategy by assigning a skill identifier (similar to the Navy's subspecialties) to certain qualified officers. As in the Navy, the strategy skill identifier

er is in addition to a primary (such as infantry or aviation) and an alternate (such as personnel or operations) specialty. The Army assigns a strategy skill identifier based on either:

—a master's degree in a social science and completion of the Army Command and General Staff (ACGS) School in residence, with directed elective courses in the strategy area, or

—a master's degree in a social science, completion of any intermediate-level service or joint school (other than ACGS), and 12 months of duty in a strategy-designated billet together with a recommendation from the officer's supervisor.

Surprisingly, the Army has no formal program for career monitoring of officers with the strategy skill identifier to ensure that they are considered for strategy billets upon reassignment.

#### PANEL CONCLUSION ON MANAGING STRATEGISTS

The panel believes that each service should have a personnel management system to develop, monitor, and assign officers to service and joint billets that would benefit from an officer with expertise in strategy. The Chairman, JCS, should ensure that the need of joint, departmental, and national-level organizations for strategists is met. Positions requiring strategists should be so designated on the joint duty assignment list—including some critical joint duty assignment positions.<sup>3</sup> Concomitantly, the manning of key strategy positions should be closely monitored. Finally, there should be a conscious effort to develop and designate JSO strategists who would function primarily at the national, departmental, and Joint Staff level. They should be among the best military thinkers and planners available to the President, Secretary of Defense, and the Chairman, JCS. Their service and joint experience, coupled with advanced education, should prepare them to occupy important positions on the National Security Council staff, at the State Department, in the Office of the Secretary of Defense, and on the Joint Staff.

#### RECOMMENDATIONS

1. The military department selection, assignment, and education systems need to be better coordinated in order to optimize the development of strategists. The three major components in their development—talent, experience, and education—require careful attention by the personnel systems.

2. Two educational building blocks in the development of a strategist—knowledge of an officer's own service, sister services, and joint commands and understanding of tactics and operational art—can be provided only by military schools. If military officers are to contribute to the development of national military and security strategy, however, they must look outside the PME system to de-

<sup>3</sup> Title IV of Goldwater-Nichols requires that 1,000 joint duty assignment positions be earmarked as "critical" and filled only by joint educated officers with previous joint duty experience; such officers are referred to in the law as "joint specialists." See Chapter III for a more detailed explanation.

velop competencies that PME schools cannot and should not be expected to impart. Education outside the PME system, although necessary, should not be viewed as a substitute for professional military education.

3. A National Center for Strategic Studies, as proposed by the Chairman, JCS, should be established. This recommendation is discussed more fully in Chapter IV.

4. The revamped National War College (or the proposed National Center for Strategic Studies) should focus on national *security* strategy. The service war colleges should make national *military* strategy their primary focus and gradually but significantly increase the portion of their curriculum devoted to that subject.

5. The faculty teaching strategy should consist of civilian educators, active duty and retired military specialists, and former senior military officers. To ensure that students have access to the depth of knowledge that only a career of scholarship in a particular area can produce, respected civilian educators who are recognized experts in specific disciplines related to the teaching of strategy should be faculty members at senior schools. Active duty and retired military officers with actual experience in the strategic arena are also needed for strategy instruction. Finally, a few carefully selected retired three- and four-star officers can contribute significantly to the teaching of operational art, campaign analyses, national military strategy, and national security strategy.

6. The Chairman, JCS, should sponsor a yearly conference, hosted by the revamped National War College (or the National Center for Strategic Studies), to discuss the best individual studies on strategy and related subjects produced by study groups, students, and faculties of the five senior PME colleges as well as other military and civilian strategic thinkers. Chapter IV contains further discussion of this recommendation.

7. Each service should have a personnel management system to develop, monitor, and assign officers to service and joint billets that would benefit from an officer with an expertise in strategy. The Chairman, JCS, should ensure that the needs of joint, departmental, and national-level organizations for strategists are met. Positions requiring strategists should be so designated on the joint duty assignment list—including some critical joint duty assignment positions. Concomitantly, the manning of key strategy positions should be closely monitored. Finally, there should be a conscious effort to develop and designate JSO strategists who would function primarily at the national, departmental, and joint staff levels. They should be among the best military thinkers and planners available to the President, Secretary of Defense, and the Chairman, JCS.

## CHAPTER III—AN EXPANDED ROLE FOR JOINT EDUCATION

Passage of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 marked a watershed for professional military education (PME). The act attaches added significance to PME schools by specifically assigning them the principal role in joint education—a role that Congress considers crucial to improving the performance of joint institutions. What do these new joint education responsibilities portend for the military school system? What are the implications of educating “joint specialty” and other officers in “joint matters”? What, in fact, do these terms mean in the context of existing PME? How can the military schools fulfill the goal, implicit in the Goldwater-Nichols Act, that the panel is chartered to examine: to assure that PME “provides the proper linkage between service competent officers and the competent joint officer”?

In order to answer these and related questions the panel first sought to gain an understanding of (1) how the existing PME school system handles joint education and (2) the provisions of the Goldwater-Nichols Act that might necessitate altering the existing approach to teaching joint subjects. Thus, the chapter begins with a review of the way the joint PME system developed after World War II and then examines the intent of the joint officer management provisions of title IV of the Goldwater-Nichols Act. Because of the sparseness of the legislative language, the panel next found it necessary to develop a more detailed portrait of the joint specialist. The panel then presents the results of its examinations: conclusions concerning the requirements for educating joint specialists and other officers in joint matters. These requirements in turn allow the panel, at the close of this chapter, to assess the performance of the existing military school system with respect to joint education and thus set the stage for an examination in Chapter IV of alternatives for modifying the system.

### EVOLUTION OF JOINT AND OTHER PME SCHOOLS SINCE WORLD WAR II

The War and Navy Departments each entered World War II with a war college and several intermediate schools for various types of warfare—land, air, sea, and amphibious. There were no joint schools, that is, “multi-service” schools with faculties and student bodies from each service devoted to the study of integrated land, sea, and air operations. Wartime experience soon changed that.

In April 1943, the Joint Chiefs of Staff (JCS), at the recommendation of General Henry H. Arnold, created the Army-Navy Staff Col-



lege (ANSCOL). In the middle of a world war, even with the services continuing to operate their own intermediate schools on a reduced scale, the Joint Chiefs found it necessary to take the time and allocate the resources to establish another school. They took action because the country badly needed senior officers with the knowledge and skills to employ joint forces in a theater command and service schools were not meeting that demand. The stated view of the JCS was that:

. . . one of the lessons learned from early joint operations of the war was that there were insufficient officers who had an adequate comprehension of the capabilities and limitations of all of the armed forces to properly plan and command such joint operations.

ANSCOL, a 4½-month school, graduated about 30 Army and Navy students (including aviators from each service) per session beginning in December 1943 for the duration of the war. State Department officers have been a part of the student body since 1944. The short, intense course, taught by a faculty composed of Army and Navy personnel, concentrated on three illustrative joint force case studies designed to give the students an understanding of the capabilities and methods of each service and improve their ability to determine the "most effective unified employment of all arms and services. . . ."

The ANSCOL precedent carried over into the post-World War II period. Studies of postwar education established requirements for (1) increased exchanges of officers both as students in other-service schools and to exchange duty in other-service assignments; (2) a joint war college focusing on military strategy and war planning; (3) continuing the Army Industrial College created in 1924; and (4) a Director for Military Education at the JCS level. In deference to these joint plans, which he strongly supported, the Army Chief of Staff, General Eisenhower, did not reconvene the Army War College in 1947. In fact, he provided the facilities at Fort McNair, previously used by the Army War College, for use by the new joint school. Justification for a joint war college was based upon the view that:

Common indoctrination cannot be provided at a high level college conducted by any one component, since each will be engaged primarily in its own field. No one component has paramount interest in joint action, and the doctrines and teachings of one component should not be permitted to predominate in the formulation of common doctrines. A joint institution, in which all components have equal interests, is essential. (JCS 962/2; June 22, 1945; Annex D to Appendix A.)

Acting on their conclusions about lessons learned in World War II, the Joint Chiefs of Staff approved the establishment, under sponsorship with the State Department, of a National War College on July 1, 1946. The college was charged with preparing students for the "exercise of joint high-level policy, command and staff functions, and for the performance of strategic planning duties. . . ." Over the years, the mission has evolved to include the "study of

national security policy and strategy formulation and implementation" and "application of military power," focusing on "national strategy" and "a joint multi-service perspective." Gradually adding students from other parts of the Government, the National War College has facilitated a better understanding of all the agencies that would be called upon to contribute to a war effort. Thus the distinguishing characteristic of the National War College, as compared to the service war colleges, is its emphasis on the broader aspects of strategy, the orchestration of all elements of national power to achieve national objectives.

The Under Secretary of War and the Assistant Secretary of the Navy approved conversion of the Army Industrial College to the Industrial College of the Armed Forces (ICAF) on April 11, 1946. The Armed Forces Staff College (AFSC) was established as a joint school for intermediate PME on August 13, 1946. As chartered by the JCS, AFSC "would perform the same role in the joint educational arena as the Command and Staff Schools of the services."

Having given up its facilities at Fort McNair for the National War College, the Army reestablished its war college in 1950 at Fort Leavenworth, Kansas. In the following year it moved to Carlisle Barracks, Pennsylvania. The Air War College began its first academic year in 1946 at Maxwell Air Force Base in Alabama. The Naval War College had remained open throughout World War II, at least to offer short-term courses at the intermediate level.

During the initial postwar years, officers generally attended one of the joint schools following graduation from their corresponding service school. By the early 1950s, however, that pattern had begun to change, and, for many, attendance at joint schools became a substitute for service schools. By 1963, few officers were attending both a service war college and the National War College or Industrial College. It was claimed that time had become too precious in senior officers' careers and curricula in the service and joint colleges had converged too much to warrant 2 years of education at this level. At the intermediate level, it was not until about 1968 that officers from the Army and Marine Corps stopped attending AFSC after their service staff college. One retired Army four-star general lamented this change during a panel interview. He cited the value of bringing together to study joint operations Army and Marine Corps officers who were already thoroughly familiar with their own service doctrines and the principles for employing large units in war.

Charts III-1 to III-3 illustrate the shift in hierarchy and sequence of schooling within the military education system from 1946 to 1988.

## CHART III-1

## PME 1946

Professional  
Level

3rd

Industrial  
College of  
The Armed  
Forces

Armed  
Forces  
Staff  
College

National  
War  
College

2nd

Marine Corps Command and Staff College	Army Command & General Staff College	Air Command and Staff College	Navy Command and Staff College
1st Marine Corps Amphibious Schools	Army Branch Schools	Air Force Squadron Officers School	Navy Schools for Surface, Submarine or Aviation

## CHART III-2

## PME 1950

Professional  
Level

4th

National  
War  
College

3rd

Armed  
Forces  
Staff  
CollegeIndustrial  
College of  
The Armed  
ForcesArmy  
War  
CollegeAir  
War  
CollegeCollege  
of  
Naval  
Warfare

2nd

Marine  
Corps  
Command  
and Staff  
CollegeArmy  
Command  
& General  
Staff  
CollegeAir  
Command  
and  
Staff  
CollegeNavy  
Command  
and Staff  
College

1st

Marine  
Corps  
Amphibious  
SchoolsArmy  
Branch  
SchoolsAir Force  
Squadron  
Officers  
SchoolNavy  
Schools for  
Surface,  
Submarine  
or Aviation

## CHART III-3

## PME 1960s to Present

Professional  
Level

3rd	National War College	Industrial College of The Armed Forces	Army War College	Air War College	College of Naval Warfare
2nd	Armed Forces Staff College	Marine Corps Command and Staff College	Army Command & General Staff College	Air Command and Staff College	Navy Command and Staff College
1st		Marine Corps Amphibious Schools	Army Branch Schools	Air Force Squadron Officers School	Navy Schools for Surface, Submarine or Aviation

In June 1975 the Department of Defense Committee on Excellence in Education, commonly referred to as the Clements Committee, noted the convergence of curricula in PME schools. The committee's criticism of the senior schools was that:

. . . in spite of a degree of individual focus inherent in each college by virtue of its title and the vernacular of its subjects, the depth and concentration actually devoted to each particular field is not on a level requisite for national educational institutions devoted to excellence in these fields. To the extent that criticism is valid, the Committee considers the appropriate response to be a sharpening of focus and a deepening of true expertise in the avowed mission fields.

The Clements Committee felt that to justify five separate senior colleges each service college should have a specific "mission field." The committee recommended that each college curriculum, therefore, have three components: a common core, mission-specific courses, and an elective program tailored to the individual needs of its students. The education system as a whole would be composed of complementary programs with each school having both a common core and a sharper service mission focus. Each college mission would be refined—the Army War College would focus on land warfare; the Naval War College on naval warfare; the Air War College on aerospace warfare; the Industrial College of the Armed Forces on defense management and materiel acquisition; and the National War College on national security policy formulation. Schools would not focus narrowly on single-service issues, but deal with the full range of issues in their specific mission areas. The Clements Committee acknowledged that the services were treating attendance at the joint colleges as not "fundamentally different from attendance at the Service war colleges." To resolve this problem, students would be assigned to schools according to a "through assignment" process, meaning that attendance at a particular school would relate directly to the officer's next duty assignment. Thus, Clements envisioned a system comprised of five coequal intermediate schools and five coequal senior schools, each with a distinct mission and faculty and an appropriately oriented student body.

The structure of the professional military school system as modified in the aftermath of the Clements Report is essentially the system that existed when the Goldwater-Nichols Act was passed and that remains as of the publication of this report.<sup>1</sup> The National War College has increased the portion of its curriculum devoted to joint operations and strategy while continuing its traditional political-military concentration. The service war colleges have increased their emphasis on national security policy and strategy. Even though an entirely different educational experience (of approximately half the length of the other schools), the Armed Forces Staff College is credited by the services as equivalent to attendance at a service intermediate school. As recognized by the Clements

<sup>1</sup> The National Defense University added a Capstone course for general officers in 1983. It is discussed in the last section of this chapter and elsewhere in this report.

report, the 10 PME schools are arrayed in a two-tier configuration in which all schools are coequal with the others on their level rather than the structure established after World War II in which the joint schools held a distinctive—and, in many respects, preeminent—position.

Are modifications of the existing PME system necessary to fulfill the additional responsibilities Congress levied in 1986? The following section takes the next step toward answering this question. It examines the joint officer management policies of title IV of the Goldwater-Nichols Act and their implications for professional military education. The panel's conclusion after its review of the evolution of PME since World War II, however, is that a return to historical roots is indicated. The Goldwater-Nichols Act, with its emphasis on the imperatives of joint warfare and the consequent strengthening of joint institutions, demands a reappraisal of the direction in which professional military education has evolved. What World War II military leaders learned from that war about how to structure military education is more consistent with the demands of the Goldwater-Nichols Act than the PME system today.

#### TITLE IV OF THE GOLDWATER-NICHOLS ACT

Title IV is the statutory basis for improving the performance of officers in joint assignments. It calls for personnel management policies that would meet three goals: (1) select more talented (quality) officers for joint duty assignments, (2) increase the joint experience level of officers in joint assignments, and (3) educate them appropriately.

To accomplish these goals, the act mandates a number of new personnel policies—tying promotions, assignments, and education to joint duty—that affect all officers and requires the Secretary of Defense to establish a new category of officer, called the Joint Specialty Officer (JSO). JSOs are to be particularly trained in, and oriented towards, joint matters.

In the JSO, Congress created a category that attempts to combine the best elements of both the pre-1986 system and a general staff system. The pre-1986 system had many officers who served no (or only one) joint tour and had no joint education. Although these officers may have been expert in their service, Congress believed that they were not expert and current in joint matters. In the commonly held concept of a general staff system, however, after a certain point in their careers, general staff officers would seldom return to their services. According to critics, general staff officers would, as a consequence, cease to be current and expert in their service. With the JSO, Congress created an officer who would serve a mix of service and joint tours and also be appropriately educated. Thus, a JSO would remain current and effective in both areas.<sup>2</sup>

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<sup>2</sup> The clearest example of congressional intent to have current service operational experience is in the provision for Critical Occupational Specialists (COS), warfighters, to have joint tours only 2 years long so they could return to their service more quickly than the standard 3-year tour.

## PRINCIPAL JOINT PERSONNEL POLICIES

The major Goldwater-Nichols Act policies for achieving the *quality* goal require that: (1) the Secretary of Defense establish qualifications for JSOs, (2) JSO promotion rates not be less than the rate for officers on service headquarters staffs, (3) JSOs (or JSO nominees) make up approximately half of the joint duty assignment (JDA) list, and (4) all officers selected for promotion to flag or general officer must have served in a joint duty assignment.

The major policies for obtaining the *experience* goal require that: (1) prospective JSOs successfully complete a full tour in a joint duty assignment, (2) at least 1,000 JDA billets be designated as critical billets to be filled by officers who have previously completed a joint tour and are thus JSOs, and (3) officers serve specified tour lengths for joint duty assignments. JDA tour lengths, after 1988 amendments to the law, are 2 years for general and flag officers and 3 years for other officers.

The major policies for achieving the *education* goal are to: (1) strengthen joint education for all officers; (2) require that JSOs successfully complete joint education at a joint PME school before a joint duty assignment; and (3) require all new flag and general officers to attend Capstone, a course "to prepare them to work with the other armed forces."

## IMPLEMENTATION OF EDUCATION GOALS

Section 663, "Education," of title IV<sup>3</sup> identifies two types of joint education to implement the first two education policies.

The first type is joint education in *service* PME schools. Title IV requires a strengthened focus on joint matters and on preparation for joint duty assignments. This education is for *all* officers in service schools whether or not they will be subsequently assigned within their own service or to a joint position. This constitutes joint education from a *service perspective*.

The second type is joint education in *joint* PME schools. Congress expected that joint education would continue to be provided by the three National Defense University (NDU) joint colleges (National War College, Industrial College of the Armed Forces, and the Armed Forces Staff College). Here title IV requires enhanced education on joint matters, to "rigorous standards," for JSOs. This constitutes joint education from a *joint perspective*.

In the past, the percentage of NDU graduates going to joint duty assignments had often been low. To correct this, title IV requires that more than 50 percent of joint PME school graduates go to

<sup>3</sup> Section 663 language:

*JOINT MILITARY EDUCATION SCHOOLS.*—The Secretary of Defense, with the advice and assistance of the Chairman of the Joint Chiefs of Staff, shall periodically review and revise the curriculum of each school of the *National Defense University* (and of any other joint professional military education school) to enhance the education and training of officers in joint matters. The Secretary shall require such schools to maintain rigorous standards for the military education of officers with the *joint specialty*.

*OTHER PROFESSIONAL MILITARY EDUCATION SCHOOLS.*—The Secretary of Defense shall require that each Department of Defense school concerned with professional military education periodically review and revise its curriculum for senior and intermediate grade officers in order to strengthen the focus on—

(1) joint matters; and  
(2) preparing officers for joint duty assignments."  
(Italics added for emphasis.)



joint assignments. In addition, the act requires that each JSO who graduates from a joint PME school shall go to a joint assignment.

Finally, title IV requires sequential development of JSOs. Officers first go to joint education; they then serve in a joint assignment as a JSO nominee. After successfully completing a full joint tour, they can then be selected as a JSO. Under certain limits, the Secretary of Defense can waive the required sequence (joint PME, then joint duty) or waive joint PME, if the officer has completed two full joint tours.

In summary, title IV seeks to improve the performance of officers in joint assignments by improvements in three areas—talent (quality), experience, and education. The panel was repeatedly told that more talented officers are now going to joint assignments. The improved performance that title IV seeks is not, however, based solely on talent; it is also based on joint education and joint experience. With a rigorous education obtained in both service and joint schools, multiple joint duty tours, and a recognition within the officer corps of the validity of the joint approach, joint specialists will develop over time into a valuable pool of experts on the integrated employment of armed forces.

In order to arrive at judgments about joint education, the panel found that it needed a clearer picture of the new student—the Joint Specialty Officer (JSO). In title IV, Congress provides only enough information for a sketch of the JSO. It purposely left to defense officials the task of completing the canvas. In the next section the panel seeks a more complete portrait of the JSO.

### THE JOINT SPECIALTY OFFICER

What are the characteristics of the Joint Specialty Officer? That question has not been answered, the panel was disappointed to learn, fully 2 years after the passage of the Goldwater-Nichols Act. The act makes the Secretary of Defense, with the advice of the Chairman, JCS, responsible for defining career guidelines for joint specialists. The guidelines subsequently established by the Secretary of Defense, however, do not set out the specific qualities, prerequisites, and career expectations of the joint specialist. Nor are these specifics found elsewhere in the Department of Defense. As a result of the lack of a common understanding, the panel had significant difficulty in discussing joint education with college officials, witnesses, and other experts.

The panel found that it could not proceed to an assessment of the requirements for joint education without first arriving at its own understanding of the joint specialty. Parenthetically, the panel is convinced that defining the JSO is the crux of the problem posed for the Department of Defense by all of the new title IV joint officer personnel policies. Hard thinking needs to be done to come to grips with this issue. When it is resolved, DOD will have a much clearer idea of how to meet the legislative requirements of title IV.

The following portrait of the JSO was developed by the panel based on testimony, interviews, and a review of the legislation.

## WARRIOR AND STAFF OFFICER

The Goldwater-Nichols Act redistributes authority and responsibility within the Department of Defense. Establishment of the joint specialty to improve the support available to senior joint military commanders and top civilian officials is one of the methods the act employs to cement the changes.

An April 1982 report prepared for the Chairman, JCS, recognized the need for improved performance by the Joint Staff and first recommended the joint specialty. The report, titled *The Organization and Functions of the JCS*, was prepared by the Chairman's Special Study Group.<sup>4</sup> It stated that if they are to be effective, joint institutions require support "by officers of the highest quality—officers skilled, experienced, and interested in joint command and staff matters."

The report cited problems with officers serving in joint duty:

The flag rank executives of the Joint Staff are temporary—serving only 2 years or less on the staff. Their subordinates serve only slightly longer—about 30 months on the average. Both are drawn exclusively from the Services, who of course not only pay them but manage their promotions and careers. *Few have had formal training for Joint Staff work and even fewer previous Joint Staff experience.* Only about one-third have even had Service staff experience. Most have come directly to Washington from specialized field operations where they have had little contact with the complex issues with which the Joint Staff must deal. *Few if any will ever come back to the Joint Staff.* The average Joint Staff officer, while knowledgeable in his Service specialty, *has limited breadth of knowledge of his own Service, much less a broad understanding of his sister Services.* He has *little incentive to gain such an understanding*, since his tenure on the Joint Staff is so brief, *because his future is not there but rather back in his own Service.* (Emphasis added.)

The recommendations of the Special Study Group Report parallel many Goldwater-Nichols provisions intended to improve performance on joint staffs: creation of a joint duty career specialty for selected officers; education in joint schools (AFSC, NWC, ICAF); a mix of service and joint duty assignments; and filling half of all joint duty positions with specialists (or nominees).

But are joint specialists intended by Congress to be solely a corps of staff officers? The panel thinks not. Admiral James Holloway, former Chief of Naval Operations, reminded the panel that the *ultimate* joint specialist will be a joint task force commander or commander of a unified command. The joint specialist is surely not just a joint *staff* officer, Admiral Holloway insisted. The Goldwater-Nichols Act supports Admiral Holloway's views, both in its Critical

<sup>4</sup> Former Assistant Secretary of Defense William K. Brehm was the project director. Principal members of the group were Gen. Walter T. Kerwin, USA (Ret.), former Vice Chief of Staff, U.S. Army; Gen. William V. McBride, USAF (Ret.), former Vice Chief of Staff, U.S. Air Force; Gen. Samuel Jaskilka, USMC (Ret.), former Assistant Commandant, U.S. Marine Corps; and Adm. Frederick H. Michaelis, USN (Ret.), former Chief of Staff, U.S. Pacific Command.

Occupational Specialty exemption (intended to ensure a constant influx of combat arms officers into joint duty assignments) and in its requirement that the commanders of the unified and specified commands be joint specialists. Although the law leaves enough latitude for the joint specialty to include officers with the diverse mix of skills and capabilities required in joint assignments, it *clearly intends that the future senior combat leaders of the armed forces will be drawn from the joint specialty.*

The panel has concluded, therefore, that the oft-heard attempt to draw a mutually exclusive distinction between the staff officer and the combat leader is incorrect, misleading, and counterproductive. Contributing to the panel's problem in understanding the joint specialty was a constant stream of adverse comments about Congress having created a corps of staff officers who could do nothing but push papers. The "warrior-versus-staff-officer" debate has been joined for years. The Goldwater-Nichols Act, if anything, favors the warrior, as indicated above. Nevertheless, some critics continue to condemn the joint specialist as an elitist staff officer.

The warrior-versus-staff-officer debate is in fact based upon false premises. There is no "either/or." Most military commanders, whether today or throughout modern history, have served as staff officers. Since the Napoleonic era, as military forces have increased in size, staffs have become even more important to planning and coordinating the large, complex military organizations. The importance of staff-type military skills has been apparent to the U.S. military since the Revolutionary War. General George Washington's ultimate success leading the Continental Army probably owed as much to his knowledge of supply and other aspects of logistics and provisioning gained during the French and Indian Wars as it did to his tactical and strategic ability to employ armed forces. Much later General Omar Bradley graphically recounted the inter-related contributions of the staff officer and the warrior in *A Soldier's Story*:

While mobility was the "secret" U.S. weapon that defeated von Rundstedt in the Ardennes, it owed its effectiveness to the success of U.S. Army staff training. With divisions, corps, and Army staffs, schooled in the same language, practices, and techniques, we could resort to sketchy oral orders with a perfect understanding between U.S. commands.

Today, most field grade and one- and two-star officers will serve staff tours. Future three- and four-star commanders almost inevitably serve in many of these staff positions. The nature of their staff duties are similar whether they are assigned to the higher headquarters of the services or to joint positions. With very few exceptions, then, officers cannot, and should not expect to become senior military leaders without successful performance in staff positions that help prepare them for senior command. Consequently, staff duty should be viewed constructively, as a key part of an officer's career development. The commander, particularly in the modern era, is a combination of both warrior and staff officer.

The question posed by the Goldwater-Nichols Act, in any case, concerns the *distribution* of officers to the various staff assign-

ments, *not* whether they will serve on staffs. They will, as they always have. The act requires that *joint* staffs be peopled by officers of the same caliber as the best service staffs. The panel agrees wholeheartedly with this objective of the act. The joint command and staff structure should be developed to the same degree of competence and efficiency that General Bradley ascribed to Army units over 40 years ago.

In the view of the panel, then, joint specialists may be combat arms officers or experts with skills that are needed in joint and service assignments, or both. As Congress intended, they are in the top element of their peer group and are experienced in joint assignments. They possess the attributes suggested by General W. Y. Smith, USAF (Ret.), former Deputy Commander in Chief of the European Command: (1) an in-depth, expert knowledge of their own service, (2) some knowledge of the other services, (3) experience operating with the other services, and (4) mutual trust and confidence in the other services.

#### JOINT PERSPECTIVE

The panel would add one important caveat to General Smith's summation. Joint specialists should have sufficient knowledge of the other services and the perspective to allow them to "see joint"—that is, not to view the other services from the perspective of their own, but to view all of the services from a higher vantage point, the joint perspective personified by a unified commander or the JCS Chairman. The panel believes joint specialists should ultimately develop a perspective on the employment and support of military forces that is more comprehensive than their non-JSO service contemporaries. This means developing the capacity to plan and execute military missions in support of national objectives with either single- or multi-service forces. Such a capacity requires joint specialists to reach beyond the competence of their own service to understand the capabilities and limitations, doctrine, and culture of the other services. It means rejecting approaches that always favor their own service, and seeking innovative and creative ways to employ a wider spectrum of force options than exists in a single service. It means commitment to developing and implementing policies, procedures, and practices that will make multi-service joint operations the norm rather than the exception as has too often been the case in the past when ad hoc command and control mechanisms had to be devised on short notice, often in the middle of a crisis.

#### PROFESSIONAL DEVELOPMENT

The panel strongly agrees with the many witnesses and interviewees who emphasized that Joint Specialty Officers must, as a prerequisite to further professional growth, be competent in their own service. They must be expert in their own warfare specialty and have a broad and deep understanding, based upon experience and professional military education, of the major elements of their service. JSOs must also learn about the other services, their capabilities and limitations, doctrines, organizational concepts, and command and control structures. The more familiar they are with the other services, the less likely they will be arbitrarily to choose

solutions favoring their own service. They will also be more capable of effectively integrating multi-service capabilities and joint solutions to military problems. As they understand more about the other services, JSOs should turn to joint command and control, theater planning, and national military and national security strategy. In the view of the panel, the joint specialist most consistent with the law is an officer, expert in his or her own warfare specialty and service, who develops a deep understanding, broad knowledge, and keen appreciation of the integrated employment and support of all services' capabilities in the pursuit of national objectives.

The panel also believes that a select number of joint specialists should be designated for even broader study and corresponding assignments as strategists. These officers should function primarily at the national level. They should constitute a nucleus of the best thinkers and planners that would be available to the President and Secretary of Defense. They should be expected to man critical positions on the National Security Council staff, at the Department of State, the Department of Defense, and on the Joint Staff.

#### PREREQUISITES

Joint specialists should meet stringent prerequisites for nomination and selection. They must be competent and qualified in their warfare specialty. They must have a firm foundation of education and experience in their own service that provides the basis for understanding what they are taught about the other services and applying their knowledge to the employment of joint forces. Consequently, joint specialists should be in the top quarter of their year group (i.e., the group of contemporaries who entered active duty in the same year). If a combat arms officer, the joint specialist should be competitive on a best qualified basis with non-JSO contemporaries for field grade command.<sup>5</sup> JSOs should have displayed the intellectual capacity to deal with complex issues, ambiguity, and situations requiring the synthesis of a myriad of facts. They should possess the potential to deal with abstract notions and concepts.

JSOs should also be broadly educated, preferably in both civilian and military schools. Their military education should include appropriate schools for his primary warfare skills, command and staff college, and joint education as now required by law.

#### JOINT EDUCATION REQUIREMENTS SUBSEQUENT TO PASSAGE OF THE GOLDWATER-NICHOLS ACT

The foregoing material provides the foundation for the panel's views on joint education. The historical review makes clear that as a result of their experience during World War II, a number of the nation's most renowned military leaders strongly supported the concept of education on multi-service operations. It provides evidence that time may have corrupted what they intended for the joint schools. But history also reveals that the term "joint education" has been applied only to schooling directed by an authority independent of any service and characterized by a multi-service

<sup>5</sup> The "best qualified" criterion denotes a comparison among officers in which the most outstanding are selected. It is more selective than "fully qualified," which means that an officer must meet certain standards, but does not involve a comparison with other officers.

faculty and student body as well as a joint curriculum. Indeed, the panel found that to British, German, and French officers the term "joint education" was incomprehensible unless it included all four of these elements.

As the discussion of the Goldwater-Nichols Act also makes clear, Congress expanded the concept of joint education in 1986. It required that *all* officers attending service PME schools study joint matters and that Joint Specialty Officers receive "genuine" joint education in joint schools. Congress' objective is nothing short of a change in the culture of the officer corps. In the words of Admiral Harry D. Train, II, former Commander in Chief of the U.S. Atlantic Command, it is to arrive at a point where "jointness is a state of mind." A former war college president added that "[jointness is] an acculturation process that takes both time and emphasis."

That is why Congress, in the panel's view, placed such importance on new, expanded roles for the PME schools. Schools transmit, interpret, and share culture. The panel believes that the objective of joint education should be to change officers' attitudes about developing and employing multi-service forces. The portrait of the Joint Specialty Officer in the last section is convincing evidence of the educational burden placed upon the joint schools if they are to accomplish the congressional objectives and contribute sufficiently to JSO professional development. In many respects, however, the challenge posed by the Goldwater-Nichols Act for service schools is equally as great.

The service schools are charged with helping to reshape the culture of the officer corps as a whole. They are required to provide education in joint matters for *all* students, whether or not those students will become JSOs. Establishment of the joint specialty to support the Chairman, JCS, and the unified and specified commanders does not obviate the need for improving joint education in service schools for officers throughout the armed forces. Even with the emergence of the joint specialist, joint staffs will continue to be manned primarily by non-joint specialists (including inexperienced nominees for the joint specialty). Consequently, non-JSOs need training in joint staff procedures and systems, and broad education in the capabilities, limitations, and doctrines of the other services. In fact, non-JSOs are essential to the proper functioning of the joint system because they bring current service expertise and credibility to bear in considering the solutions to joint problems. The Chairman, JCS, and the unified and specified commanders—and the joint specialists—will rely upon service experts to elaborate force options and to implement decisions.

#### JOINT EDUCATION AS A SPECTRUM OF STUDY

Because the Goldwater-Nichols Act requires DOD to expand the study of joint matters beyond the confines of joint schools, joint education must be considered as comprising a spectrum of study. Recalling that one objective of title IV is to increase the appreciation by *all officers* of the importance of joint approaches, the joint education spectrum begins with the first military training officers receive. It extends through familiarization in joint matters for *all junior officers* to the joint curriculum for *all students at service schools* to the "true" joint education for *JSOs at joint schools* and

finally to the study of *national security strategy*, an inherently joint pursuit, for selected officers. The following discussion is based on the concept of a joint education spectrum applicable to all officers.

*Precommissioning through company grade.* Joint education should begin early in an officer's career, probably during precommissioning training. This early exposure is not meant to provide in-depth knowledge of joint matters or to prepare prospective officers for joint duty. Rather, it should introduce them to a broader perspective from which to view the narrow, focused branch or warfare-specialty training, primarily skill-related, that he will receive in the first years of his commissioned service. Early joint education should allow them to relate, in a general way, their contribution and that of their unit to the overall military effort. It should also help them to understand, in the context of their own branch or warfare specialty, how each service supports missions of the other services (e.g., fire support, airlift, sealift, close air support, intelligence). Finally, it should encourage them to reach beyond the knowledge and skills required of their warfare specialty and begin a career-long commitment to reading and studying about warfare, including its broader concepts.

*Field grade and higher.* Joint education for field grade officers should initially broaden their knowledge to cover other branches of their own service (what the Army calls "combined arms") and other services and should focus on operational art, or theater-level warfare. Students should learn why major military operations, almost without exception, will be joint, and they should develop the capacity to perform in the joint environment.

The panel believes the *intermediate schools* should be the principal schools for learning jointness. Everyone who attends service intermediate schools should learn the mechanics of joint matters that all officers should know: other service capabilities, limitations and doctrines, and the relevant joint procedures and processes. Joint specialists need to gain the joint perspective that the World War II Army-Navy Staff College experience indicated could best be done by studying joint force employment in a joint school.

At *senior levels*, joint education should involve study and experience in the integrated employment of multi-service forces at the national level, national military strategy, and, for selected officers, national security strategy. The higher officers progress in rank, whether they serve in joint duty or service positions, the greater their need to understand the other services, joint operations and support, and ultimately national-level policy and strategy.

The shift in focus for field grade officers, both in schools and units, is from skill training to education—improving officers' analytical capabilities and teaching them how to deal with uncertainty and ambiguity. They must shed the rigidity learned in drills and exercises as junior officers and become more flexible in their thinking because "war eludes rules . . . and rewards the inventive mind . . . [and] ingenuity," as General Paul F. Gorman, USA (Ret.), former Commander in Chief, U.S. Southern Command, reminded the panel. Joint education confronts one aspect of that rigidity. Having spent most of their career to date in their service, officers are likely to be predisposed to solutions to military problems in-

volving only forces and doctrine of their service. A major purpose of joint education is to overcome that predisposition.

#### THE SUBSTANCE OF JOINT EDUCATION

*Joint matters.* To determine the subject matter of joint education, the panel found it necessary to define joint matters. It is a subject that eludes precise definition. The Goldwater-Nichols Act defines it as:

. . . matters relating to the integrated employment of land, sea, and air forces, including matters relating to—

(1) National military strategy;

(2) Strategic planning and contingency planning;

and

(3) Command and control of combat operations under unified command.

The Senior Military Schools Review Board (SMSRB), appointed by the Chairman, JCS, in 1987 to review PME schools recommended that this definition be expanded. The board, headed by General Russell E. Dougherty, USAF (Ret.), a former Commander in Chief, Strategic Air Command, concluded that joint matters should also include:

. . . national security policy . . . joint and combined operations, joint doctrine. . . [and] actions related to mobilization of forces/resources, joint logistics, communications, and intelligence, and the joint aspects of the planning, programming and budgeting process.

The panel developed its conclusions on the meaning of "joint matters" by considering the changes suggested by the Dougherty Board. Following are the panel's conclusions:

National security policy, although it includes everything in the Dougherty Board and Goldwater-Nichols definitions, may be so broad as to confuse, rather than clarify, the focus of joint education.

The inclusion of joint and combined operations, joint doctrine, logistics, communications and intelligence conforms with the Goldwater-Nichols Act definition and essentially amplifies the meaning of terms already contained in the law. Also "embedded" in the Goldwater-Nichols definition are theater/campaign planning, and military command and control systems and their interfaces with national command systems. The panel believes it is important to emphasize that military history offers noteworthy lessons to modern-day problems in each of these areas.

By adding the programming, planning, and budgeting process to the definition of joint matters, the Dougherty Board correctly sought to respond to the JCS Chairman's new resource allocation responsibilities added by the Goldwater-Nichols Act. But those responsibilities encompass the entire range of joint force development. Adding only the planning, programming, and budgeting process would risk generating minor education requirements concerning



narrow processes, not much more than skill training. *Joint force development*, on the other hand, includes the planning, programming, and budgeting process as well as the JCS Chairman's responsibilities with respect to recommendations on service programs and budgets, alternative programs and budgets, unified and specified command programs and budgets, and assessing military requirements for defense acquisition programs. Admiral William Crowe, the Chairman, JCS, recognized this in his testimony when he said, "resource management is a different but still vital part of the total force planning process....We often overlook this side of the picture when talking about Joint Specialty Officers and joint duty assignments." Thus the panel considers joint force development an integral part of the definition of "joint matters."

Mobilization of forces/resources, on the other hand, is too all-encompassing to be included in the definition of joint matters for professional military education. Mobilization is a type of resource allocation. Normally mobilization is thought of in its broadest sense, that is, in mobilizing all of the resources of the nation. It includes military, economic, political, and increasingly, international factors. Like national security policy, then, *national* mobilization is inherently joint but so comprehensive that its inclusion in the definition of joint matters may confuse, more than clarify, the focus of joint education. Certain military aspects of mobilization are, however, a part of joint force development and thus fall within the definition of joint matters. An example is mobilizing the elements of a joint task force (e.g., a combination of Army brigades, Air Force wings, and Navy battle groups). The "mobilization of forces" in this sense should be understood as part of "joint matters." This admittedly fine line may not be as significant for the Industrial College of the Armed Forces as for other PME schools because ICAF includes all aspects of mobilization in its curriculum.

To summarize, the panel considers "joint matters" to include:

(1) The elements contained in the Goldwater-Nichols Act.

- Integrated employment of land, sea, and air forces.
- National military strategy.
- Strategic planning.
- Contingency planning.
- Command and control of combat operations under unified command.

(2) Several other subjects subsumed in the elements contained in the Goldwater-Nichols Act definition.

- Joint and combined operations.
- Joint doctrine.
- Joint logistics.
- Joint communications.
- Joint intelligence.
- Theater/campaign planning.

Joint military command and control systems and their interfaces with national command systems.

(3) Joint force development, including certain military aspects of mobilization.

The panel did not consider as "joint matters" many of the subjects described in school curricula such as defense management, executive development, executive decision-making, bureaucratic processes, and regional studies. They are not directly related to the areas the panel considered should be the real focus of intermediate and senior military education—force employment and force development. The panel also excluded, as discussed above, national security policy and national mobilization studies from the definition of "joint matters." Although the subjects are inherently joint, they extend beyond "national military strategy" specified in the Goldwater-Nichols Act definition to a level of generalization more suitable for the education of "national security strategists," as discussed in the previous chapter.

*Additional joint education requirements.* Although "joint matters" are the core of joint education, they are not the entire curriculum. As stated earlier, a *prerequisite* for the joint education of officers, at any level, is competence commensurate with their rank in all of the elements of *their own service* in terms of professional knowledge and understanding (e.g., in the Navy, surface *and* aviation *and* subsurface) as well as demonstrated performance.

Though not technically "joint matters," an integral part of joint education is an officer's study of the *other services*. The body of "other-service" knowledge useful in the joint context includes:

Capabilities and limitations of other-service forces, including weapons system technologies.

Organization of other-service headquarters and forces and the organizing concepts used to build larger forces or to tailor forces for specific operations.

Doctrine for the tactical and theater employment of other-service forces, from low-intensity conflict to nuclear war.

Command and control systems of other-service forces, to include how they can be integrated with the officer's own service systems.

Although all officers will not pursue these subjects in depth as part of their joint education, it is imperative for the JSO to do so and important for all other officers who serve in joint assignments. For joint specialists or service officers assigned to joint duty positions, knowledge of other services, an understanding of the opportunities presented by the array of multi-service capabilities, insights into how the services can best operate together to attain specific military objectives, and an appreciation of how the limitations of their own service can be strengthened by the contributions of another are crucial to their success.

Therefore, joint specialist education must develop early and continually reinforce a knowledge and experience base that enables the JSO to accept or reject advice and recommendations on force planning and employment from service experts serving in joint

duty billets. Officers who are not joint specialists and who are from different services will often have more detailed knowledge about the capabilities of their own service than the JSO. Accordingly, their views will carry great weight in any discussion of force options; but, because they may be institutionally blind to the full range of options, the JSO must be educated to ferret out innovative, creative uses of all service forces, identify limitations, assess the potential synergy of force options, and develop the command and control mechanisms required in particular instances.

*Joint knowledge—a problem and a challenge.* Too often joint knowledge is equated with joint processes, a subject that is only a minor and rather elementary part of the potential body of joint knowledge. All students should be introduced to joint processes and procedures as part of the basic intermediate service school orientation on joint matters. But genuine joint education should develop the student's ability to analyze joint issues. Concentrating on processes will not accomplish that. General John Galvin, USA, Supreme Allied Commander, Europe, cautioned that it is too easy for schools to focus on the procedural aspects of joint matters at the risk of not addressing broader military issues. The panel learned that another reason for superficial coverage of more complex joint issues may be the absence of a comprehensive body of knowledge on joint doctrine, organizing concepts, and command and control.

Numerous individuals interviewed by the panel decried the inadequacy of the current body of joint knowledge for successful, modern wartime joint operations and, as a consequence, for the teaching of joint matters. A retired three-star Army general described the situation as "a disgrace, that after 40 years we haven't produced any [joint doctrine]." One former commander of the Army Training and Doctrine Command cogently described the difficulty in dealing with joint operations at the theater level. He gave three reasons for the problem: (1) after winning World War II, military leaders were satisfied with their knowledge of military matters and believed there was no need to develop further doctrine and procedures; (2) the advent of atomic weapons meant that future wars would be short and limited; and (3) most of the leaders who emerged from World War II were tactical commanders and experts; very few had any theater-level experience, and no one bothered to develop that expertise. Consequently, he said, the armed forces "lack policies, procedures and techniques to synchronize the operations of the four services." He also contended that some military leaders do not want to solve the problem and see no need for full integration of the services' capabilities. Besides, he explained, these are "hard" problems, often pitting service against service, and it is easier to deal with "softer" political-military and strategy issues.

It was beyond the scope of the panel's inquiry to investigate whether there are serious inadequacies in doctrine and other arrangements that guide joint operations. If such inadequacies exist, the problem is of the highest moment. Lives could be lost needlessly in future military operations if separate service units are not properly integrated into combat forces. Since passage of the Goldwater-Nichols Act, the Chairman, JCS, has established on the Joint Staff a Director for Operational Plans and Interoperability (J-7),

who assists the Chairman in fulfilling his responsibility for "developing doctrine for the joint employment of the armed forces." The panel understands the J-7 has an ambitious program to develop joint doctrine.

Inadequacies in joint knowledge, however, provide both a challenge and an opportunity for joint education. The service professional military schools (particularly those of the Army) have traditionally been a key source of service doctrine and related operating procedures that are ultimately approved by the field commands, training command, and service headquarters. Instructors and students, working together, have translated experience and study into the doctrine and other guidance that governs their service in wartime. The serendipitous consequence is that the institutions responsible for teaching accumulated service wisdom about warfare are the same institutions that collect, analyze, synthesize, and articulate that wisdom. The schools, then, are both the source and progenitors of knowledge about warfare. As such, rather than remote ivory towers, they are up-to-date, on the cutting edge of military knowledge, and vital to their services.

The panel believes that joint schools should be given a major share of the responsibilities for reviewing, revising, and developing workable joint doctrine as well as related organizational concepts, practices, and procedures for the integrated employment of multi-service forces. Today, JSOs should be taught about the range of possible solutions to inter-service problems and the areas in which no agreed doctrine and procedures exist. Eventually, JSOs, working through the Joint Staff, J-7, and the joint schools and with the assistance of service experts, should take the lead in developing procedures for joint force organization, deployment, and employment in various theaters.

Under the Goldwater-Nichols Act the Chairman, JCS, is responsible for joint doctrine. The panel believes that the Chairman should turn to the joint schools to assist him in carrying out an ambitious program to develop and assess joint doctrine and related joint knowledge. In this way, the joint schools should become vibrant joint institutions. Each should be a center for the expansion of joint knowledge and a source of educational materials, exercises, and teaching techniques on joint subjects for service, as well as other joint schools.

If the joint schools help develop joint doctrine, the services will have a strong incentive to send good officers to the schools—they will want to ensure that joint doctrine fully considers service interests. Quality officers will also be encouraged to serve on the faculties of joint schools.

#### THE PERSPECTIVES FOR JOINT EDUCATION

Joint and service schools should teach joint curricula from the perspectives of (1) a commander of a unified command and (2) a contingency joint task force commander at the three-star level. Discussions with senior retired three- and four-star commanders indicate that concentrating on these joint commands would require students to learn the range of problems associated with interfaces between multi-service forces. The preferred approach would be similar to the one used by ANSCOL in which students focused on three

joint case studies to bring out the problems, possibilities, and potential solutions to the employment of multi-service forces. Although only examples, the case studies gave officers returning to their theater commands the intellectual background to grapple with the full panoply of joint force problems, even when the particular circumstances had never before been encountered.

#### THE SETTING FOR JOINT EDUCATION—MULTI-SERVICE STUDENT BODY AND FACULTY, AND JOINT CONTROL

The term joint education is often used, incorrectly, to refer to instruction in joint matters *without* regard to such important factors as the composition of the student body and faculty or who controls the school. Courses are misleadingly termed "joint education" if they address multi-service problems and issues or joint staffing procedures and systems, such as the Joint Operations Planning System. In fact, curriculum only sets the stage for the joint educational experience. Beyond curriculum, a mixed student body and faculty and an independently controlled school are all important elements of joint education.

Joint education includes what the Armed Forces Staff College terms "affective learning": the mutual understanding and rapport that develop when students from all services study in mixed seminars and share the ideas, values, and traditions of their services, when they solve joint military problems together, and when preconceived notions about the nature of and solution to problems of warfare, learned during service training and education, are challenged daily. In mixed seminars, a student who attempts to impose his service bias on the discussion will immediately be challenged.

*Student Body.* A key factor in joint education, then, is the composition of the student body. In *schools that educate joint specialists*, the standard should be equal representation from each of the three military departments. For *other schools*, representation of each service in the student body should eventually be much higher than today. Senior schools should have a student mix of 50 percent from the host military department and 25 percent from each other military department. Ideally, intermediate schools should have the same student body mix as senior schools for non-JSO education. But the rationale for such a standard is less compelling because the curricula of senior schools have a greater joint component. Moreover, a 50/25/25 percent student body mix would be very difficult to achieve. Consequently, the panel believes that intermediate schools should have a minimum of two, and a goal of three, officers from each military department in each seminar.<sup>6</sup>

The qualifications of the student body also have a significant impact on joint education; an acceptable student body mix is not in itself sufficient. Each military department must select its PME students from among its most outstanding officers. In addition, the student body mix must consist of students of *equally* high caliber from each military department. Finally, each service must provide students from all combat arms branches and warfare specialties.

<sup>6</sup> In Chapter IV the panel will recommend a phased plan to achieve the proposed student mixes.

To ensure quality in joint specialist student bodies, DOD should use the prerequisites for JSOs discussed earlier as a guide for selecting nominees: top quarter of their year group, competent and experienced in their own service, high intellectual capacity, basic understanding of the mutual interdependence of the services, and broad education. With respect to prior education, the panel believes that students attending joint specialist education should have attended a service intermediate school and should understand how units from their service operate as a component in a joint command.

*Faculty.* Throughout its inquiry, the panel was told that *most* of the learning about other services in PME military schools resulted from student exchanges in the classroom. There can be no question that, as indicated above, this type of learning is very important. The extent of dependence on student exchanges as an educational device in some schools is, however, disturbing. Several witnesses considered it an indictment of the faculty. Indeed, it may be. The ultimate utility of student exchanges depends on competent faculty guidance. Unguided student discussions can reinforce ignorance and constrain, rather than expand, thinking.

A quality faculty that *teaches*, rather than merely facilitates, is imperative if joint education is to open new horizons and stimulate thinking about more complex military issues. The faculty members must introduce the subjects for discussion and lead the class through the various topics. Free discussion among students should be structured by the faculty members so that the class moves from one topic to the next. The instructor should be qualified, prepared, and willing to step in and correct student statements that contain incorrect or dated information. Moreover, he should intervene to sum up each main point of the lesson as the class progresses and should summarize the major points at the end of the class.

Joint education faculties should be made up of officers who, while preserving their service origins, also serve the more catholic *national* military interest. They should bring to the classroom not only expertise in their service, but also a quality no seminar made up solely of officers from all the services is likely to achieve on its own—a neutral perspective on use of the full range of military options. Joint faculty members should be expected to challenge conventional wisdom and to stimulate thinking about novel or creative ways to employ and support military forces. Moreover, their own joint education and experience should have prepared them to offer professional insights during student discussions. At present, although there is a dearth of knowledge about joint operations and of joint doctrine, joint faculties can address the joint employment problems that have plagued our armed forces over the past 40 years.

It follows from the above that the educational qualifications and military experience of the joint faculty are paramount. Instructors must be able to explain and debate joint issues with the confidence that only experience and study can provide. An inexperienced faculty member with a weak educational background will have little success in broadening the uni-service perspectives of his students. Ideally, the panel believes, each military member of a joint faculty should have completed the intermediate service and joint schools.

An advanced civilian degree should be a prerequisite for assignment to a teaching position or (less desirably) attainable through a faculty development program. Prior joint duty experience by every joint faculty member should, as well, be a goal. In future years, joint specialist education should increasingly be taught by fully qualified JSOs.

*Faculty mix* is also a key consideration. Joint education, in the strongly held view of the panel, requires a military faculty that is representative of each of the services.

European schools have found faculty mix important as well. In the British Joint Service Defence College, faculty mixes are a one-third ratio by service, like the student body. In Germany, joint education occurs primarily through collocation of service schools and shared portions of the courses. The French joint staff course uses a mix of faculty from each of the service intermediate schools and a small faculty of its own with about equal representation from each service. At the senior level, the British and French each have only one school, and both are joint with faculties and student bodies proportionately mixed by service. The Germans are considering establishing a senior PME school that will also be joint.

Should U.S. military schools be required to have a military faculty mix representative of the services? The May 1987 Senior Military Schools Review ("Dougherty") Board recommended that *service* school faculties have a minimum number of instructors from other services—about 10 percent from each of the other military departments. On the other hand, the September 1987 National Defense University report on joint specialist education, prepared by Lieutenant General Bradley Hosmer, NDU President, for the Chairman, JCS, recommended the current NDU standard for the joint curriculum. Under that standard, each military department provides one-third of the faculty. JCS debate on the issue apparently has addressed the one-third faculty mix and an alternative mix of 50 percent host military department faculty officers and 25 percent each for the other two departments.

The panel believes *joint specialist education* should be accomplished in schools with equal representation from each military department. This one-third mix is ideal for exposing officers to the broadest possible range of multi-service views. It is vital for the difficult job of inculcating a joint perspective that is the essence of joint specialist education. It has been and remains today the joint school standard. The panel is convinced the one-third mix must be the standard for JSO education.

For *non-JSO joint education* the situation is more complex and the theoretical desirability of high percentages from each service has to be balanced with the feasibility of attaining the needed numbers of faculty. The complexity leads to analyzing the senior and intermediate levels separately.

At the *senior* level the faculties are smaller and much of the curriculum, as cited earlier, is inherently joint. In fact, a number of witnesses suggested that all of the war colleges become completely joint. The panel view is that with the separate and distinct educational missions of the service war colleges—land, sea, and aerospace warfare—it is appropriate for them to weight their faculties toward those missions. With the varied missions in mind, the panel

believes the JCS-discussed mix of 50 percent host military department faculty and 25 percent for faculty from each of the other military departments (50/25/25 percent mix) is appropriate.<sup>7</sup>

At the *intermediate* level the faculties are larger and the proportion of the curriculum that addresses joint subjects is smaller than at the war colleges. For these reasons, the faculty can be comprised of fewer instructors from other military departments. The panel believes that a minimum of 15 percent of the faculty should be from each of the non-host military departments.<sup>8</sup>

In summary, for faculty mixes by military departments, the panel believes the permanent standards should be: (1) joint schools (JSO-education) should continue with one-third mixes, (2) senior service schools should have 25 percent from each non-host military department, and (3) intermediate service schools should have at least 15 percent from each non-host military department. It should be noted that these standards apply to the entire active duty military faculty, not some fraction designated as a nominal "joint education" department. PME school officials emphasized in their testimony that the joint material is inextricably interwoven into their curricula. That being the case, faculty representation from each military department is required for the entire curriculum.

Although the discussion of joint faculty has focused on military officers because they are a key factor in developing a joint perspective, the panel also believes civilian faculty can contribute significantly to the joint curriculum, particularly at the senior level where curriculum addresses the interplay of military with political and other factors relevant to national security.

*Control of Joint Education.* Congress, in crafting the Goldwater-Nichols Act, did not alter the traditional chains of command for either service or joint professional military education. Each service school, in accordance with the long-established training missions of the services, remains under the direction of its respective military department secretary and, in particular, its service chief. The Goldwater-Nichols Act assigned the *joint* education and training mission to the Secretary of Defense and made the Chairman, JCS, responsible for rendering advice and assistance to him. Thus, the joint schools of the National Defense University remain under the overall authority of the Secretary, with control exercised by the Chairman, JCS, and his subordinate, the NDU president.

The panel agrees with the legislative arrangement for the joint schools. The Chairman, JCS, who is the principal military advisor and the spokesman for the unified and specified commanders, should control the institutions that educate joint specialists. The joint schools should be responsive to the needs of the Chairman and, through him, to the commanders of unified and specified commands. Curricula should change if deficiencies in the knowledge or abilities of the schools' graduates are identified. Selection of school leadership should be determined by the Chairman, as well as criteria for nomination and selection of faculty. Student selection poli-

<sup>7</sup> In Chapter IV the panel will recommend a phased plan to achieve the proposed *senior*-level faculty mix.

<sup>8</sup> In Chapter IV the panel will recommend a phased plan to achieve the proposed *intermediate*-level faculty mix.



cies and criteria should be established by the Chairman, executed by the services, and overseen by the commandants of the schools.

Despite the fact that Congress did not alter the traditional responsibilities for service education, the division of responsibilities between the services and Secretary of Defense/Chairman, JCS, with respect to non-JSO joint education is not as clear-cut as it might at first appear. The Goldwater-Nichols Act made the Secretary of Defense responsible for ensuring that the service schools strengthen their focus on joint matters and better prepare officers for joint duty assignments. In addition, over one-half of the senior-level students and one-third of the intermediate-level students attend either joint schools or the schools of another service. Consequently, all PME schools, by virtue of the composition of their student bodies, shoulder important joint responsibilities for the education of sister-service students. The panel is convinced, therefore, that the Secretary of Defense and Chairman, JCS, must assume an active role in overseeing the joint curriculum and faculty of each service PME school, recognizing that service missions should remain the principal focus. The Chairman acknowledged this responsibility in his testimony on August 11, 1988.

### COMPARING JOINT FACTORS IN PME COLLEGES

In this section the panel presents its findings and conclusions concerning the joint education provided by the 10 PME schools. The panel's study of PME history, the Goldwater-Nichols legislation, and the joint specialty helped to shape its views on the new requirements for joint education. The new requirements, in turn, provide the basis—in effect, set the standards—for assessing the adequacy of the curricula, faculties, and student bodies of the PME schools with respect to joint education.

#### CURRICULUM

The school commandants and other officials who appeared as witnesses before the panel almost uniformly emphasized that the curriculum of their particular school is "joint." The panel's analysis confirmed their claims. The war colleges (Army, Navy, Air Force, National) devote roughly 60 percent of their core curricula hours to joint subjects. The intermediate Armed Forces Staff College far exceeds the 60 percent. The Industrial College devotes more than 40 percent of its curriculum to joint subjects even when mobilization is excluded. Although the joint content of intermediate service schools varies significantly, with one exception they devote no less than one-third of their curricula to joint subjects.

In arriving at these findings, the panel used broad, though valid, criteria to determine the joint content of the curricula. The panel also examined the curricula using the Goldwater-Nichols Act definition of "joint matters," as discussed earlier in this chapter. Even when the more rigorous Goldwater-Nichols Act definition is used (it would, for example, exclude national security policy), the general thrust of the findings remains unchanged.<sup>9</sup>

<sup>9</sup> In order to ascertain how much each school emphasizes joint matters, the panel categorized the core curriculum of each school into three categories: (1) joint matters, (2) service-oriented,

Joint content is only one aspect of a joint curriculum, however. During its visits to the PME schools, the panel attempted to judge how joint military subjects were treated. What it found was that joint education at service colleges too often has a narrow service bias. Discussion of joint material focused almost entirely on the role of the parent service in the joint operation or activity. As a result, students in service schools gained insufficient understanding of the complex problems involved in planning for and employing joint forces. The service schools also failed to explore the joint implications of the material. In the subjects assigned for study, major points involving the other services were overlooked or addressed superficially. It would be possible, for example, for a student to study British General Viscount William Slim's World War II Burma campaign and not be exposed to sea support or air command and control issues. Although the Goldwater-Nichols Act applies a somewhat lower standard for non-JSO joint education, one that accepts joint education from a "service perspective" (e.g., the perspective of a service component commander or staff), the panel concluded that a more knowledgeable, well-rounded approach to joint education in service schools is required.

The panel also found that insufficient education about their own and other services in service PME schools may impede the joint education of officers. All of the senior military leaders, active and retired, that were heard by the panel emphasized that the best joint officer is one who is expert in his or her own service. In an earlier section, the panel also noted that, if officers are to be effective in a joint assignment, they must understand the other services. Knowledge of their own and other services prepares officers to learn how multi-service forces can be integrated for joint operations.

*Army and Marine Corps Schools.* The Army Command and General Staff College and the Marine Corps Command and Staff College both concentrate heavily on the integration of branches of their services (such as, artillery, armor, and infantry) into the combined arms formations they would use in combat. The Army course, however, achieves a much higher concentration on joint matters because it covers the operational level of war, an inherently joint, combat-oriented study. Instead of joint warfighting, the Marine school devotes significant portions of its curriculum to staff writing and speaking skills and personal development. The Army teaches staff skills to more junior officers in its Combined Arms and Services Staff School (CAS3) that all Army captains attend. The panel believes the Marine school system would be improved if it more closely followed the Army pattern.

The classroom discussions of joint material the panel observed at the Army Command and General Staff College focused almost entirely on the Army role in a joint operation or activity. Some in-

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and (3) all other subjects. For this analysis the panel used the Goldwater-Nichols Act definition of "joint matters" rather than the broader panel definition discussed in the previous section. The "service-oriented" category includes material about the host school service. This means the "other" subject category includes a potpourri of subjects from national security strategy and foreign area studies (both inherently joint subjects but broader than the Goldwater-Nichols definition of joint matters) to communications skills and executive management.

structors privately expressed a reluctance, and even antagonism, toward dealing with joint subjects.

The Commandant of the Army War College asserted in testimony that his college is a joint school because 45 percent of its curriculum is devoted to joint matters and another 35 percent to national security matters. Moreover, he noted that an elective course addresses military strategy and joint operations at the theater level. The panel's analysis roughly confirmed the Commandant's claim about the proportion of the curriculum devoted to joint matters. But the panel found, as it did at other colleges, that the curriculum as defined by the syllabus and the curriculum taught in the classroom varied significantly. Although the panel saw only a snapshot of classroom activity, the Advanced Warfighting Course, the consensus was that little joint instruction or learning was taking place. The discussion was decidedly land warfare oriented, with cursory comments about air power and the potential role of naval forces.

*Navy Schools.* The curriculum at the College of Naval Warfare (the Navy senior school) has more hours devoted to joint matters, as defined in the Goldwater-Nichols Act, than any other service PME school, with the balance split between service war-fighting issues and other policy or management issues. As in other service colleges, however, joint matters at the College of Naval Warfare are approached from a service perspective. The panel believes this is an appropriate approach for a service school. But, by the same token, the service-oriented approach means that the College of Naval Warfare is *not* a joint school. It does not have the faculty mix, student mix, and perspective of a genuine joint institution.

The College of Naval Command and Staff (CNCS) is different from the other intermediate service schools. Its curriculum so closely parallels that of the senior Navy college that it is often perceived as merely a junior version of the advanced course. One consequence of the Navy approach is that the Navy intermediate school is by far the most "joint" of the service intermediate schools. That is because the senior course curriculum, which emphasizes strategy and operations at the theater level, is inherently joint. Another consequence, however, is that the Navy intermediate students spend far less time learning about maritime operations than the Army and Marine school students spend on land and amphibious warfare. The panel questions the Navy curriculum balance as well as the "one-level-at-two-schools" approach. A prerequisite for adequate performance in the joint environment is knowledge of an officer's own service, knowledge that is slighted at the intermediate naval school.

*Air Force Schools.* Although the Air Command and Staff College (ACSC) devotes about one-third of its curriculum to joint subjects, it devotes far less time than even the Navy to service-oriented subjects. As a result, the study of warfare—joint and uni-service—at ACSC constitutes less than half of the curriculum. Alone among the PME schools, ACSC gives more weight to staff skills than to warfighting. Recalling that a prerequisite for joint specialist education is knowledge about an officer's own service, the panel believes it is justified in calling for the Air Force to review its educational priorities. Beyond the joint rationale, however, the panel believes it

is in the best interest of the Air Force to educate its officers more fully about the employment of military forces.

Similar comments are warranted with respect to the Air War College. Roughly half of the core curriculum hours are devoted to joint matters. But only about 10 percent are dedicated to service matters.

*National War College.* Despite its focus on national policy, national security decisionmaking, and national security strategy, the National War College devotes almost half of its core curriculum to joint matters as defined narrowly in the Goldwater-Nichols Act. Even though National War College has increasingly concentrated on joint operations and national military strategy, it retains the overall political-military emphasis that has characterized its curriculum since its inception. The panel agrees with the emphasis on political-military subjects and believes that the participation of the State Department and other civilian government agencies is appropriate and needed at this level.

When the National War College was at the apex of the PME system in the immediate post-World War II era, its students were normally senior colonels and Navy captains who had attended their own service war college. They started on a higher plane than today and had a better foundation in their own service, in joint issues, and in national security policy. They were selected because they had a high probability for promotion to flag rank and were expected to serve in high-level command and staff positions. The change to "just another war college" in the 1960s forced the National War College to adopt a lowest-common-denominator solution to curriculum development to account for large disparities in rank, education, and experience among its students.

The National War College incorporated more warfighting and national military strategy in its curriculum to accommodate the needs of its students who were no longer graduates of a senior service college and who were both less senior and less certain as a group to achieve flag rank. The panel believes the National War College could do a better job on its traditional curriculum if the service schools assumed the responsibility for national military strategy and related subjects such as contingency planning and command and control of combat operations under unified command, as discussed in Chapter II. That foundation for the military students should allow the National War College to concentrate even more on the broader aspects of national security. Such a change should make attendance at the National War College more beneficial not only for the military students but for those from the State Department and other agencies.

*Armed Forces Staff College.* Roughly three-quarters of the Armed Forces Staff College curriculum is devoted to joint subjects. Much of the joint material, however, focuses on joint processes—line and block charts of command organizations, the structured planning process, the Worldwide Military Command and Control System (WWMCS), the Joint Operations Planning System (JOPS), and the Crisis Action System (CAS). The panel believes that instruction in these rather elementary subjects, although important, is more accurately characterized as training than education. Other parts of the AFSC curriculum devoted to management and communications

skills reinforce this staff officer training theme. The large percentage of the core curriculum devoted to subjects other than warfighting and war-supporting indicates the absence of a sharply focused program that is all the more serious given the brevity of the school compared to other command and staff colleges.

The Armed Forces Staff College long ago altered its original mission from "to train" to "to prepare" student officers "for joint and combined staff duty" in order to place greater emphasis on education—improving officers' ability to analyze and deal with a broad range of joint matters. Unfortunately, the school has found it difficult to adapt to the education mission. It tends to concentrate on training officers for their next assignment. This can be seen in its curriculum, which sets aside little time for learning to understand, analyze, and act on complex joint warfare issues. Consequently, the panel questions whether the AFSC curriculum will sustain officers beyond their next tour. The panel believes that a significant portion of the curriculum, particularly the parts related to organizations, processes, procedures, and staff skills—both service and joint—should now be taught at intermediate service schools where knowledge of both the joint and service systems is important to all students whether they become joint specialists or not. In the view of the panel, this is one of the implications of the Goldwater-Nichols Act requirement to revise the curricula of service schools to strengthen the focus on joint matters and prepare officers for joint duty assignments. Such a realignment of curricula could be easily accomplished because intermediate service schools already teach much of what is provided at AFSC. It could, however, result in a fundamental improvement at AFSC. If the intermediate service schools assumed the responsibility for teaching staff skills, processes, and procedures, AFSC could concentrate on case studies on the combat employment of forces, as did the Army-Navy Staff College in World War II. Joint *education* would then take precedence at AFSC.

AFSC is also weakened by the policy of each service to equate attendance there to attendance at its own command and staff college. Since 1968 students attend one or the other, not both. Consequently, officers who attend AFSC miss the service intermediate-level education that the panel was told is so important to officer development, particularly for potential field commanders. The panel believes that officers should attend a service command and staff college before AFSC.

#### FACULTY

The faculties in the intermediate and senior *joint* colleges—the Armed Forces Staff College, National War College, and the Industrial College—have the best service representation for teaching joint subjects. In fact, they are the only schools whose faculties approach the panel's standard: equal representation for each military department for JSO education. As shown in Chart III-4, none of the *service war* colleges even comes close to meeting the panel's recommended standard for *non-JSO* joint education: 50 percent parent military department; 25 percent each other military department. Similarly, the *intermediate service* schools have very low numbers of non-host military department faculty and fall far short

of the panel's lesser standard: 15 percent faculty from each of the other military departments.

CHART III-4—COMPARISON OF JOINTNESS IN FACULTY

[Academic year 1987-88]

	Service by percent					Civilian
	Parent	Army	Navy	Air Force	Marine Corps	
Intermediate colleges:						
Armed Forces Staff College .....		28	25	26	8	13
Army Command and General Staff College .....	76		2	4	2	16
College of Naval Command and Staff .....	47	8		7	8	30
Air Command and Staff College .....	88	6	5		2	0
Marine Corps Command and Staff College .....	86	5	5	5		0
Senior colleges:						
National War College .....		23	16	23	3	35
Industrial College of the Armed Forces .....		23	15	19	4	38
Army War College .....	66		2	3	2	27
College of Naval Warfare .....	47	8		7	8	30
Air War College .....	62	6	6		3	22

The Navy/Marine faculty at AFSC is somewhat overrepresented in comparison to Navy department faculty in other PME colleges, both joint and other-service. The overage should be distributed to Army and Air Force colleges; Navy department instructors are underrepresented in these schools.

The two Navy PME schools, though far short of the panel standards, have a better faculty balance for teaching joint subjects than any of the other service colleges. The Army and Marine intermediate college faculty mixes support the orientation of their curricula toward service warfighting, but they slight joint education. The Air Command and Staff College approach again puzzles the panel: the least warfighting-oriented of the colleges, it has the highest single-service faculty representation.

Much of the curriculum at war colleges is devoted to military strategy and theater operations and is therefore inherently joint. Consequently, war colleges need more "other-service" faculty than intermediate schools. The Army and Air War College faculties, however, greatly overrepresent their parent services. The College of Naval Warfare, though somewhat more balanced, requires significant increases in Army and Air Force faculty. The proportion of civilians on the faculties of the senior war colleges is significant and should not be reduced.

In visits to the service colleges, the panel found that the faculties lacked knowledge of other services and of joint doctrine and other joint issues required to direct discussion and correct misperceptions of how multi-service forces could best be integrated. The panel concluded that the 50/25/25 mix for *senior* service school faculties is not only valid, it is imperative. If it were feasible, *intermediate* service schools should have the same mix. The panel's standard of a minimum of 15 percent of the faculty from each of the other military departments should be considered just that, a bare minimum.

The panel learned firsthand during its classroom visits that unguided student discussions are insufficient as an educational

device. Some student officers told the panel that the Armed Forces Staff College faculty members often serve as little more than resource persons or facilitators. Similar comments were made at other schools. On the other hand, both the military and civilian faculty members at the Naval War College employed an active "hands-on" approach to lead their classes. The difference in learning outcome was obvious. The panel is convinced that the PME school faculty members should handle their classes in the same manner that graduate school classes are conducted throughout the country. Although students can, and do, learn from each other, the faculty of a school must provide the foundation and framework for learning to take place, each member serving as a source of insight, information, academic guidance, and critical evaluation. That means that the qualifications and ability of the faculty should overshadow those of the students who are, after all, there to learn from the faculty.

Although Chart III-4 demonstrates that the joint colleges have the best service balance for teaching joint subjects, the panel uncovered considerable evidence that the joint colleges are being slighted with respect to faculty size and quality. In comparison with other service colleges, the joint colleges have small faculties and high student/faculty ratios. This creates more demands on instructors, decreasing time available for preparation, research, and curriculum development. The faculty workload is not conducive to graduate-level education; it precludes the faculty members from attaining and maintaining expertise in all the fields they teach. Consumed by the workload, resident faculty have little opportunity for their own professional development or research.

Another disadvantage of overburdening the joint college faculties is lost opportunity for development of joint doctrine. As discussed earlier in this chapter, there is a shortage of joint doctrine and, relatedly, of materials to use in teaching about joint operations. The joint schools should play a key role in the needed development of joint doctrine. In order to accomplish this, the joint schools should have sufficiently low student/faculty ratios to permit faculty members to assist in the development of joint doctrine and to create teaching materials on joint subjects for use in both joint and service schools.

The ICAF Commandant testified that he has made a conscious concerted effort to decrease external lecturers but that this has caused him concern about having enough faculty to conduct additional, improved instruction in the classroom. Student/faculty ratios remain high, placing greater demand on outside sources for expertise. Each of the joint college commandants informed the panel that he lacks sufficient faculty to teach the curriculum of his school properly. Despite this shortage, recent requests to increase joint college faculties have been denied.<sup>10</sup> As a minimum, student/faculty ratios and resources devoted to the joint schools should equal those at the Army, Navy, and Air Force PME colleges.

Inadequate student/faculty ratios inevitably diminish the quality of the faculty and the resulting quality of instruction. Another

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<sup>10</sup> The National Defense University, through an internal realignment of four positions, recently increased the ICAF faculty marginally.

factor that impacts more directly is the capability of the faculty. At the National War College, only 10 of the 21 military faculty members have had a joint duty assignment.

One explanation for the heavy reliance on student exchanges at the Armed Forces Staff College may be that the faculty is less capable than the faculties at other schools. Historically, AFSC faculty members have not been promoted at the same rate as officers in other duty positions. The promotion rates are, in fact, abysmally low. Over the past 5 years, the AFSC all-service promotion rate from lieutenant colonel/Navy commander to colonel/Navy captain is only 19 percent, compared to service-wide average rates of between 35 and 50 percent. Although AFSC receives nominations from the services for faculty positions and can reject them, it is apparent from information provided to the panel that many officers nominated and accepted have not been competitive for promotion when assigned to the school. The school has many relatively senior majors and lieutenant colonels/Navy commanders, most of whom have been passed over for promotion. Many faculty members have also been passed over for senior-level schooling. Faculty members often retire upon completing their AFSC tour. The retirement rates are 50 percent for lieutenant colonel/Navy commanders and 59 percent for colonels/Navy captains. These statistics indicate an absence of "front-runners" on the faculty.

As discussed in Chapter V, the panel believes the faculties at the joint schools should be at least comparable to those at the best service schools in terms of experience, educational background, promotion opportunity, academic stature, and student/faculty ratio. The Secretary of Defense, with the advice of the Chairman, JCS, should take action to ensure that the joint school faculties meet these minimum standards. The service chiefs should contribute by providing more high-quality officers with joint, operational, and subject-matter expertise.

#### STUDENT BODY

The joint schools, once again, meet the joint education standard established by the panel for JSO education: as close to equal representation in the student body as possible. As shown in Chart III-5, the student bodies at the joint colleges contain robust mixes of officers from each service for joint education. Overrepresentation by the Army and underrepresentation by the Navy/Marine Corps in the Armed Forces Staff College student body should, however, be corrected.



## CHART III-5—COMPARISON OF JOINTNESS IN STUDENT BODY

ACTIVE-DUTY OFFICERS FROM FOUR U.S. SERVICES

(Academic year 1987-88)

	Service by percent (number of students)										Total U.S. military students
	Parent		Army		Navy		Air Force		Marine Corps		
	%	(No.)	%	(No.)	%	(No.)	%	(No.)	%	(No.)	
Intermediate-level colleges:											
Armed Forces Staff College			43	(212)	19	(93)	30	(146)	8	(37)	(488)
Army Command and General Staff College	92	(704)			1	(3)	5	(40)	2	(18)	(765)
College of Naval Command and Staff	60	(97)	20	(32)			7	(12)	13	(21)	(162)
Air Command and Staff College	85	(384)	10	(44)	3	(13)			2	(9)	(450)
Marine Corps Command and Staff College	84	(123)	8	(12)	6	(9)	1	(2)			(146)
Senior-level colleges:											
National War College			34	(40)	24	(28)	34	(40)	8	(10)	(118)
Industrial College of the Armed Forces			36	(63)	23	(40)	35	(62)	6	(10)	(175)
Army War College	84	(181)			4	(8)	8	(17)	4	(9)	(215)
College of Naval Warfare	57	(98)	20	(34)			8	(13)	16	(28)	(173)
Air War College	81	(148)	11	(20)	5	(10)			3	(5)	(183)

Sources: Input from colleges.

Once again, the service colleges fall far short of the minimum standards the panel believes necessary for the non-JSO education required for all students by the Goldwater-Nichols Act. Those standards are: (1) *senior* service schools, 50 percent host service students and 25 percent from each other military department, and (2) *intermediate* service schools, two students per seminar from each of the other military departments (with three preferred).

Of the service schools, the Navy colleges have the best mixes of other-service students. Ultimately, however, the Air Force proportion at Newport should be increased significantly, and the Army slightly. The Army and Air Force schools, particularly at the intermediate level, are in far worse shape than the Navy. They lack adequate numbers of other-service students to teach a joint course effectively. At the Army Command and General Staff College, the large number of Army students in residence (704) makes it difficult for the other military departments to assign the requisite number of officers needed to achieve an adequate service mix in each seminar. It will take time to correct this problem, but both the Navy and Air Force, with 8 and 40 students respectively at Fort Leavenworth in academic year 1988-89, need to do better right away. The mix at the Marine Corps Command and Staff College should not be altered, however, until the curriculum is made more consistent with that of the other intermediate schools. Gradually, in order to comply with the implications of the Goldwater-Nichols Act concerning joint education for all PME students, the military departments must assign substantially more of their PME students to schools of another service.

Classroom observations validated that conclusion and influenced the panel's proposed service school standard. It was apparent that, as service officials had told the panel, the services are in general selecting PME students from among their most outstanding officers. When only one officer from another service was present in a classroom seminar, however, the panel observed that military con-

siderations important to employing the forces of his service were often not clearly articulated and sometimes overlooked. One explanation is that the officer's warfare specialty limited his or her ability to participate across the broad range of issues. In any case, the result was that classroom discussion of joint problems focused almost entirely on the parent service of the school. The panel concluded that greatly increased "other-service" representation is needed in the student bodies of service PME schools. Moreover, the panel believes that additional emphasis throughout the military on professional self-development, now strongly encouraged by the Chief of Staff of the Army and the Commandant of the Marine Corps, would improve the quality of the student bodies because entering students would be more knowledgeable. These observations also reinforced the panel's conclusion that joint specialist education should be taught in an environment in which the military departments are equally represented and service bias is minimized.

The panel also found evidence that the joint schools are victimized by service policies affecting the composition of the student bodies. The National War College provides a good example. The qualifications of students, in terms of rank and experience, have diminished dramatically over time. In its initial 10 to 15 years, students graduating from National were promoted to general and flag rank at a far higher rate than graduates of service war colleges. This phenomenon resulted from a consensus of the national security establishment that National was at the apex of the military education system, that its curriculum was tailored for those who would attain high positions of responsibility in policy and strategy matters, and that the joint education and socialization among its multiple agency students were healthy for both the services' and the nation's interests. Now the National War College is merely one of five equivalent senior colleges and receives an "equivalent share" of outstanding officers. The panel believes that present student selection policies undermine the rationale used both to justify the establishment of the college in 1946 and to maintain it through the years, are a disservice to the institution, and are not in the national interest.

The National War College is further disadvantaged by Navy assignment policies. Students at the National War College are selected by their service and are supposed to meet rank and previous schooling criteria established by the JCS. Generally, students have met those criteria, except for Navy students. In the past 2 years, Navy students have tended to be of a higher quality than before. But they continue to be junior to other students on average and to lack sufficient experience and prior education. In academic year 1987-88, for example, 7 of the 28 Navy students (25 percent) were "frocked" to the rank of commander to meet minimum rank criteria. ("Frocked" is the term for officers who wear the insignia of the next higher grade before they are officially advanced to that grade. See Chapter V for additional discussion.) Unlike students from all other services, Navy students have seldom attended a service command and staff college or AFSC, despite JCS guidance that such schooling is desired. This places the Navy students at a disadvantage compared to their classmates and affects their ability to participate fully in exercises and discussion. The net effect is less edu-

cation for the Navy students and less understanding of the Navy among other-service students.

Once again, the panel concludes that the nurturing and cultivation of the joint schools requires more attention by the joint institutions they serve, beginning with the Secretary of Defense and the Chairman, JCS.

#### CAPSTONE

The Capstone course, an element of the professional military education system that was established in the 1980s, was also reviewed by the panel because its purposes and the subject matter studied are inherently multi-service.

Capstone is a 6-week course for newly selected general and flag officers conducted four times a year by the National Defense University. It accommodates about 30 to 35 officers in each session. Initiated in 1983 as an optional 11-week course, it has since been cut almost in half. As a result of the Goldwater-Nichols Act, Capstone is now mandatory for officers selected for promotion to general and flag rank. The PME objectives of Capstone are established in JCS Staff Memorandum 189-4, March 23, 1984:

(a) Teach the issues of joint and combined operations through personal interaction with CINCs and other senior U.S. and allied commanders directly responsible for the planning and employment of joint and combined military forces.

(b) Teach key aspects of the national security environment, the intelligence support structure, service doctrines and capabilities; and joint and combined operational concepts, doctrinal issues and planning processes.

(c) Provide knowledge of major combat force acquisition issues; current defense programs, industrial base and related issues and concepts and their implications for the conduct of joint and combined operations.

The Capstone course is structured to achieve the following objectives:

*First week.* Introduction, executive fitness, and overview of the joint system.

*Second and third weeks.* Learning about other service capabilities as well as visits to unified/specified command and service headquarters within the United States. During this period, students travel nearly every day.

*Fourth and fifth weeks.* Class divides into three groups that travel to command headquarters and military facilities located outside the United States, either in Europe, the Pacific, or the Western Hemisphere. Each group also receives briefings from U.S. embassy officials in some of the countries it visits.

*Sixth week.* Class listens to and debates issues with senior retired four-star commanders, civilian defense experts, and Defense Department critics and participates in a 2-day exercise focused on joint force development and employment.

The Capstone program has no dedicated faculty. Rather, it relies on headquarters visits, guest lecturers, and "senior fellows." The latter are retired former commanders of unified or specified commands or service components who attend classes and accompany students on trips. Their role is to challenge student thinking on joint issues, interpret views presented during briefings and trips, and act as advisors and mentors.

The panel does not believe that the ambitious objectives established by the JCS are met by the curriculum and pedagogy of the current Capstone. During a session with the Capstone class in May 1988, the panel was told that significant socialization takes place in 6 weeks, with the result that students attain a much better understanding of the other services. But there were no comments about substantive issues of joint force doctrine, capabilities, and planning. Students attempted to convince the panel that anything more than 6 weeks of school at this level was inappropriate and unneeded. On the other hand, former graduates of Capstone described it as a "suitcase packing drill" and "one cocktail hour . . . followed by a second . . . followed by a third." John Collins, Senior Specialist for National Defense at the Congressional Research Service and a retired Army colonel, in testimony before the panel, stated his belief that Capstone is a "glorified charm school preaching the party line."

The shortcomings of the Capstone course are particularly unfortunate in light of the strongly felt need for increased flag officer professional education expressed by former service chiefs, unified commanders, and at least one former JCS Chairman. Two former commanders of the U.S. European Command illustrated the need for more and better flag officer education in discussing the Warrior Preparation Center in Germany, a wargaming center for senior officers and staffs. They stated that the Warrior Preparation Center began as an exercise for three-star corps commanders to train their two-star division commanders, but ended up as a training exercise for the corps commanders as well. In testimony, General John Galvin, the current U.S. European and Supreme Allied (NATO) Commander, described the transition from field grade rank to flag rank as "a very critical time in terms of his learning." He said "it is time for him [the general officer] to see the requirement for a broader outlook, more education, more learning, and more time for contemplation."

## CONCLUSIONS

As discussed in an earlier section, the Goldwater-Nichols Act requires (1) the Secretary of Defense and Chairman, JCS, periodically to review and revise the curricula of *joint* schools to enhance education and training in joint matters, and (2) the Secretary of Defense to oversee periodic reviews and revisions of *service* school curricula to strengthen the focus on joint matters and the preparation of officers for joint assignments. In this chapter the panel, in effect, presented its own review of the PME schools with respect to joint education using standards developed from testimony, interviews, visits, and material provided by the Defense Department. The

panel finds the current PME system inadequate to conduct effective joint education.

The service schools fall far short of any reasonable standards for the joint education they are required by law to include in their curricula for *all* students. The narrow service-oriented focus appears to be the product of several factors: limited student and faculty representation from the other services; the resulting shortage of expertise; lack of a body of joint doctrine and other material to support joint education; and, possibly, the inclination of the leadership of the service schools. The situation is unfortunate enough for students in the intermediate schools. It is unacceptable in senior schools because much of the subject matter—*theater operations, national military strategy*—is inherently joint and should have been recognized years ago as necessitating a substantial multi-service mix of both faculty and students for adequate learning to take place. Faculty and student mixes are crucially important to joint education. Students will gain little genuine understanding of the dilemmas inherent in employing joint forces in war without substantial representation from the other services in the classroom.

The National Defense University schools are closer to meeting panel standards for educating joint specialty officers. The faculty and student composition at the joint schools is ideal for studying joint operations, national military and national security strategy, and political-military affairs.

Beyond faculty and student body mixes, joint schools have the potential to fulfill the expectations of those who learned about jointness the hard way in World War II. The National War College provides an education in strategy and political-military affairs from a perspective higher than a theater commander's, more like that of the Chairman, JCS, or the Secretary of Defense or State. In the view of General Eisenhower and other senior officers who championed this school, military officers lacked this perspective during World War II. Service schools could not provide it. In the words of the JCS memorandum of June 22, 1945, "a joint institution, in which all components have equal interests, is essential." Such a joint institution cannot be controlled by "any one component, since each will be engaged primarily in its own field." Thus control by the Chairman is indicated for National War College. Similar considerations apply to the other joint schools.

The Department of Defense has recognized the inability of the present PME system to meet the Goldwater-Nichols Act requirements. At least two alternatives have been seriously considered. One would convert all service PME schools to joint schools. Another alternative would require each service school to include a special program of instruction in its curriculum (called a "joint track") for student officers nominated for the joint specialty and slated for a follow-on joint assignment. This alternative, however, appears not to address the legislative requirement for providing joint education to *all* officers in service PME schools. The panel has identified additional alternatives that deserve consideration. Chapter IV turns to the analysis of alternatives that would transform the 10 PME schools into a PME system capable of fulfilling its responsibilities.

## JOINT EDUCATION RECOMMENDATIONS

The Goldwater-Nichols Act, with its emphasis on the imperatives of joint warfare and the consequent strengthening of joint institutions, demands a reappraisal of the direction in which professional military education has evolved since World War II. The panel's review of the evolution of PME indicates the necessity of a return to historical roots. The joint schools should return to the premier position they held in the early postwar years.

### SUBSTANCE OF JOINT EDUCATION

1. For the purposes of professional military education, "joint matters" should be defined to include:

(a) The elements contained in the Goldwater-Nichols Act.

- Integrated employment of land, sea, and air forces.
- National military strategy.
- Strategic planning.
- Contingency planning.
- Command and control of combat operations under unified command.

(b) Several other subjects subsumed in the elements contained in the Goldwater-Nichols Act definition.

- Joint and combined operations.
- Joint doctrine.
- Joint logistics.
- Joint communications.
- Joint intelligence.
- Theater/campaign planning.
- Joint military command and control systems and their interfaces with national command systems.

(c) Joint force development, including certain military aspects of mobilization.

2. For joint education to be meaningful and productive, a prerequisite for officers is competence commensurate with their rank in all elements of *their own service* in professional knowledge and understanding (e.g., in the Navy, surface *and* aviation *and* subsurface) as well as demonstrated performance. Also an integral part of joint education is an officer's study of the *other services*.

3. The service intermediate schools should teach both joint and service systems—organizations, processes, procedures, and staff skills—to all students. This is necessary to meet the Goldwater-Nichols Act requirement to revise the curricula of service schools to strengthen the focus on joint matters and prepare officers for joint duty assignments.

4. The Armed Forces Staff College should concentrate on case studies and war games on the combat employment of joint forces, as did the Army-Navy Staff College in World War II. The development of solutions to joint warfighting problems in a joint environment is the best way to teach joint perspective.

5. The Chairman, JCS, should assign the joint schools a major share of the responsibility for developing joint doctrine and related joint knowledge.

## FACULTY

6. The mix of military faculty from each military department is a key factor in joint education. In schools that educate joint specialists, the standard should be equal representation from each of the three military departments. For other schools, representation from each department should eventually be substantially higher than today. These standards should apply to the entire active duty military faculty, not some fraction designated as a nominal "joint education" department. (See Chapter IV for specific panel-recommended standards.)

7. Ideally, each military member of a joint faculty should have completed the intermediate service and joint schools and have had joint duty experience. In future years, joint specialist education should increasingly be taught by fully qualified JSOs. The faculties at the joint schools should be at least comparable to those at the best service schools in terms of experience, educational background, promotion opportunity, academic stature, and student/faculty ratio.

## STUDENT BODY

8. The mix of students from each military department is another key factor in joint education. In schools that educate joint specialists, the standard should be equal representation from each of the three military departments. For other schools, representation from each department in the entire student body should eventually be substantially higher than today. In addition, the student body mix should consist of students of *equally* high caliber from each military department. Finally, each service should provide a representative mix of students from all combat arms branches and warfare specialties. (See Chapter IV for specific panel-recommended standards.)

9. The Department of Defense should use the following prerequisites as a guide for selecting joint specialist nominees for joint education: top quarter of their year group, competent and experienced in their own service, high intellectual capacity, basic understanding of the mutual interdependence of the services, and broad education. Students attending joint specialist education should have attended a service intermediate school.

## JOINT CONTROL

10. The Chairman, JCS, should control the joint schools and the joint portions of the service schools by Secretary of Defense direction. Schools that educate joint specialists should be responsive to the needs of the Chairman and, through him, to the commanders of the unified and specified commands. Curricula should change if deficiencies in the knowledge or abilities of the schools' graduates are identified. The Chairman, JCS, should revise faculty and student selection criteria and policies as necessary to ensure high quality for joint education. The joint school commandants should periodically report on the effectiveness of the criteria and policies.

11. The Secretary of Defense and the Chairman, JCS, should take a more active role in overseeing the joint curriculum and faculty of

each service PME school, recognizing that service missions should remain the principal focus.

#### JOINT SCHOOLS

12. Joint specialist education should be conducted in schools that are genuinely "joint;" that is, in an environment in which the military departments are equally represented and service biases minimized, and in which the joint curriculum is taught from a joint perspective—that of the Chairman of the Joint Chiefs of Staff, a commander of a unified command, or a contingency joint task force commander at the 3-star level.

13. The joint schools of the National Defense University require more attention by the joint institutions they service. The NDU schools essentially meet panel standards for faculty and student mix necessary to educate joint specialty officers. The faculty and student composition at the joint schools is ideal for studying joint operations, national military and national security strategy, and political-military affairs. The joint schools have the potential to fulfill the expectations of those who learned about jointness the hard way in World War II. In comparison with service colleges, however, the joint colleges have small faculties and high student/faculty ratios. The joint schools should have sufficiently low student/faculty ratios to permit faculty members to assist in the development of joint doctrine and to create teaching materials on joint subjects for use in both joint and service schools. As a minimum, student/faculty ratios and resources devoted to the joint schools should equal those at the Army, Navy, and Air Force PME colleges. The service chiefs should contribute by providing more high-quality officers with joint, operational, and subject-matter expertise.



## CHAPTER IV—REALIGNING PROFESSIONAL MILITARY EDUCATION

Although many of its individual courses, programs, and faculties are excellent, the existing PME system must be improved to meet the needs of the modern profession of arms. Chapter I noted the absence of a genuine framework that integrates all of the PME schools into a coherent whole. Chapter II found that changes are needed to improve education in strategy. Chapter III concluded that the 10 schools are inadequate to the task of providing quality joint education.

This chapter assesses alternative approaches to restructuring the schools into an integrated whole that develops strategists and provides genuine joint education. The first section briefly summarizes the criteria derived from the discussion in previous chapters that serve as the basis for the panel's assessments. The chapter then evaluates four alternatives considered by the panel in light of the history of the PME system and measures taken by the Department of Defense in response to the Goldwater-Nichols Act. None of the four alternatives is found to be adequate. The last section of the chapter discusses an additional alternative that is favored by the panel—a composite of the best aspects of the four alternatives considered—and provides a set of comprehensive proposals for altering the PME system.

### PANEL CRITERIA FOR ASSESSING ALTERNATIVE PROPOSALS FOR STRUCTURING THE PME SYSTEM

The first three chapters of this report suggest seven criteria that provide the basis for the panel's assessment of possible modifications of the PME system.

I. *Conceptual Framework.* The PME system should have a clear, coherent conceptual framework (see Chapter I). The PME framework should clearly distinguish and relate the role of each of the 10 PME schools plus general/flag officer courses. Each level of schooling and each school should have a primary focus that provides students with a foundation for future growth through experience in operational and staff assignments and through additional education at higher level PME schools.

II. *Distinctiveness of Genuine Joint Education.* As a result of lessons learned during World War II (see Chapter III), joint schools in the early post-war period were at the pinnacle of military education, their curricula were distinct from those at service schools, and attendance at a joint school was generally reserved for officers who had already graduated from a service school. The panel believes joint schools should regain that lost

stature and distinctiveness. Students at joint schools should be graduates of a service school (or the equivalent) and possess outstanding records and a high potential for advancement. The faculties should include prominent scholars and experienced officers with flag potential. Finally, joint school curricula should be differentiated from that of service schools by focusing on joint combat operations in theaters of war at the intermediate level and national security strategy at the senior level.

III. *Service-Oriented PME*. Explicit recognition of the value of service-oriented PME should be an integral feature of the PME system (see Chapter III). Service PME is an important building block in the development of officers, including joint specialists. Consequently, service-oriented education should be retained and strengthened.

IV. *Strategy*. Both service and joint schools should improve their contribution to the development of officers who can think strategically (see Chapter II). Specifically, intermediate service schools should concentrate on theater-level operational art; senior *service* schools on national military strategy; and senior *joint* schools on national security strategy.

V. *Goldwater-Nichols Act Education Requirements*. The Goldwater-Nichols Act imposes four legal requirements on the Defense Department with respect to education (see Chapter III).

(1) It requires that the curricula at *joint schools* be revised to enhance the education of officers in joint matters. Joint schools are given the task of educating JSO nominees to rigorous standards.

(2) The act also requires that the curricula of *service schools* be revised to strengthen the focus on joint matters and on preparing officers for joint duty assignments.

(3) The law's definition of *nominees for the joint specialty* has important legal implications for joint education: nominees, with some exceptions, must have successfully completed a joint school program. Because the act requires that half of all joint duty billets be filled by nominees or bona fide specialists, joint schools must graduate enough nominees each year to comply with the law.

(4) Finally, the Goldwater-Nichols Act makes attendance at *Capstone*—a course Congress stated should be designed specifically to prepare officers to work with the other armed forces—mandatory for new general and flag officers.

VI. *Panel Standards for Joint Education*. Enhancing the education of both non-JSOs and JSOs in joint matters, as mandated by the Goldwater-Nichols Act, requires significant changes throughout the PME system that reach beyond the act's specific legislative provisions (see Chapter III). Schools that provide joint specialist education should meet four prerequisites.

(1) A *curriculum* that focuses on joint matters as defined in Chapter III.

(2) A *faculty* with equal representation from each military department.

(3) A *student body* with equal representation from each military department.

(4) *Control* exercised by the Chairman, JCS.

Schools that provide joint education for non-JSOs must be better equipped than they are today to teach students about their own service, other services, and joint matters. To do so, their joint curricula should focus on joint matters as defined in Chapter III, they should meet cross-service faculty and student body mix standards, and the Chairman, JCS, should control the joint education portions of their programs.

The faculty and student body mix standards for JSO and non-JSO education are summarized in Chart IV-1.

Chart IV-4

**STANDARDS FOR REPRESENTATION OF EACH MILITARY DEPARTMENT  
STUDENT BODY AND FACULTY  
MILITARY OFFICERS**

Joint Specialist Education		Non-Joint Specialist Education	
Intermediate and Senior		Intermediate	Senior
Student Body	<p>Equal Representation from each military department (33%/33%/33%)</p>	<p>Minimum of 2 students from each non-host military department per seminar; goal of 3</p> <p>70% host, 15% each other military department (70%/15%/15%)</p>	<p>Long Range (1995-96): 50% host, 25% each other military department (50%/25%/25%) and Short Range (1989-90): 80% host, 10% each other military department (80%/10%/10%)</p>
Faculty			

VII. *Costs.* Manpower and dollar costs should be kept as low as possible without unduly sacrificing quality.

The criteria summarized above are used by the panel to evaluate alternatives for restructuring the PME system.

### ALTERNATIVES TO MEET CHANGING PROFESSIONAL MILITARY EDUCATION REQUIREMENTS

The panel determined that the post-World War II history of PME schools, including the measures taken by DOD since 1986 in response to the education requirements of the 1986 Goldwater-Nichols Act, suggests four alternatives for modifying the PME school system. The alternatives are not hypothetical constructs. They represent logical departures from the structure that existed when the Goldwater-Nichols Act became law in 1986, ranging from modest changes to more far-reaching realignments.

The first alternative would modify the *1986 status quo* as little as possible to accommodate the requirements of the Goldwater-Nichols Act. The second alternative would reestablish a PME system similar to the one that was created in the *aftermath of World War II*. The last two alternatives examine converting existing *service schools into joint schools* and the "*joint track*." The latter alternative is a scheme for providing a select portion of each service school student body special joint courses to qualify them as joint specialist nominees.

#### ALTERNATIVE 1: MODIFY 1986 STATUS QUO BY EXPANDING JOINT SCHOOLS

*Description.* This alternative generally preserves the status quo that existed *at the time the Goldwater-Nichols Act was enacted* and makes only those changes necessary to comply with the legal requirement to enhance joint education for both JSOs and non-JSOs. It maintains separate schools for service and joint education. The equivalency of these schools, another attribute of the PME system in 1986, is also maintained; that is, service schooling would continue to be viewed as interchangeable with joint schooling rather than as a qualification for joint specialist education.

The principal change made by the modified status quo alternative is to expand the output of the NDU schools, particularly at the intermediate level—the Armed Forces Staff College—to meet the Goldwater-Nichols Act requirement that in effect requires half of all joint duty positions to be filled by graduates of joint schools. Such expansion would require the construction of additional facilities. In addition, as required by the act, the curricula at joint schools would also be strengthened and the curricula at service schools would be revised to increase the emphasis on joint matters and better prepare officers for joint duty assignments.

*Discussion.* The Goldwater-Nichols Act was drafted with the assumption that the roles of the PME schools would not be changed:

—The joint school system, controlled by the Chairman, JCS, would continue to provide genuine mixed-student, mixed-faculty joint education under the control of the Chairman, JCS. The schools would modify their curricula as necessary under the

supervision of the Secretary of Defense, advised by the Chairman, JCS, to enhance education in joint matters and prepare JSO nominees and JSOs to fill the specialist role in joint assignments.

—The service schools would continue service-oriented education under the direction of military department leadership. They would enrich their curricula as necessary under the supervision of the Secretary of Defense to meet the added requirements for non-JSO joint education.

The drafters of the act believed that the capacity of joint schools was in general sufficient to graduate enough JSO nominees to sustain the Goldwater-Nichols Act requirement that half of all joint assignments be filled by JSO nominees or JSOs. This assumption was supported by the findings of the April 1982 report to the Chairman, JCS, titled *Organization and Functions of the JCS*.<sup>1</sup> Both the report and the law's drafters believed that the joint duty assignment (JDA) list would be confined primarily to *selected* positions in the Office of the Secretary of Defense, the Joint Staff, and the unified command staffs, approximately 4,000 to 5,000 billets. Therefore, only 2,000 to 2,500 positions would have to be filled by JSO nominees or JSOs.

The DOD implementation of the Goldwater-Nichols Act invalidated this expectation. The initial JDA list contained approximately 8,300 positions, and it is expected eventually to total about 9,000. Thus, about 4,500 billets must be filled by JSO nominees or JSOs. Without expansion, joint school capacity is clearly inadequate to sustain a pool of joint specialists large enough to fill the 4,500 billets required by such a large JDA list. DOD officials estimate that the shortfall of joint school graduates will total approximately 450 per year.

In the scramble to address the numbers problem, however, the most obvious approach was apparently not considered: to enlarge the joint schools, particularly the Armed Forces Staff College, sufficiently to educate the requisite number of JSO nominees required to sustain the JSO pool. This approach is much more consistent with the assumptions of the framers of the Goldwater-Nichols Act concerning (1) educating JSO nominees at joint schools and (2) enhancing service school curricula on joint matters but otherwise continuing them relatively unchanged.

*Advantages.* The modified status quo alternative addresses the numbers problem discussed above by expanding joint schools. This approach preserves the existing distinction between joint and service schools and thus imposes the least change of any alternative on the PME system as a whole.

More importantly, this approach is consistent with the panel's conclusion that genuine joint specialist education is possible only in joint schools. National Defense University schools have the most rigorous representational standards for both faculty and student body—equal representation from each military department. The joint environment created by such multi-service representation is

<sup>1</sup> The report was prepared by a special study group headed by former Assistant Secretary of Defense William K. Brehm.

essential if service biases are to be challenged and students are to gain a joint perspective on the full range of available military options. Equally important, only NDU schools are under the control of the Chairman, JCS, and thus responsive to the needs of joint institutions such as the unified and specified commands.

Another advantage of the modified status quo alternative is that it would implement the joint curricula changes at both joint and service schools as mandated by the Goldwater-Nichols Act. "Joint matters," as defined in the act, would receive the required additional emphasis. As intended by the framers of the act, both JSOs and non-JSOs would be better qualified to serve in joint assignments.

Finally, this alternative recognizes the importance of and preserves service-oriented education, an essential building block in the development of both service-competent officers *and* officers nominated for the joint specialty. The framers of the Goldwater-Nichols Act, however, did not anticipate a task that the panel's inquiry suggests is necessary: a review and revision of service-oriented curricula to ensure that officers receive a better grounding in their own and other services.

*Disadvantages.* The central flaw of the modified status quo alternative is that it is a minimum-solution approach. It would modify the PME system only to the degree necessary to comply with the letter of the law. The framers of the Goldwater-Nichols Act clearly intended a more comprehensive restructuring if that proved necessary. The legislative provisions required *review* of the joint school curricula and *review* of the service school curricula followed by necessary *revisions*. As the following discussion of modified status quo disadvantages suggests, there are other areas requiring modification that are not covered by this alternative.

This alternative does nothing to improve the contribution of PME schools to the development of strategists. Furthermore, the PME system would remain without a coherent conceptual framework that ties each school and each level of schooling to the others and into an integrated structure.

Nor would the stature of joint schools be enhanced sufficiently. Although their student bodies would consist principally of joint specialists and joint specialist nominees with outstanding records, none of the other requirements of this criterion would be met. Joint and service school curricula would remain remarkably similar. Distinct—that is, separate—joint and service schools would exist, but they would not offer distinct curricula based on their unique missions. Convergence of curricula would continue to be the hallmark of the PME system.

A corollary to curricula convergence is the continued "interchangeability" of joint and service schooling permitted by this alternative. Interchangeability refers to the services' policy of giving credit for intermediate and senior PME education irrespective of whether an officer attends a service or joint school. Interchangeability may appear innocuous. But it undermines the purpose and stature of joint schools and is a major contributor to curricula convergence. Officers need an improved education provided by service schools and, if they are to become JSOs, a newly designed, tailored, and specialized education in joint matters. Comments from stu-

dents and faculty as well as insights gained during panel visits to the schools belie any assertions that most officers are already sufficiently expert in their own service and as a result can bypass service schooling. Joint school students should have previously attended a service school. Consequently, the panel finds interchangeability unacceptable. It is one of the key disadvantages of the modified status quo alternative.

The panel is particularly concerned about the current interchangeability of joint and service schools at the war college level. The issue of where and how officers obtain the higher level education advocated by General Eisenhower is important. If the National War College remains "just another senior college" and the Capstone course for flag officers continues as merely an orientation course on joint organization and inter-service issues, officers will not receive an adequate education for the positions of higher responsibility they will assume in the national command structure.

The modified status quo alternative also fails to meet most of the standards for joint education developed in Chapter III. In the opinion of the panel, the definition of joint matters contained in the Goldwater-Nichols Act is not sufficiently comprehensive. Important areas such as joint force development should be included in the academic treatment of joint matters. Improving joint education also requires greater emphasis on an officer's knowledge of his own service and the other services. Another serious problem that would continue to undermine the teaching of revised joint curricula would be the lack of a comprehensive body of knowledge on joint doctrine, organizing concepts, and command and control. Until this body of knowledge is developed, curricula revisions will not have the significant impact intended by the authors of the act on improving officer qualifications for operating in a joint environment.

Although the modified status quo alternative could include the above modifications, it would not require them. Moreover, the mix by military department of student body and faculty at service schools that the panel believes necessary to improve joint education for all officers would not be required. Finally, control of the joint aspects of the curriculum at service schools by the Chairman, JCS, is not included.

Implementing the modified status quo alternative would be expensive. Joint schools graduate approximately 750 students per year. (For example, the three NDU joint schools graduated a total of 781 U.S. military officers in academic year 1987-88.) According to DOD, the size of the joint duty assignment list necessitates approximately 1,200 graduates per year to fill the requirement for JSO nominees on a continuing basis. Accommodating roughly a 40-percent increase in the yearly number of joint school graduates would require a major expansion of the intermediate-level Armed Forces Staff College and possibly a significant expansion of the senior-level National War College and Industrial College of the Armed Forces. Construction of additional academic facilities and housing at AFSC is estimated to cost at least \$50 million. Even with panel support, obtaining congressional approval for more military construction in a time of austere budgets would be difficult.

The modified status quo alternative also has important associated non-monetary costs. As a result of expansion, joint school facul-



ty requirements would increase, providing an additional drain on the limited number of high-quality officers with joint experience from all services who are in demand for key joint and service positions worldwide.

#### ALTERNATIVE 2: EARLY POST-WORLD WAR II PME SYSTEM

*Description.* Alternative 2 is a variation of the preceding alternative. Like the modified status quo alternative, it:

- Educates joint specialists in joint schools.
- Expands the output of NDU schools in order to increase the number of yearly JSO-nominee graduates.
- Revises and strengthens the curricula at both joint and service schools.

What distinguishes this alternative is that it would return to the early post-World War II practice of sending officers to intermediate or senior service schools before they attend a joint school. Because officers could no longer attend a joint school in lieu of a service school, both types of schools would be encouraged to develop distinct curricula.

*Advantages.* Returning to the clear-cut distinction between joint and service schools builds on the advantages cited for the modified status quo alternative and in fact overcomes many of the disadvantages.

This alternative orients PME changes in the right direction: toward more education and more jointness. It preserves service-oriented education and continues the practice of educating JSO nominees in joint schools. In addition, it has the significant advantages of allowing joint schools to provide more joint education on national security strategy and operational art, and of focusing at the senior school level on the political-military aspects of national security. The added sophistication would be possible because the joint school students would be able to build upon a far greater educational base than previously. The alternative ensures that all officers who attend a joint school have the requisite grounding in the employment of forces from their own and the other services, a distinct advantage over Alternative 1. Because attendance at a joint school is meant to signify that an officer has the potential to fill key positions in large multi-service units or commands, an understanding of the capabilities and limitations of the forces of his or her own and other services is an important prerequisite to the study of joint force employment issues. The panel strongly believes that with few exceptions attendance at a service school should be a prerequisite for admission to a joint school.

Making service PME a prerequisite for selection for joint PME offers additional benefits. First, joint and service schools would no longer have to compete for quality students. Second, such a policy would reestablish the stature of joint schools and should result in the development of distinct curricula at service and joint educational institutions. Ending the equivalency of the two types of schools would eliminate what the panel believes was one of the principal causes of the convergence of curricula over the past several decades. Finally, the prerequisite policy would facilitate (al-

though it would not require) sorting out each type of school's contribution to the education of strategists.

*Disadvantages.* Although distinct curricula at joint and service schools is an important step in the right direction, this alternative does not include a truly integrated conceptual framework for the PME system overall. It fails to specify a focus for each level of school that results in a progressive broadening of educational achievement as students move higher within the PME system.

Consequently, the alternative would not necessarily strengthen the PME system's contribution to the development of strategists. As noted earlier, each level of school should make a distinct contribution to the education of military officers who can think strategically.

This alternative also would not implement the expanded definition of joint matters endorsed by the panel nor would it require the implementation of other important panel criteria such as improving the cross-service faculty and student body mixes at service schools. Moreover, unless service schools were expanded, the total number of officers receiving intermediate and senior PME education would be reduced by the number currently attending NDU schools annually.

The most serious disadvantage of this alternative, however, is cost. In addition to the joint school expansion costs of at least \$50 million for AFSC and possible construction costs at NWC and ICAF, making service PME a prerequisite for joint schooling would also result in increased manpower costs. Depending on whether an officer attended an intermediate or senior joint school, the alternative would add an additional 6 to 12 months to the time JSO nominees and senior joint school students spend in school. The services contend that the career paths of top-quality officers are already too crowded to accommodate the mix of operational tours and other experience considered essential for selection for flag rank. Any additional PME detracts from the services' ability to provide promising officers with operational and staff experience. Higher manpower costs would also result from the need to establish the better qualified and larger military faculties at NDU schools required to teach more sophisticated students who have already attended a service school.

Finally, if history is an indicator, this alternative would not survive the test of time. Without strong safeguards, the PME system would regress to the present situation with the curricula of the service and joint schools converging and the joint schools becoming "in-lieu-of" schools.

#### *Addendum to Alternative 2: Convert the National War College to Capstone.*

Several witnesses recommended that the National War College become a *Capstone* course for newly selected general and flag officers to provide them a greater opportunity to study and think about joint operational matters and strategy. As the Capstone course, National would again be situated at the apex of the PME system and change would be institutionalized in the direction of more jointness and more education.

National would no longer compete for quality students with the service war colleges; this alternative would assure both service colleges and the National War College of quality student bodies. Because the students would all be flag officers, the payoff in education of the nation's future three- and four-star military leaders would be virtually 100 percent.

But converting National to a Capstone program incurs the same or similar disadvantages as Alternatives 1 and 2. The major disadvantage is that the services, joint organizations, and other DOD elements would lose about 140 of their approximately 530 one-star officers for 10 months—or whatever the length of the course. A second major disadvantage is that the colonels/Navy captains who currently learn about national security strategy at the National War College would not be educated for the key strategy staff assignments. In addition, if the primary focus were to remain national security strategy and policy, the school would be educating all officers on that subject *in depth* even though some would have little talent or need for such expertise. Additionally, unless Capstone were opened to civilians, about 40 senior civil servants would no longer receive a war college education. As the panel proposal will recommend later, it may be possible to focus on military strategy at the service schools and provide a special focus on national security strategy to selected colonels/Navy captains and one- and two-star officers at a revamped National War College.

#### ALTERNATIVE 3: CONVERTING SERVICE SCHOOLS INTO JOINT SCHOOLS

*Description.* This alternative takes advantage of wording in the Goldwater-Nichols Act to convert service intermediate and senior schools into the equivalent of joint schools.<sup>2</sup> Under this alternative all service school graduates would be considered as having met the joint education requirements for JSO nominees.

A number of different ways have been proposed to implement this alternative. The Dougherty Board recommended an accreditation process with certain standards. The accreditation of the entire Naval War College in academic year 1988-89 with only minor changes to its existing program provides yet another model. Finally, it would be possible to recognize the claims of all service schools that they currently cover joint matters without requiring any changes at these schools whatsoever.

*Discussion.* Earlier in this chapter, the panel noted that the large size of the joint duty assignment list led DOD to focus its efforts on how to solve the so-called "numbers problem"—that is, making up the shortfall of about 450 joint PME graduates each year.

The Dougherty Board recommended in May 1987 that the Chairman, JCS, oversee an accreditation process that would validate the increased jointness of service schools but with much less rigorous standards than NDU schools. About 25 percent of the curriculum at an accredited service school would focus on joint matters; the re-

<sup>2</sup> Section 663(b) of the act directs the Secretary of Defense to "review and revise the curriculum of each school of the National Defense University (and of any other joint professional military school." The phrase in parentheses was intended to leave open the alternative of establishing additional joint schools that met the same standards as NDU schools—equal representation from each military department for the faculty and student body and control by the Chairman, JCS.

maining 75 percent would retain a service orientation. Cross-service faculty and student mixes would increase but not approach the equal representation from each military department found at joint schools:

—The faculty would include a minimum of 10 percent from each non-parent military department. At the Army intermediate school, with its large faculty and student body, the minimum would be 5 percent.

—The student body would contain a minimum of one officer from each military department in each seminar.

Under the Dougherty Board proposal, the Goldwater-Nichols Act requirement that all JSO nominees must receive joint education would be so devalued that potentially all of the approximately 2,100 active-duty U.S. military officers who graduate annually from intermediate and senior service schools would meet the diluted standard—much more than necessary to make up the shortfall of 450.

Observing the direction that the Dougherty Board was taking, the Vice Chairman, JCS, tasked the President of NDU on April 1, 1987, to develop standards for the proposed JSO-nominee program at PME schools, to include the required cross-service mixes of students and faculty. The NDU President subsequently recommended more stringent standards than those contained in the Dougherty Board's report. For example, at both the intermediate and senior school levels, the NDU report recommended a faculty mix of one-third from each military department (the standard refers only to those who teach joint core material) and a student body mix consisting of a minimum of 15 percent from each military department per seminar. The JCS subsequently agreed to NDU's proposed standards.

A few months later, the JCS in effect reversed themselves in response to Navy pressure opposing changes at the Naval War College. The JCS decided not to require that their established standards be met when they approved a "pilot" program at the Naval War College for academic year 1988-89. Under this program, both Naval War College PME schools have been accredited as joint schools without significant restructuring or changes in cross-service representation. The JCS decision allows the entire student bodies, approximately 180 Navy and 150 other-service students, to obtain credit for joint specialist education.

*Advantages.* Because this alternative makes up the shortfall in joint PME graduates without any school expansion, its monetary cost is negligible. The panel believes that this might be considered the sole advantage of converting service schools into joint schools. But that advantage is gained without legislative sanction. As discussed below, this alternative is clearly contrary to the intent of Congress and in fact probably violates the education provisions of the Goldwater-Nichols Act.

*Disadvantages.* The obstacle this alternative presents for implementing another Goldwater-Nichols Act provision demonstrates how far it strays from what Congress intended. The pool of officers educated in a "joint" school under this alternative is potentially so large that it conflicts with the Goldwater-Nichols Act requirement

that 50 percent of officers who graduate from joint schools be assigned to joint duty. If all service schools were "joint," 1,050 of the approximately 2,100 yearly graduates plus almost 400 NDU graduates would be required by law to be assigned to joint positions. The result would be to provide almost 20 percent more officers than needed for JSO-nominee requirements. If they could not be accommodated in joint positions (JSO or non-JSO), the Department of Defense would be in violation of the law. Even if they could be accommodated, the high proportion going to joint positions would slight service jobs. Changing the law is *not* the solution. Given the historical reluctance of the services to assign graduates of joint schools to joint duty, congressional rescission of the 50-percent rule is unlikely and, the panel believes, would be unwise for the foreseeable future.

This alternative meets almost none of the panel's other criteria. In order to solve the "numbers problem," it attempts to take advantage of a loophole in the law to cast the mantle of joint school legitimacy on service institutions fundamentally unsuited for that role. The legal fiction can only be achieved by watering down the distinctive standards of genuine joint education.

The panel questions whether any of the service schools could ever:

- Attain cross-service faculty and student body mixes sufficient to sustain an effective joint learning environment.
- Develop a joint perspective (or the expertise) to teach joint matters effectively.

Service schools would have difficulty in achieving the cross-service faculty and student body standards of joint schools because of the high manpower costs. The panel is convinced that the lower standards recommended by the Dougherty Board and those accepted by the JCS for the Naval War College for academic year 1988-89 are not sufficient for JSO education. Moreover, the faculty standards recommended in the NDU report would not be satisfactory because they would apply only to "those who teach joint core material." That formulation ignores the fact that joint education and, especially, the development of a joint perspective occur throughout the entire curriculum, as discussed in Chapter III.

It would also be very difficult to conduct a valid accreditation evaluation of entire service colleges as joint schools. Faculty and student mixes for entire schools (not just the joint portions) and curriculum hours could be measured. But to assess the treatment of joint material, accreditation boards would have to spend a great deal of time attending classes. They could not merely assume that classes were being conducted from a joint perspective. Visits to service schools convinced the panel that the classroom treatment of joint subjects falls far short of the standards obtained at NDU joint schools. It would also be necessary to conduct thorough accreditation evaluations very often. Given the lasting service orientation of the schools (which the panel believes is proper), "joint" service schools might tend over time to slight joint education, offering merely a treatment of joint matters. The panel is in good company in expressing skepticism about the long-term viability of "joint" service schools. Concern that service schools could never effectively

teach joint matters led the JCS to create the first joint school in 1943.

This alternative implicitly challenges that JCS decision. Converting service schools into joint schools undermines the stature of joint schools and in fact questions the very rationale for their existence. If service schools *could* provide genuine joint education, there would be no need for separate joint schools. The Goldwater-Nichols Act rejected any such supposition by including separate provisions relating to joint education for joint and service schools. Both joint and service perspectives are important and need to be improved. Trying to square the circle by assuming that one school can provide both genuine joint and genuine service education does a disservice to both.

The panel found that Newport provides an excellent military education to its students. But quality is one thing, jointness another. The panel emphatically rejects the notion that the Naval War College is a joint school or the equivalent. A retired admiral commented that, "the Naval War College as a joint school has as much buoyancy as a brick." This aberration should not continue.

This alternative also represents a step backward from achieving an integrated conceptual framework for the PME system. It encourages more curricula convergence rather than the adoption of a distinct focus for each PME level and school within the system. In turn, the lack of focus undermines the effort to improve the PME system's contribution to the development of strategists.

#### ALTERNATIVE 4: JOINT TRACK

*Description.* This alternative creates a special program, called the joint track, at each intermediate and senior service school. Rather than educating all joint specialist nominees in joint schools, some nominees would attend a joint track program. In effect, this alternative creates "mini" joint schools—with less rigorous standards than genuine joint schools—for a portion of the student body at each service school and for a portion of the classes. During the non-joint portion of the curriculum, the mix standards would not be met. Moreover, the remainder of the student body—the non-joint track students—at each service school would receive little if any classroom exposure to students and faculty from other military departments. No curricula changes would be made for officers not selected for the joint track or for students in joint schools. Finally, the joint track program at each service school would be accredited yearly by an independent board reporting to the Chairman, JCS.

A pilot program version of the joint track is in effect in academic year 1988-89 service intermediate and senior schools, except for the Navy's. At the Army War College, for example, 60 of the 182 Army students plus all 35 of the other-service students are in the joint track. The pilot programs use the JSC-approved NDU report standards. They require equal faculty representation from each of the three military departments in the joint track portion of the curriculum. For the student body, other department representation is a minimum of 15 percent per military department, with the remainder of the students coming from the school's parent department. (The standards at the National Defense University joint

schools are equal faculty and student representation from each military department.)

*Discussion.* According to some individuals interviewed by the panel, one reason the JCS adopted the "joint track" solution was because of concern that converting entire service schools into joint schools, as recommended by the Dougherty Board, would be perceived by the Congress as a violation of the spirit and the intent of the law—as simply "waving a magic wand."

Like the Dougherty Board proposal, the joint track idea is a response to the "numbers problem"—that is, making up the shortfall of about 450 joint PME graduates each year. In deference to the PME panel's pending completion of its study, the Secretary of Defense and Chairman, JCS, agreed to consider the joint track and joint accreditation of the entire Naval War College as temporary "pilot" programs for academic year 1988-89.

The panel encountered hostility to the joint track proposal at every service school it visited. Seen as artificial by many who talked with the panel, the joint track solution to joint specialist education aggravated a perception in the officer corps that the law required this approach and is flawed. General Fredrick Kroesen, former Commander of U.S. Army forces in Europe, called the joint track "a misguided effort . . . [and] unnecessary."

*Advantages.* The panel believes that the joint track has only two closely related advantages—low monetary cost and elimination of the joint PME shortfall. The dollar cost of this alternative is low because it meets the joint PME numbers requirement without expanding the joint colleges of the National Defense University. The panel views these as meager advantages, indeed, in light of the disadvantages discussed below.

Nevertheless, the panel believes that a restructured joint track program for *all* service school students would be beneficial. As joint education for non-JSOs the joint track student and faculty mixes, together with a sound joint curriculum, could provide an excellent foundation in joint matters. In this case, "joint as seen through service eyes" is a valid perspective, especially when tempered by increased faculty and student representation from other services. If expanded to the entire student body, the joint track has the potential for fulfilling the Goldwater-Nichols Act requirement for strengthening joint education for non-JSOs in service schools.

*Disadvantages.* Any Defense Department decision to adopt the joint track as the permanent solution to eliminating the joint PME shortfall would be inconsistent with legislative intent and possibly in violation of the Goldwater-Nichols Act. Beyond legal considerations, the panel believes that the joint track would have an overall negative impact on the education of officers attending their own service colleges.

The Goldwater-Nichols Act requires the Department of Defense to strengthen the focus on joint matters for non-JSOs and to improve their preparation for joint duty assignments. By making it difficult, if not impossible, for non-JSOs to obtain an education in joint matters, the joint track represents a significant step backwards. As it is currently being implemented at each service school, the joint track requires the participation of all resident faculty and students from other services. Thus, it deprives non-JSO courses

running concurrently of the perspective of students and faculty from the other services. Students who are not in the joint track will receive even less exposure to multi-service perspectives than previously.

The joint track, in effect, creates two classes of officers at a service school. Those who are selected to participate in the joint track will inevitably be viewed as an elite. Those not selected will be deprived of the interaction with faculty and students of another service that is so essential to the nurturing of a joint perspective. Many witnesses anticipate serious, deleterious morale problems.

An equally serious problem, in the panel's view, is that under the joint track the quality of the traditional instruction on service matters may be degraded. Already beset by many "priorities," the addition of the joint track and its accompanying accreditation process requires dedicating significant resources in each school. Given constraints on time, facilities, faculty, and funding, the panel believes the service-oriented programs would suffer.

That result would be counterproductive. The panel strongly believes that service intermediate- and senior-level colleges are critically important to the officer corps and to the health of the services. They are, or should be, more than schools. They constitute centers of intellectual thought on doctrine, tactics, strategy, and the future of each service. They are research institutes both responsive to and independent of specific needs of the services. Army and Marine Corps colleges teach the basic doctrine of those services, and at each level of schooling introduce students to the increasingly complex array of weapons available to the commander on today's integrated battlefield. The Air Force, to a lesser extent, has a comparable focus at the Air University. The Navy school system, although different from the other service schools, broadens the intellectual horizons of its officers and provides them tools for thinking about national security issues as they progress through their careers. Joint education should be a complement, not a detriment, to service education.

Degradation of the service-oriented instruction would not mean improvement in joint instruction. The joint track as implemented in academic year 1988-89 appears to be narrowly focused on joint processes rather than on the more challenging study of joint operations. Because the former is easier to teach than the latter, the joint track curriculum would tend to gravitate over time to the teaching of processes, regardless of the original intent, because service schools lack a true joint focus or constituency. Their teaching of joint matters could easily become, as former Supreme Allied Commander Europe, General Andrew Goodpaster, described, "joint as seen through service eyes." "Joint" is the current buzzword throughout DOD. But fashions change. It would be unfortunate if joint education were to become institutionalized in a manner that almost assured its demise in the long term. Service schools have long-established traditions. The panel views service dominance in service schools as too great for the joint track to survive in a form that would be acceptable as joint specialist education. Accreditation would not be an adequate safeguard. The panel is convinced that over time the accreditation process would become pro-forma.



As discussed under the previous alternative, the contention that service schools can provide genuine joint education calls into question the rationale for joint schools. The panel's review confirms the 1945 JCS judgment that "a joint institution, in which all components have equal interests, is essential" because "common indoctrination cannot be provided at a high level college conducted by any one component."<sup>3</sup> The joint track further blurs the distinction between joint and service schools. Increased convergence of curricula at joint and service schools would be encouraged by educating some portion of the pool of joint specialists at service schools and by continuing the policy of allowing officers to attend a joint school in lieu of a service school. Moreover, failure to develop distinct curricula would impede the process of creating an integrated framework linking all 10 PME schools into a coherent whole. The lack of a distinct focus at each level and for each school would make it difficult to strengthen the teaching of strategy.

#### PANEL PROPOSAL: REALIGN THE PME SYSTEM EMPHASIZING EDUCATION IN STRATEGY AND JOINT MATTERS

In the previous section four alternatives for changing the PME school system were analyzed. Each contained elements that conform to the criteria identified by the panel. But all were rejected—some because their disadvantages outweighed their advantages; others because they were not comprehensive enough to address all of the improvements needed in the PME system. Consequently, the panel developed a proposal that includes the best elements of the foregoing alternatives and is tailored to meet the panel's criteria.

The panel's recommendation reestablishes the distinctiveness of joint and service schools—affirming the importance of service schools and requiring attendance at a service school prior to joint schooling—and integrates useful joint track curricula into service school programs to ensure that all officers attending PME have a basic understanding of joint matters. It establishes a clear, coherent framework, increases the war colleges' concentration on strategy, and meets the Goldwater-Nichols Act requirements without major cost increases. Most importantly, it returns the joint schools to their proper status, stature, and functions as envisioned by the World War II generation of military leaders.

#### DESCRIPTION OF PROPOSAL

The panel believes that the primary subject matter for PME schools and, consequently, the underlying theme of the *PME framework*, should be the employment of combat forces, the conduct of war. This theme is the major reason for PME schools; their unique subject matter is the principal distinguishing element between the curricula of PME schools and civilian universities. Although other important subjects such as leadership, management, and executive fitness are taught at PME schools, they should be secondary to the study of war.

Each element of the PME framework, then, should be related to the employment of combat forces. The most logical approach is to

<sup>3</sup> JCS 962/2, June 22, 1945; Annex D To Appendix A.

state the primary focus for each school level in terms of the three major levels of warfare, that is, tactical, theater (operational), and strategic. In that way, each school level will be responsible for a specific level of warfare. The higher levels of warfare involve, of course, larger units. Similarly, as a successful officer advances in rank and school level, he requires the progressive development of his capacity to lead and fill key positions in larger units or commands. Thus, the level of warfare chosen to be the primary focus of a school level should be appropriate to the command and key staff positions the students will assume on graduation or thereafter.

Recognizing that the Chairman, JCS, has the responsibility to recommend a PME framework to the Secretary of Defense, the panel suggests the following conceptual framework.

CHART IV-2—CONCEPTUAL FRAMEWORK FOR PROFESSIONAL MILITARY EDUCATION

PME level	Primary focus
Flag/General Officer.....	National Security Strategy. <sup>1</sup>
Senior.....	National Military Strategy.
Intermediate.....	Combined Arms Operations and Joint Operational Art. <sup>2</sup>
Primary.....	Branch or Warfare Specialty. <sup>3</sup>

<sup>1</sup> National Security Strategy should be taught at the proposed National Center for Strategic Studies, which should have colonels/navy captains, as well as flag/general officers, in attendance.

<sup>2</sup> Combined Arms Operations are operations involving multiple branches. Operational Art is the art of warfare at the theater level. Operational Art is inherently joint, but the adjective "joint" is added to ensure recognition of that fact.

<sup>3</sup> Branch means infantry, armor, etc. Warfare Specialty means surface warfare, submarines, etc.

At the *primary* level, an officer should learn about, in Army terms, his own branch (infantry, armor, artillery, etc.) or, in Navy terms, his warfare specialty (surface, aviation, and submarines). The panel did not study the primary level, but its impression is that service education at this level is satisfactory.

At the *intermediate* level, where substantial formal joint professional military education begins, an officer should broaden his knowledge to include both (1) other branches of his own service and how they operate together (what the Army calls "combined arms" operations) and (2) other military services and how they operate together in theater-level warfare (commonly referred to as "operational art"). The panel believes, however, that a distinction should be made between the way the service intermediate colleges address operational art and the way the Armed Forces Staff College (AFSC) does. The service intermediate colleges should focus on joint operations from a service perspective (service headquarters or service component of a unified command); AFSC should focus from a joint perspective (JCS, unified command, or joint task force).

To accomplish this, the panel proposes establishing a two-phase joint education process, with Phase I taught in service colleges and Phase II taught at AFSC. All officers attending service PME schools would receive Phase I. Joint Specialty Officer (JSO) education would consist of both Phase I and the follow-on, temporary-duty Phase II at AFSC. Thus, AFSC would refocus its curriculum on joint operational matters and become a school for JSO nominees en route to their first joint duty assignment.

At the *senior* level, an officer should broaden his knowledge still further to learn about national strategy and the interaction of the

services in strategic operations. As at the intermediate level, there should be a distinction in the primary teaching objectives of the service senior schools and the joint school.

The senior service schools should focus on national *military* strategy. The National War College, whether it be the existing school or one that is revamped as a component of the JCS Chairman's proposed National Center for Strategic Studies, should focus on national *security* strategy, not only the military element of national power but also the economic, diplomatic, and political elements. Graduates of service war colleges would attend the senior joint school and would build on what they learned about military strategy at the service war colleges.

If the attempt to strengthen joint education at service schools—both intermediate and senior—is to succeed, the panel is convinced that it must go hand-in-hand with increases in their *cross-service faculty and student body mixes*. Though service schools cannot be expected to achieve the equal representation found at joint schools, a high priority should be placed on reaching the faculty and student mixes of other-service representatives spelled out earlier in this chapter (see Chart IV-1).

The panel supports the proposal being developed by the Chairman, JCS, for a *National Center for Strategic Studies* as both an educational and research institution concentrating on national security strategy, with participation from the State Department, other civilian agencies, and the private sector. That concentration serves the panel's purpose of improving education in strategy by placing the primary focus of the joint and service war colleges on national security and national military strategies, respectively, and by more closely tying together education and research on strategy.

The Department of Defense should recast *Capstone* into a substantive course that includes the study of national security strategy and national military strategy. The current 6-week Capstone focus on joint force planning and employment at the theater level should remain a significant component of the course. The panel strongly recommends, however, that the course also contain substantial, rigorous study of national security and national military strategy. Capstone's length should be increased to incorporate the additional material and allow for a more rigorous approach. Finally, the course should be placed under the aegis of the National Center for Strategic Studies to permit shared use of the National Center faculty and facilities.

The panel supports the JCS Chairman's reevaluation of the mission and purpose of the *Industrial College of the Armed Forces* (ICAF). The panel reaffirms the need for the Industrial College (as have all reviews since 1946), supports the traditional proportion of warfighters and war-supporters in the student body, and in general agrees with the mission assigned in 1948 by the Joint Chiefs of Staff (see Appendix A). The 1948 mission statement focuses on mobilization and joint logistics. Recognizing that there are analytical tools and knowledge shared between these two key wartime disciplines and peacetime acquisition matters, the major issue to evaluate is whether the focus on acquisition that has been added to ICAF studies is both appropriate and properly integrated into the curriculum.

To summarize, the conceptual framework proposed by the panel is progressive, with each successive level building on and broadening the knowledge gained at earlier levels. At the primary level of school, the officers' concentration is narrow—branch skills in tactical, small-unit operations. At the intermediate level, they broaden their knowledge to include other branches and services in theater operations. Then finally, at the senior-level schools, their knowledge encompasses the interaction of the services in strategic operations.

This framework also illustrates one view of the relationship between education in jointness and education in strategy. The basic understanding of jointness is normally gained through study of and experience with operational art. Because military strategy in the modern age is inherently joint, a military strategist must, as a prerequisite, have this basic understanding of jointness.

Responsibility for a coherent PME framework rests ultimately with the Secretary of Defense. The panel believes he should rely principally on the Chairman, JCS, in exercising this responsibility. The Secretary should look to the Chairman to propose an overall PME framework for the 10 intermediate and senior schools and to ensure an integrated military education system. In addition to identifying the level of warfare to be studied at each school, the framework should specify the school's perspective, such as land warfare for Army schools. In carrying out this responsibility, the Chairman should ensure that both joint and service schools record their joint education responsibilities in their mission statements. This responsibility would also involve him in such current issues as the debate over the Navy education philosophy and the Air Force proposal to reduce the length of its intermediate school. In carrying out these heavy responsibilities, the panel believes that the Chairman should have a Director for Military Education. (See following discussion section for additional policy, oversight, and control responsibilities of the Chairman, JCS, and for further details on joint education, the National Center for Strategic Studies, Capstone, and ICAF.)

#### DISCUSSION OF PROPOSAL

As indicated at the beginning of the previous section, the panel proposal meets all seven of the panel criteria. It also provides a coherent framework with a clear principal focus for each PME school.

In developing the framework the *key issue is the level at which operational art (theater warfare) is taught*. The U.S. military has only recently begun teaching operational art. Therefore, to ensure current senior-level PME graduates are familiar with it, operational art is now taught at the war colleges as well as at command and staff colleges. In the future, if all entrants into senior colleges have already studied operational art, the issue will be whether the primary focus of the senior service schools should be military strategy.

The alternative is to teach operational art at both intermediate and senior levels. If this is done, a cutoff point to divide the operational art curricula must be found and accepted by all the schools. This point may be difficult to determine, but it is necessary for a

properly focused, coherent system of 10 PME schools in which substantial numbers of students attend sister-service or joint schools.

### *Joint Education*

Although students should be introduced to joint matters at pre-commissioning and primary-level schools, it is at the intermediate schools that substantial joint education should begin. From this point forward in their careers, many officers will serve in joint assignments. Also, if joint education is delayed until senior PME, many officers may be too rigid and set in their ways.

There are two essentials for an effective joint officer. The first is to be an expert in his or her own service. The educational key to this expertise is the service intermediate school. The second essential for an effective joint officer is a joint perspective. Since the ANSCOL experience during World War II, it has been recognized that the educational key to a joint perspective is a joint school.

To cover these two essentials, the panel proposes establishing a *two-phase* Joint Specialty Officer (JSO) education process. The service colleges would teach Phase I joint education to all students. Building on this foundation, the Armed Forces Staff College (AFSC) should teach a follow-on temporary-duty Phase II to graduates of service colleges en route to assignments as joint specialists. Because of the Phase I preparation, Phase II should be shorter and more intense than the current AFSC course. The *curricula* for the two phases should be as follows:

—Phase I curriculum at service colleges should include: capabilities and limitations, doctrine, organizational concepts, and command and control of forces of all services; joint planning processes and systems; and the role of service component commands as part of a unified command.

—Phase II curriculum at AFSC should build on Phase I and concentrate on the integrated deployment and employment of multi-service forces. The course should provide time for: (1) a detailed survey course in joint doctrine; (2) several extensive case studies or war games that focus on the specifics of joint warfare and that involve theaters of war set in both developed and underdeveloped regions; (3) increasing the understanding of the four service cultures; and (4) most important, developing joint attitudes and perspectives.

Considering the required curriculum and affective learning, the panel believes the Phase II course should be about 3 months in length, longer if necessary.

In-residence service intermediate education should be a prerequisite for attendance at AFSC to ensure that students are already competent in their own service, that they have acquired basic staff skills, and that they have achieved a minimal level of education in joint matters. As suggested in testimony by the Army and Air Force Chiefs of Staff, useful material from the current joint track pilot programs should be integrated into service school curricula and the higher mixes of other-service faculty and students should produce an improved understanding of joint matters throughout the officer corps.

Based on the panel's understanding of ANSCOL and of the needs of joint and unified commands, the new AFSC curriculum should address war primarily at the operational level. It should concentrate on how to develop the joint force concept, both operationally and logistically. It should also build on the education in joint matters, specifically knowledge of other services and of joint process and procedures, taught in service schools. The focus, pedagogy, and faculty are so exceptional at the Army's School of Advanced Military Studies (SAMS) that the panel recommends that they be reviewed for their potential application to the JSO course at AFSC. The type of education envisioned by the panel at AFSC lends itself to study in small seminars using the case study approach to learning. Students should be challenged by heavy reading assignments, competent faculty in the classroom, wargaming, and frequent writing requirements that force them to deal with unresolved issues, ambiguity, and uncertainty. The curriculum should be similar in content and approach to SAMS but shorter and more intensive. Patterned after SAMS is the British Army's new, 3-month Higher Command and Staff Course at Camberley. It provides an excellent model for the intensity.

One essential element of the AFSC curriculum is *joint doctrine*. The expertise needed to teach joint doctrine can be used—and enhanced—by assigning the joint schools responsibilities in the development of joint doctrine. The panel was often told by retired senior officers that AFSC could serve as the center for joint doctrine development, similar to the role Leavenworth plays for the Army. The immature state of joint doctrine and the handicap this places on joint education would be well served were AFSC to assist in overcoming this shortfall. The dual role for AFSC would strengthen the faculty and prove of value to joint force commanders worldwide as both students and faculty from AFSC join their commands.

The panel believes that the Chairman, JCS, should use the joint schools to help develop and assess joint doctrine and related joint knowledge (see Chapter III). The services (particularly the Army) have demonstrated that the interaction of faculty with students who are the top of their year group and who represent all segments of their service is an excellent way to develop new concepts.

This new AFSC should accept students at the major/Navy lieutenant commander and lieutenant colonel/Navy commander grades, the primary grades for JSOs to enter joint duty. However, during transition and as needed later, AFSC could provide colonels/Navy captains a senior course that mirrors the intermediate course. Those officers who failed to receive Phase I joint education at the intermediate level ought to receive it during attendance at senior PME. They should then go on to Phase II at AFSC if they are going to be assigned as JSO nominees.

As established in Chapter III and summarized on Chart IV-1, the panel's long-range (1995-96) *standards for military faculty and student body mixes* by service at the various schools are:

—Joint schools: equal representation, 33 percent from each military department for both military faculty and student body.

—Service schools: senior schools 50 percent host military department and 25 percent from each other department for both military faculty and student body; and intermediate schools 70 percent host military department and at least 15 percent each other department for military faculty and at least two students from each non-host military department per seminar.

The joint schools are essentially in compliance with the mix standards and require relatively minor adjustments (see Chapter III). The service schools, however, require considerable adjustments, so much so that the panel believes the Chairman, JCS, should develop a phased plan to meet the standards. The panel recommends that:

—The *senior* service schools attain military faculty and student body mixes approximating 10 percent from each of the other two military departments by academic year 1989-90 and 25 percent by academic year 1995-96.

—The *intermediate* service schools obtain military faculty mixes approximating 10 percent from each other military department by academic year 1990-91 and 15 percent by academic year 1995-96; and student body mixes of one officer from each other military department per student seminar by academic year 1990-91 and two officers per seminar by academic year 1995-96. Eventually, each military department should be represented by at least three students in each intermediate school seminar. Because of its large numbers of U.S. military faculty (383) and students (765), the panel recognizes that the Army Command and General Staff College is the driving factor in the phased plan.

As discussed in Chapter III, the panel believes that under the overall authority of the Secretary of Defense, the Chairman, JCS, should *control* both the National Defense University (NDU) joint schools and the joint portions of the service schools. The Chairman, JCS, stated in testimony that he believes he has responsibility for joint education even where it does not involve educating joint specialists. Making the Chairman responsible for *all* joint education appears to be a superb way to maintain a service-responsive school system, retain diversity in the overall education system, and yet ensure that officers have an adequate understanding of joint matters and are fully prepared for joint duty. The panel strongly supports this initiative.

The Chairman, JCS, has Goldwater-Nichols Act title II responsibilities for “formulating policies for coordinating the military education and training of members of the armed forces” and title IV responsibilities for providing “guidelines for . . . military education” for Joint Specialty Officers. The Chairman, JCS, exercises his control over the joint schools of the National Defense University through its president, who responds directly to him. But using this chain of command to develop and implement policy and exercise oversight of the joint portions of the service schools might not be satisfactory or effective. The NDU president might be perceived as having divided interests between operating the university and advising the Chairman. The Joint Staff Director of Operational Plans

and Interoperability (J-7), who currently has this policy responsibility, also has other responsibilities—war plans, interoperability, and joint doctrine—that are so large that he has limited time to focus on important educational issues. In fact, the senior Joint Staff position with full-time education responsibility is at the colonel/Navy captain branch chief level.

In 1945 the JCS plan for postwar military education called for a Director of Military Education. The panel believes that the 1945 JCS recommendation is correct and that a senior officer on the Chairman's staff with strong academic credentials should be charged with establishing a coherent framework for the 10 PME schools, coordinating military education overall, and specifically for developing, accrediting, and monitoring joint education in both service and joint PME schools. He could lead the examination of whether the Defense Intelligence College could play a role in providing joint education. He could examine the relationship of the Defense Systems Management College and ICAF, as discussed later in this chapter. Most importantly, he could analyze the utility of existing or needed joint schools in other support areas such as communications and logistics. Therefore, the panel proposes establishing the position of *Director of Military Education* on the staff of the Chairman, JCS. As the Chairman sees fit, this general officer could be either in J-7 or on the Chairman's immediate staff. After current issues are resolved and changes implemented, the exact nature and location of the position could be reconsidered.

*Advantages.* Adopting the AFSC "finishing" school approach for the development of JSOs has many benefits. Most fundamentally, it keeps joint education in a joint environment under the control of a joint authority. Thus, it provides a common joint education for joint specialist nominees and a joint academic environment in which students can build on their service school foundation. It acknowledges the joint specialty as an additional military occupational specialty requiring special education. At AFSC, nominees for the joint specialty will synthesize the inevitably differing perspectives on joint matters taught in the service intermediate colleges. Having completed a "Phase I" introduction to joint matters at a service school, the JSO nominees will be equipped to begin AFSC education on a higher plane of understanding.

This proposal also ensures that all officers who attend service PME receive a strengthened focus on joint education and that all officers who go on to become joint specialists have a solid service foundation. Thus the purpose of the joint track is achieved even though it is superceded and its principal disadvantage—the fact that it creates two classes of officers in one school—is eliminated. Education for joint specialists will go beyond that provided in service schools and be keyed to that point in their careers when they can immediately assume joint duty responsibilities and exploit and build on what they have been taught.

Payoff on graduation from joint specialist education should approach 100 percent, with essentially all graduates going to joint assignments. This is a significant improvement over the past record for use of joint school graduates in joint assignments. It means that this alternative will easily meet the Goldwater-Nichols Act require-



ment that more than 50 percent of officers graduating from joint schools go directly to joint assignments.

Personnel management should also be less complex because it is much easier to predict the end assignment for a 3-month than a 10-month course. Moreover, the alternative provides additional flexibility in matching the grade requirements of the JDA list because all field-grade officers could attend AFSC—not just majors/Navy lieutenant commanders as now.

Restructuring the service and joint PME systems as described above entails few costs, either monetary or manpower, except in the case of the Navy, as discussed below. The principal monetary cost at AFSC would be the conversion of family to bachelor quarters and the purchase of furniture, which AFSC has estimated would total about \$500,000. JSO nominees would only incur an additional brief period of education sometime after intermediate schooling.

Finally, the proposed restructuring makes one joint institution responsible for JSO education, focusing accountability and keeping it under a joint official, thus decreasing the likelihood of a future repetition of the gradual dilution of stature and convergence of curricula that occurred in the 1960s and 1970s.

*Disadvantages.* This proposal does have some disadvantages. Possibly the most significant is that soon after arriving at their new joint assignments, some JSO nominees will have to depart to attend AFSC, thereby leaving their joint billet unoccupied for 3 months. This “gapping” would occur because of the conflict between AFSC’s need to have approximately equal numbers of students in each of its four classes each year and the fact that the majority of officers move to new assignments in the summer.

The services have numerous temporary-duty courses—most similarly, courses to prepare officers for command assignments—that begin year around. Over time, the personnel systems, the commands, and the officers involved have adjusted to these. The panel believes adjustments will be necessary and feasible, even in the case of AFSC. Historical precedent supports that conclusion. During World War II, commanders were willing to gap billets in combat commands to send officers to ANSCOL. Assignment systems should be adjusted as much as possible to accommodate AFSC course student needs. In addition, the AFSC course should become so demonstrably beneficial that the commanders are convinced that “gapping” is compensated by the better-educated officers who return.

A related disadvantage of the temporary-duty Phase II is the negative impact on families of separations and reassignments during their children’s school year. The problem may be somewhat diminished because perhaps a quarter of the joint assignments are in the Washington, D.C., area. Some officers may be able to establish homes for their families in Washington while they attend AFSC, which is in Norfolk, Virginia, approximately 3 hours’ driving time away. DOD policy decisions could further ameliorate part of this problem by giving gaining and losing organizations more latitude in allocating family quarters.

The restructured 3-month AFSC course displaces the 5½-month course and may reduce “affective learning” (developing a joint per-

spective) from inter-student exchanges, although the temporary-duty (TDY) aspects of a 3-month course will stimulate rapid socialization and bonding. In fact, camaraderie established during the 3-month TDY course without families may exceed that of a 5½-month course with families.

Because AFSC and the National War College (or the National Center for Strategic Studies) would be follow-on schools, this proposal would reduce the number of officers who receive credit for intermediate and senior PME. The result could be greater competition for spaces at service colleges or pressure to expand enrollment. Moreover, the new AFSC could not educate the same number of foreign officers or civilians without expanding some facilities.

Although the panel recognizes its proposal will cause a reduction in graduates, its review of the founding and purposes of the joint schools suggests that the services never should have come to depend on joint schools to augment the number of officers who receive PME credit. In addition, the panel is uncertain if there are clear requirements for the large numbers of Army, and possibly Air Force, intermediate PME graduates. Even with the loss of AFSC spaces, the Army would have approximately 800 intermediate school graduates each year, and the Air Force almost 450.

If the services decide to maintain the present number of service PME graduates, they should increase their representation at the PME schools of other services. For the Navy, this course is imperative if the overall PME system is to improve. The Navy, which in academic year 1987-88 sent 93 of its 215 intermediate school students to AFSC, would have only 122 graduates left with AFSC no longer available as a "substitute" for service PME. But the Navy cohort at Army and Air Force schools is already unacceptably low, as discussed in Chapter III. The panel believes there is a current requirement for the Navy to send more students to sister-service schools as the proposed student-body mix standards indicate (see Chart IV-1). The panel recommends, therefore, that the Navy use the 90 plus AFSC spaces to assign officers to other-service schools.

*Challenges.* Implementation of this alternative poses formidable challenges. By far, the most difficult task will be recruiting joint school *faculty* competent to teach joint matters at a level above that of service intermediate and senior colleges. The dramatic improvement in faculty quality that the panel believes is necessary may take some time to achieve. The faculty should include some relatively senior officers with outstanding records and broad operational and joint experience. Substantial numbers of the military faculty should have potential for further promotion. In time, military instructors would ideally come from the JSO ranks. To be competent the faculty must be large enough to develop joint materials for study and use in the classroom. As the panel learned from school visits and discussions with the Joint Staff, little joint educational material exists today; it will have to be developed by the AFSC faculty in cooperation with the Joint Staff and the unified commands.

Another challenge will be to *resist pressures to shorten the length of Phase II*. Although officers should not be in schools longer than necessary, it must be recognized that there is much to learn at intermediate schools about other elements of their service, about

other services, and about operational art. Unfortunately, DOD has shown less sensitivity about the length of joint schools than should have been the case. AFSC has for decades been accredited as intermediate education, even though it is only approximately one-half the length of the service schools. Capstone, which began as an 11-week course in 1983, was cut almost in half, to 6 weeks, in less than 5 years. The same pressures that successfully emasculated Capstone will work to make the AFSC Phase II course shorter than 3 months. The panel believes that to cover the necessarily varied joint force development, deployment, and most importantly, employment subjects will take about 3 months, as it did in ANSCOL. (It could take longer because of the increased complexities of modern joint warfare.) In particular, time is needed for each student to learn from other service representatives and to develop a joint perspective.

A related challenge is to *keep the relatively short AFSC Phase II course free of material that should be covered in the service schools' Phase I*. There will be pressures to have AFSC teach descriptive matter both about other services and about joint processes, using the argument that AFSC can do a better job. The panel believes that the service Phase I should cover both of these subjects in depth for several reasons. First, the Goldwater-Nichols Act required a "strengthening of focus" on joint matters by the service schools. Second, these subjects are joint knowledge that all officers, not just JSOs, should understand. Third, AFSC needs all of its 3 months to apply this service and joint process knowledge in case studies. Finally, service college officials told the panel that they were already teaching such joint subjects. Experience with the joint track and improved student and faculty mixes will make the service schools even more capable of teaching about the other services and joint processes.

Severely exacerbating the challenges involved in keeping Phase II long enough and covering the necessary basic joint education in Phase I is the challenge, particularly for the Navy, of *ensuring that all students attend Phase I in-residence prior to Phase II*. Three facets of this problem came to the panel's attention: (1) claims that the Navy does not have enough officers to fill the requirements of Phase I; (2) the argument that some Critical Occupational Specialty (COS) officers should be allowed to skip Phase I; and (3) the difference between the Navy intermediate school, on the one hand, and those of the Army, Air Force, and Marine Corps, on the other.

The Navy calculates that it will have near-term problems assigning enough officers to in-residence Phase I education at service colleges prior to their attendance at Phase II. The calculations are based on two assumptions: (1) sending 50 percent of all intermediate and senior PME graduates to Phase II and (2) not sending any Critical Occupational Specialty (COS) exception officers (warfighters who are not required to attend joint PME before assuming JSO-nominee duties) to service or joint PME before going to a joint specialist position. Using these assumptions, the Navy estimates it will still be over 40 spaces short of the number of joint PME gradu-

ates needed to fill its JSO-nominee assignments.<sup>4</sup> In the long term, the shortfall will require the Navy to increase the number of officers attending PME, as should be done in any case to meet the recommended student-body mix standards. In the near term, the panel recognizes that even with close management of joint specialists, the Navy may require a limited number of waivers.

The panel recommends that the Secretary of Defense determine whether any waivers are needed. Moreover, such waivers should be kept to an absolute minimum and be granted at a level no lower than the Chairman or Vice Chairman, JCS, on a case-by-case basis and for compelling cause. Each officer waived should meet prerequisites of: (1) having completed Phase I by correspondence or satellite course and (2) passing a rigorous test verifying the officer's ability to begin Phase II instruction. Finally, the Secretary of Defense should report annually to the House and Senate Committees on Armed Services listing each waiver and the reason why it was given.

If waivers must be employed, the Secretary and Chairman, JCS, should use the waiver prerequisites to ensure that Navy officers entering AFSC with a waiver are roughly comparable in intermediate joint (Phase I) education to their classmates and have the background knowledge necessary to learn at approximately the same level as other entering students. Nothing could be more detrimental to AFSC's ability to teach a high-quality Phase II course and more unfair to the other students who have spent a year at intermediate school than to have to lower the level of instruction for all in order to accommodate officers unprepared in the basics of joint matters.

The requirement for comparable Phase I educational background applies especially to Critical Occupational Specialty (COS) officers, who although capable in their warfare specialty often have narrow backgrounds. Allowing COS officers to attend Phase II without prior Phase I attendance is unacceptable.

The panel heard it argued that "Phase II education alone is better than none" for an officer being assigned to a joint position. That proposition, though superficially reasonable, is in fact questionable if it results in officers arriving at AFSC unprepared for the regimen. But even if it were valid, accepting the "some is better than none" argument would not only undermine the basic value of the school, it would also open a bypass (in reality, a loophole) that would allow those who took advantage of it to obtain credit for JSO education "on the cheap." That loophole would be tempting for officers caught in the heat of career competition even if they recognized the hollow superficiality of the education it promised. It would risk reducing Phase II to a "diploma mill," emphasizing the credit rather than the education.

Sometimes the argument for admitting COS officers to Phase II without Phase I is stated in terms of protecting the individual—"he needs credit for joint PME to progress in his career and his career

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<sup>4</sup> The Navy calculations apparently did not consider transferring any of the current 93 Navy spaces at AFSC to service PME schools. If the 93 spaces were transferred, at the Navy-assumed 50 percent selection rate for Phase II the requirement for waivers would be eliminated. See related discussion in previous section.

pattern is so full he does not have time for school." Congress addressed this issue when it permitted COS officers to serve as JSO nominees without joint PME. In addition, COS officers receive credit for a full joint assignment after only 2 years instead of the normal 3 years. In 2 years, therefore, COS officers can meet the requirement for a joint tour prior to selection for general or flag officer. If they progress further, the only positions that the Goldwater-Nichols Act states require full joint specialists (not just JSO nominees) are Vice Chairman, JCS, and commanders of combatant commands. The stringency of the joint PME requirement for full JSO is diminished because the law also states that these positions require that the officer must have served in at least one joint assignment as a general or flag officer—thus qualifying an officer as a full JSO via the two-joint-assignments route specified in the law.

A "Phase II-only" joint PME is not in keeping with the Goldwater-Nichols Act establishment of the COS exception and its requirement "to maintain rigorous standards for the military education of officers with the joint specialty." When that law was written, joint PME was either 6 months' long (AFSC) or 1 year (National War College and ICAF). The "Phase II-only" approach at 3 months would be only half the length—hardly maintaining rigorous standards.

For the near term, the services should consider a short, temporary-duty course at their own intermediate colleges to teach Phase I to those officers who are eligible for a waiver. Such a course should be validated by the Chairman, JCS. This approach, although it would incur manpower and funding costs for the services and deprive the officer of the benefit of a full intermediate education, would have the advantage of using the expertise of the faculty members teaching Phase I to regular in-residence students.

In summary, the panel emphasizes that the goal is for all officers to have completed intermediate service school in-residence prior to arriving at AFSC. That goal should be diluted only as demonstrably necessary in the near term by a few waivers of Phase I for non-COS officers.

The Navy's difficulty in getting enough officers through Phase I is related to the fact that it *essentially has a "one-level" system for field grade PME*—the level of the senior-school. There are three factors that demonstrate that Navy PME is essentially one-level.

First, the Naval War College basically has *only one curriculum* for its two schools, that of the senior school. As discussed in Chapter III, the curriculum of the Navy intermediate school closely parallels that of the senior Navy college and devotes far less time to maritime operations than the Army and Marine schools do to land and amphibious warfare. Thus, the panel found that the Naval War College provides a good senior-level education at both its schools, but its intermediate school is not commensurate with Leavenworth, Maxwell, and Norfolk.

Instead of a single intermediate college pulling together its warfare specialties in the study of operational art, the Navy sends its officers to a multitude of short 2- to 8-week courses, as their duties require, and to Tactical Training Groups on each coast where individual officers and complete command groups learn integrated naval warfare operations. They study some of the same types of

subject matter taught at Army, Air Force, and Marine Corps intermediate schools—integrated uni-service warfare and how the other services support naval operations. The Tactical Training Groups appear to focus more on specific regional factors, however, and less on concepts than the other services' intermediate schools, especially the Army's. Also, with schools on both the Atlantic and Pacific coasts, the Navy approach is costly in facilities and faculties and, on occasion, results in development of somewhat different policies and procedures.

A second factor that demonstrates the one-level nature of Navy PME is that the Navy with few exceptions sends its *best officers to only one level of schooling*, the senior level. In 1983, the Chief of Naval Operations (CNO) established a policy requiring that a high percentage of the Navy students at the College of Naval Warfare be "post-command" commanders, thus ensuring quality Navy students at the senior college. There is no parallel quality standard for the intermediate school. The Navy contends that it lacks sufficient personnel to allow 2 years of PME for its officers, particularly the most promising. As a result, the overwhelming majority of the best Navy officers either attend PME at the senior level or not at all. Some officers told the panel they would attend intermediate school only if awaiting another assignment.

In contrast to the Navy, the other services believe in progressive, sequential education. Their best officers attend intermediate schooling and later, if they make the second, even more severe quality cut, senior schooling. The rationale for this philosophy is that successful officers, rising to increasingly higher levels of responsibility, need education throughout their careers.

The third factor is the *relatively small number of students the Navy sends to intermediate PME*. Chart IV-3 compares by service the number of intermediate students with the total number of majors/Navy lieutenant commanders, the grade (O-4) that attends intermediate PME. Except for the Marine Corps,<sup>5</sup> the Navy sends both fewer officers and a lower percentage of officers to intermediate school than do the other services.

CHART IV-3—OFFICERS IN INTERMEDIATE PME

(By service in academic year 1987-88)

Service	Number of intermediate PME students	Total number of Majors/ Navy lieutenant commanders (O-4s)	Percentage intermediate students of total O-4s
Army	1,034	16,791	6.0
Navy	215	13,614	1.6
Air Force	584	19,615	3.0
Marine Corps	208	3,214	6.5

Sources: Student numbers from schools. Numbers of majors/Navy lieutenant commanders from "DCD: Military Manpower Statistics," September 30, 1988, published by Director, Information Operations and Reports, Washington Headquarters Service (DIOR, WHS).

<sup>5</sup> The Marine Corps actually sent slightly fewer officers to intermediate school in academic year 1987-88 (208 students) than the Navy (215 students), but the Navy has more than four times as many lieutenant commanders as the Marine Corps has majors.

In fact, Adm. Carlisle Trost, the Chief of Naval Operations, stated in testimony that, even if he had more officers, there is not enough time in most Navy officers' careers to give them both the experience in the professional and technical requirements they need and to send them to 2 years of PME.

In looking at these three factors, the panel concludes that the Navy, both in its school assignment policies and in its Naval War College curricula, has so slighted intermediate PME that it essentially has only a senior-level system. This de facto absence of an intermediate PME level is a matter for both the Navy and DOD to consider. The panel believes the Chief of Naval Operations (CNO) should review the Navy PME system to determine whether Navy officers can and should attend both intermediate and senior colleges and whether each Naval War College school should have a more distinct curriculum. The CNO should consider whether the Navy's system of short courses could be taught more effectively and efficiently in a single school at the lieutenant commander level. Such a school would be similar to the intermediate colleges of the other services. It would focus on integrating into naval "operational art" the knowledge of (1) warfare specialties taught at shorter courses and (2) the somewhat separate Pacific and Atlantic fleet warfare doctrine and procedures taught at the two Tactical Training Groups. Potentially, if focused on the employment of forces, the school could help the Navy warfare communities work together and with other services.<sup>6</sup>

In reassessing the Navy approach to PME, factors that should rival, if not transcend, the interests of the Navy are the interests of the entire four-service student body, the joint institutions, and the Secretary of Defense. Over half of senior school students and over one-third of intermediate school students attend a joint or other-service school. The Navy educational approach affects the nature and breadth of education received by sizeable portions of the officer corps going on to top leadership. It raises questions about whether the approximately 70 other-service officers who attend the College of Naval Command and Staff and receive a very different kind of education from their peers at other intermediate schools are being educated properly.

Just as major wars in the modern era will be joint, so too must PME today fit into a joint framework. Because the issue has national security implications for the development of the military officer corps of all services, the Chairman, JCS, and the civilian leadership of both the Department of the Navy and the Department of Defense should exercise oversight of the CNO review.

In *considering the joint education challenges*, the panel notes that a number of them are related. If the Navy establishes genuine intermediate-level education, it can increase both the number and quality of officers it sends to its own and other-service intermediate colleges. This will improve joint PME for all services and eliminate

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<sup>6</sup> A recommendation for a genuine intermediate college to be attended by the best Navy officers is not new. In 1920, a board of naval officers consisting of Dudley Knox, Ernest King, and William Pye recommended a system of progressive education for naval officers, including junior and senior war colleges. They recommended that officers with about 15 years of service be required to attend the junior naval war college *before taking command at sea*.

the requirement for waivers and correspondence courses for Phase I.

The Navy has a lower ratio of officers to total personnel than the other services. Some have pointed to that as the root cause for the Navy's inability to send sufficient officers to PME. Although it is difficult to determine the exact effect of this lower ratio, the panel believes that if force structure cuts come in the future, consideration should be given to allowing the Navy to keep some officers for PME.

### *National Center for Strategic Studies*

The panel recognizes that the Chairman, JCS, is still developing his proposal for a National Center. To get the necessary high-quality center will require careful thought, and this will take some time. It is appropriate that the Chairman lead this development. The panel, however, believes that certain functions naturally fit together and reinforce each other. Recognizing the Chairman's role, the panel suggests that the functions performed by four institutes like the following should be included in the National Center.

(1) A *revamped National War College* to serve as a year-long school with a primary focus on national security strategy and policy for military officers and senior Federal officials from departments and agencies involved in national security matters. The military officers should number about 50 and range in rank from colonel/Navy captain to major general/rear admiral. The full-time civilian students should number perhaps 25 and come predominantly from the State Department with others from the Department of Defense, the Central Intelligence Agency, and other agencies involved in national security matters, as is now the case at the National War College. These officials should come from the policy and line elements, not from administration and support. In addition, perhaps another 25 high-level civilians from industry, labor, media, universities, and parts of the government outside the national security arena should participate on a part-time basis. They would provide the benefits of interaction with the wider civilian community that the French receive from the Institute for Higher Studies of National Defense (IHEDN). (The French part-time students meet with the full-time students 2 or 3 half-days per week; with our larger, more decentralized country, different scheduling will probably be needed.) The military students should be graduates of senior PME schools or comparable programs who have the talent, experience, and potential to serve in senior intergovernmental and multinational security assignments. This school would serve as an advanced course for senior Joint Specialty Officers and others with potential for three- and four-star rank. It might become a "desired" qualification for theater commanders and other critical jobs that the Chairman, JCS, would designate. This design would return the National War College to the premier status that it had in the early post-World War II years. See Chapter II for additional discussion.

(2) An *institute for original thought* on national security strategy and secondarily on national military strategy. It should serve both as a "think tank" that wrestles with problems and issues faced by the Chairman, JCS, and senior civilian officials, and as a magnet for attracting national-level scholars, former high-level government



officials, and former senior military leaders for the study and teaching of strategic and joint matters. It could build on the best elements of NDU's existing Institute for National Strategic Studies, but would have a core of national-level scholars and a clear responsibility to provide the Chairman, JCS, non-service-oriented military and civilian strategic thought. In addition, a Joint Strategic Studies Group (JSSG) could serve as a building block. (See Chapter II.) Individuals associated with this institute would also contribute to the other functions of the National Center.

(3) An institute for the education of newly selected general and flag officers (*Capstone*). See following section for details.

(4) An *institute for conducting seminars, symposiums, and workshops* in strategy in both the public and private sectors. See below for discussion of a yearly national conference on strategy and related subjects.

The JCS Chairman's proposal to convert the National War College to a National Center for Strategic Studies incurs some costs and challenges. These include the loss of about 120 U.S. military senior-level education spaces each year, reversion of joint operational education to service colleges, and loss of the only truly joint warfighting course at the senior level. Moreover, critics of this proposal question the ability of a DOD sponsored and run think tank to conduct independent research in key strategy and policy areas. There is a risk that intellectual freedom could be stymied by implicit or explicit "desired outcomes." Further, concerns about academic freedom would have to be overcome to recruit top-quality civilian faculty.

The National Center proposal also raises a number of concerns for joint education. Elevating the National War College above the other war colleges can only be compensated by real increases at the services war colleges in quality and, most importantly, quality in *joint* education. Realizing these changes will require service war colleges to have more fully developed joint curricula and materials, better faculty, and a mix of faculty and students on the order of 50 percent parent military department and 25 percent from each of the other two military departments.

Depending upon the eventual configuration of the National Center, however, the advantages could be significant. The panel strongly believes that the nation needs a military institution focused on national strategy and believes that the unique political-military perspective of such an institution remains essential for those officers who will assume responsibilities in the flag ranks of the armed forces, just as World War II leaders prescribed. The National Center would become the only military institution devoted primarily to national security strategy and secondarily to the military element of national security strategy, that is, national military strategy from a joint perspective. While generating original military thought on strategy, it would also serve to educate students, researchers, and faculty who could subsequently assume duties involving the refinement and application of the concepts developed there. Moreover, a National Center would facilitate more interchange between the education and research elements, a much-needed improvement over the situation that exists in NDU today. Because both elements would be focused on strategy, researchers

should be able to debate their ideas with students and faculty should be able to have periods for research, as is the case in civilian universities. Were the National Center to assume responsibility for Capstone, it could expand the course to allow opportunity for the study of national security and national military strategies, and, until the previous levels of PME adequately cover it, operational art.

If expanded to include the participation of individuals from industry, labor, media, and other professions, the National Center could bring together a wider, more diverse range of views on strategy than anywhere else in the country and assist in building a national consensus on future directions. During a portion of the in-residence periods, the strategy school students may be able to share selected classes, lectures, and visits with the Capstone students. Seminars, symposiums, and workshops would serve as forums to expose new concepts to critical review and to educate a broad spectrum of the concerned public and involved sectors of government.

The panel believes that a major activity of the National Center, pulling together its educational and research components, could be a yearly national *conference* on strategy and related subjects. The purpose of the conference would be to examine the ideas of top strategic thinkers from the military and private sectors in an academic environment for the benefit of senior Department of Defense and other officials with national security responsibilities. The strategy conference should, for example, include sessions that critique national policy, others that examine and critique innovative new approaches to achieving national objectives, others that assess national objectives and commitments, and still others that examine the means available to achieve national objectives. If the analog of a maritime strategy should emerge in the future, or a proposition to move from strategic deterrence to strategic defense, or to mold the Army and Air Force into an "airland" battle team, those ideas should be brought like gladiators into the intellectual colosseum of the National Center conference to determine whether they can withstand the test of intense analytical scrutiny. The panel believes that a yearly conference along the lines described would contribute to the development of a more precise and coherent national strategy than the United States has often enjoyed. At the same time, the conference would increase the relevance of strategic thinking, and strategic thinkers, to the course steered by the nation's leadership.

Although the panel recommends that about 50 military officers attend the strategy school annually, the actual number could be higher or lower depending on requirements and availability of officers with appropriate talents. As described in Chapter II, the panel believes that each service should provide several (perhaps two or three) one- and two-star general/flag officers each year to the strategy school. Besides these generals, the remaining military officers should include a number of newly selected general and flag officers (who might be able to attend Capstone as a subcourse within the school), and carefully selected colonels/Navy captains. If this integration of Capstone into the National Center course could be worked out, the panel would recommend changing the law so that senior colonels/Navy captains who took the course would have

credit for attending Capstone. Among the general officers should be those few who are likely to be decisionmakers on strategy matters, as well as potential appointees to high-level unified command, joint staff, Defense Department, State Department, National Security Council, and alliance positions. The colonels/Navy captains should be those who will be part of the somewhat larger group that performs the staff work on strategy and related matters in senior national security organizations as well as promising officers destined for advancement to senior leadership positions.

Most officers attending should be joint specialists, although exceptions could be made on a case-by-case basis. Ideally, many would have graduate education in a strategy-related field. Assignments to the Harvard Fellows Program, the Navy Strategic Studies Group, or their equivalents might also qualify officers for entry. Assignment as a research fellow or student at the National Center for Strategic Studies should be counted a joint duty and assignments after graduation should be closely monitored by the Chairman, JCS, to ensure that the talent developed at the center is used to its fullest potential.

The panel believes that students in the National Center should follow a rigorous, challenging, advanced course of study. Course materials and faculty presentations should be based on the assumption that military students arrive with a solid background in political-military history and national military strategy including an appreciation of the principles that relate the formulation of strategy to domestic and international politics, economics, and use of force. This background must be learned at the service war colleges, in fellows programs, or in civilian institutions that offer degrees in political-military disciplines.

Some individuals have expressed concern about anticipated difficulties in having colonels and generals together as students in the same classroom. They worry that at some point the generals' rank may inhibit academic discussion. Although the mixture of ranks may necessitate some adjustment, a strong faculty can ensure that the free exchange of ideas in an academic environment prevails over any contrary tendency. The panel believes mixed-rank seminars consisting of some of the brightest intellects and most promising strategic thinkers will have large benefits in an institution that needs to be able to adjust to changes.

The *head* of the National Center should be an absolutely outstanding intellectual leader. This is key, especially to the initial establishment of the center. The faculty should have a core of national-level scholars. In John Collins' words, the faculty will need to have "towering figures." Legislative relief on pay scales and dual compensation constraints will be required to entice individuals of this stature.

The panel was intrigued by a suggestion for a personal computer network that would link general officers to each other and with what would become the National Center. It would allow flag officers to continue their education, to dialogue with contemporaries on common interests or problems, and to access the expertise of the military colleges to deal with existing or future problems. This far-reaching proposal merits further consideration by the Department of Defense. Potentially, it would stimulate thought on a wide array

of problems and provide senior leaders access to resources and ideas beyond their immediate staffs. If the suggestion were to be tested, the general officer students in the revamped National War College would be an appropriately small and focused group to use for a pilot program.

### *Capstone*

Chapter III describes Capstone, its curriculum, and its shortcomings. The Goldwater-Nichols Act stated it should be "designed specifically to prepare new general and flag officers to work with the other armed forces," i.e., the course should focus on joint matters. The panel considers the legal requirement to have established only the minimum course of study. Capstone's primary focus should remain jointness, but strategy should be added as a secondary focus. The present Capstone also falls short of its potential because little if any substantive academic work takes place. The panel proposal adds academic rigor to the study of joint matters and substantial study of strategy, with an attendant increase in course length.

Unanimity does not exist on the efficacy of formal PME for general officers. The Army Chief of Staff made a strong case that general officer education consists primarily of career-long self-development. One educator interviewed by the panel agreed, claiming that formal education for flag ranks is immaterial—good ones will educate themselves; bad ones will not. The Chief of Naval Operations, although agreeing that all officers, regardless of rank, need continuing education, cautioned that there are few who have the competence to teach this select group of officers. Consequently, in his view, the education of admirals is best obtained on the job.

The panel agrees that continuing self-education is important for flag officers, and it agrees that finding faculty both competent and available to teach new flag officers will be a challenge. But the panel remains convinced that flag officers can benefit from formal education appropriate to both their next position and the remaining 5 to 15 years of their careers. Moreover, it rejects the contentions that flag officers have nothing more to learn in a formal education setting and that there are no professors and former practitioners competent enough to teach them. The panel is even more convinced of its positions in light of testimony by former senior military officers lamenting the short time available to develop and train flag officers for senior positions of responsibility. True, specialized knowledge will still have to be obtained through short courses or on the job. But education can compensate for the inability to provide experience across a very broad spectrum of jobs. Capstone should provide the new flag officer the background in joint matters and strategy he will need for the remainder of his career regardless of where he serves.

General Russell Dougherty, USAF (Ret.), a member of the NDU Board of Visitors and former Commander in Chief of the Strategic Air Command, summarized the views of the panel succinctly in his May 29, 1981, letter to the President of NDU:

It is no longer possible (if it ever was) to acquire a comprehensive grasp of the many complementary facets of line

combat capabilities and essential supporting elements without a deliberate course of study and exposure to train our selected senior officials. . . .

If there is one common thread that ran through my many conversations on this subject with my contemporaries in grade and experience (mostly three- and four-stars—active duty and recently retired), it is that they acquired most of their understanding and the breadth of knowledge of our overall joint and combined security facilities and capabilities very late in their active duty tenure. Many *never* felt confident and comfortable with their understanding of the complementary (even essential) military capabilities of other Services and agencies or how to utilize them effectively; nor were they fully aware of some serious limitations and gaps in essential supporting capabilities.

Others who testified voiced similar arguments.

To achieve the potential envisioned by General Dougherty, the panel recommends a substantially different Capstone course for new general and flag officers. The Capstone course should include: (1) study of joint command and control, organization, structure, doctrine, and procedures at the national, theater, and joint task force levels; (2) an in-depth exposure to the agencies and service commands supporting national security programs (for example, the Joint Strategic Target Planning Staff, the National Security Agency, and the Defense Mapping Agency); (3) indoctrination visits and direct exposure to the unified and specified commanders and their commands; and (4) study of national security strategy (primary focus) and national military strategy from a joint perspective (secondary focus), their evolution and future directions. History, case studies, and wargaming should form the core of the program. Parts of the Joint Flag Officer Warfighting Course currently taught at Maxwell Air Force Base should be integrated into the curriculum, and the focus should be on joint doctrinal issues, their ambiguities, and possible resolution. The Capstone course may also require tailoring to specific fields of study for certain flag officers, for example, those in the research and development or procurement areas.

Capstone should become a part of the National Center for Strategic Studies if it is established. The panel favors integration with the National Center because of the similarity in subject matter, the need for less overhead than if it were separate, and the increased status inherent in affiliation with the National Center. If the Center is not established, Capstone should gain a teaching faculty through a closer relationship with the National War College.

There were a wide range of views on how long Capstone ought to be, ranging from a full academic year to no increase. Ideally, the curriculum should dictate the length of the course. But the panel recognizes that the ideal must be modified by availability of students and affordability. The panel believes that 4 to 6 months is probably not an unreasonable target, although the curriculum described earlier could fill an entire academic year. Some flag-officers might stay on beyond the fixed-course length to continue their study as part of the National Center course, to conduct research, or

to study particular problems related to their next job or jobs. The Chairman, JCS, and service chiefs should determine who remains.

Faculty for the reconfigured Capstone demands careful attention. Existing faculties at most war colleges are unlikely to meet the requirements of this group of students. The panel recommends a mix of civilian professors and retired senior flag and foreign service officers, the latter similar to the senior fellows program in the existing Capstone. Adequate pay and the limitation of dual compensation legislation are the principal obstacles to hiring and retaining a national-level faculty. Legislative relief will be required in both cases to allow competition, selection, and retention of those best able to teach the curriculum.

The leadership and faculty should not assume that Capstone students have sufficient knowledge and experience to teach themselves in a seminar environment. Courses should be as rigorous and demanding as the students' future responsibilities will be. Capstone affords an opportunity for participants to test new ideas, learn, make mistakes, and question the *system*. They should be challenged to do so. The payoff will come for the nation in their future careers.

#### *Relationship between Capstone and the Revamped National War College*

The primary purposes and the student bodies of Capstone and the revamped National War College should be distinguished from each other as follows:

—Capstone's primary purpose is education in *joint* matters and its student body each year includes *all* newly selected general and flag officers.

—The National Center school's primary purpose is education on national security *strategy* and its student body includes *selected* general/flag officers and colonels/Navy captains, all of whom should have potential in the national strategy and policy-making areas.

This distinction reflects the view that all general officers need to know more about joint matters, but only certain general officers (and colonels) need to know about national security strategy *in depth*. Because education on national strategy and joint matters are so closely related, the panel proposes adding some substantive study of strategy to Capstone. Conversely, the National Center requires a joint environment (joint faculty, student body, and control).

Capstone's primary focus on joint matters and its additional study of national strategy are needed now. At some point in time, perhaps 10 years in the future, the increased emphasis on joint matters throughout the PME system, the development of joint specialists, higher levels of joint experience throughout the officer corps, and a successful National Center may allow reconsideration of the need for a Capstone course. The Defense Department and Congress should be sensitive to the requirement for reevaluation. During the interim, Capstone should fill critical joint and strategy voids in officers' professional development.

*Industrial College of the Armed Forces*

The Industrial College has maintained its basic *mission* of educating military officers and government civil servants in the conversion of the economic and social elements of national power into the military means to wage war. The focus, however, changed somewhat over the years. In 1948 the JCS gave ICAF the mission:

To prepare selected officers of the Armed Forces for important command, staff and planning assignments in the national military establishment and prepare selected civilians for important industrial mobilization planning assignments in any government agency, by:

(1) Conducting a course of study in all phases of our national economy and interrelating the economic factors with political, military and psychological factors.

(2) Conducting a course of study in all aspects of joint logistic planning and the interrelation of this planning to joint strategic planning and to the national policy planning.

(3) Conducting a course of study of peacetime and potential wartime governmental organizations and the most effective wartime controls.

The most recent (1976) JCS mission—"to conduct senior level courses of study and associated research in the management of resources in the interest of national security in order to enhance the preparation of selected military officers and senior career government officials for positions of high trust in the Federal Government"—is more vague and diffuse. The mission in the 1988-89 NDU catalog—to "provide executive education and research, within the areas of leadership, resource management, mobilization, and joint and combined operations, to selected senior military and civilian officials destined for positions of high trust and leadership in the Federal Government"—is less vague than the 1976 mission, but still more diffuse than the original mission, and the curriculum reflects this. Considerable time is devoted to executive skills, foreign relations, and joint processes, while mobilization, one of the original areas of emphasis, is treated somewhat lightly. A block of instruction on the industrial base and resource management, however, generally appears to conform well with the original mission.

Starting in academic year 1988-89, all ICAF military students are required to take a course on joint and combined operational art. As the graduates of intermediate schools with appropriate operational art programs reach ICAF, it will have to reevaluate its operational art course. Time saved could be used to ameliorate the problems discussed in the next paragraph. In any case, the panel supports a unique college for the study of the mobilization and joint logistics missions and believes the college should maintain its focus on these subjects.

At issue is the time spent on acquisition and research and development (R&D) subjects. They have received increased coverage in the ICAF curriculum over the years for understandable reasons. There have been continuing difficulties with both DOD procurement overall and with joint procurement programs in particular.

Thus, there is a need for improving the education and joint perspective of officers and civil servants who work in these areas. However, while there is great overlap in the study of mobilization/logistics planning and acquisition/R&D in both subject matter and analytical tools, covering both areas risks making the ICAF curriculum too shallow.

The panel supports the JCS Chairman's review of the mission and purpose of ICAF and believes he should either validate its current approach or adopt alternative means of education in the acquisition/R&D fields. Possible alternatives include tracks within ICAF to allow specialization; refocusing ICAF on mobilization/joint logistics and shifting senior acquisition/R&D education responsibilities to a separate course, either at ICAF or at the Defense Systems Management College; and increasing course length at ICAF to allow a more in-depth study of all relevant fields.

*Students* at ICAF have qualifications similar to those in most other senior colleges. The college actively seeks a balance of both warfighters (operators) and war-supporters (logisticians, communicators, etc.). This permits the war-supporters to hear directly about the needs of the warfighters and, conversely, the warfighters to learn firsthand about logistical complexities. The ICAF Commandant has expressed concern that Goldwater-Nichols Act requirements for joint specialist education and for assignment of greater than 50 percent of ICAF students to joint billets upon graduation may eventually alter the balance. Because there are few professional, scientific, and technical positions on the joint duty assignment list, he believes that the services will be unwilling to send officers with these specialties to ICAF, where they would fill joint education billets that are in short supply and needed by combat arms or line officers. The panel supports the Commandant's position that the "warfighter/war-supporter" balance should not be allowed to change as a result of Goldwater-Nichols Act considerations.

Because of the different nature of the curriculum, the panel does not believe that ICAF should qualify joint specialty officers. Graduates should receive Phase I joint education from ICAF (if they have not already received it in intermediate schooling) and attend Phase II at Armed Forces Staff College to complete their joint specialist education.

### *Other Programs*

Other ways to improve joint education and development of officers at the intermediate level are not directly related to professional military education. The Chairman, JCS, and other witnesses and interviewees told the panel that *exchange tours* between services of mid-grade officers would improve the understanding of and appreciation for the capabilities, limitations, doctrine, and procedures of the services. The panel recommends that the Secretary of Defense review existing policies on exchange tours to determine whether an increase would be valuable to joint education, sustainable in the operating forces, and manageable in the service personnel systems.

Several senior witnesses also emphasized the benefit of having attended *another service military academy* before entering active duty in their current services. For example, General Robert Herres, Vice Chairman, JCS, a Naval Academy graduate, cited how



useful it had been to understand the naval culture while serving as an Air Force officer in both service and joint assignments. The panel recommends that the Secretary of Defense review current policies to determine whether some accessions into a service from an academy of another service could be managed and would be beneficial to the development of future military leaders.

Finally, the panel believes *brief student exchange periods* with other services should be considered as an adjunct of the AFSC course. Although the exact length of exchange periods might vary, the panel believes they should be long enough for the students to experience a fair sample of the variety and pace of the other services' jobs. In conjunction with the 3-month AFSC formal course, a student who is an Air Force fighter pilot, for example, could serve first with the executive officer of a Navy destroyer, then subsequently with an Army or Marine battalion commander. The Air Force AFSC student would have no official responsibilities, but he would be expected to "hold hands" with the executive officer for the period he was on the ship—sleep, eat, work the 24-hour ship schedule with his host and observe how problems and decisions are handled. Even a brief exchange period linked to AFSC would increase knowledge and appreciation of the other services' doctrine, procedures, capabilities, and limitations. It would also contribute significantly to developing the joint perspective of joint specialist nominees.

The panel also believes consideration should be given to incorporating a similar student exchange period into the plans for the National Center for Strategic Studies (or the revamped National War College). In the case of the senior school, an Army student who had been a brigade commander might spend time "holding hands" with a cruiser or aircraft carrier skipper. A former submarine commander might observe firsthand how an Air Force wing is commanded.

## RECOMMENDATIONS

### CONCEPTUAL PME FRAMEWORK

1. The Secretary of Defense, with the advice and assistance of the Chairman, JCS, should establish a clear, coherent conceptual framework for the PME system. The primary subject matter for PME schools and, consequently, the underlying theme of the PME framework, should be *the employment of combat forces*, the conduct of war. Each element of the PME framework should be related to the employment of combat forces. The primary focus for each school level should be stated in terms of the three major levels of warfare, that is, tactical, theater (operational), and strategic. Each school level should be responsible for a specific level of warfare as follows:

### CONCEPTUAL FRAMEWORK FOR PROFESSIONAL MILITARY EDUCATION

PME level	Primary focus
Flag/General Officer.....	National Security Strategy.
Senior.....	National Military Strategy.
Intermediate.....	Combined Arms Operations and Joint Operational Art.
Primary.....	Branch or Warfare Specialty.

—At the *primary* level an officer should learn about, in Army terms, his own branch (infantry, armor, artillery, etc.) or, in Navy terms, his warfare specialty (surface, aviation, and submarines).

—At the *intermediate* level, where substantial formal joint professional military education begins, an officer should broaden his knowledge to include both (1) other branches of his own service and how they operate together (what the Army calls “combined arms” operations) and (2) other military services and how they operate together in theater-level warfare (commonly referred to as “operational art”). The service intermediate colleges should focus on joint operations from a service perspective (service headquarters or service component of a unified command); AFSC should focus from a joint perspective (JCS, unified command, or joint task force).

—At the *senior* level, an officer should broaden his knowledge still further to learn about national strategy and the interaction of the services in strategic operations. The senior service schools should focus on national *military* strategy. The National War College should focus on national *security* strategy, not only the military element of national power but also the economic, diplomatic, and political elements. Graduates of service war colleges should attend the senior joint school.

#### JOINT EDUCATION

2. Although students should be introduced to joint matters at pre-commissioning and primary-level schools, it is at the intermediate schools that substantial joint education should begin.

3. The Secretary of Defense, with the advice and assistance of the Chairman, JCS, should establish a *two-phase* Joint Specialty Officer (JSO) education process. The service colleges should teach Phase I joint education to all students. Building on this foundation, AFSC should teach a follow-on temporary-duty Phase II to graduates of service colleges en route to assignments as joint specialists. Because of the Phase I preparation, Phase II should be shorter and more intense than the current AFSC course. The curricula for the two phases should be as follows:

—*Phase I* curriculum at service colleges should include: capabilities and limitations, doctrine, organizational concepts, and command and control of forces of all services; joint planning processes and systems; and the role of service component commands as part of a unified command.

—*Phase II* curriculum at AFSC should build on Phase I and concentrate on the integrated deployment and employment of multi-service forces. The course should provide time for: (a) a detailed survey course in joint doctrine; (b) several extensive case studies or war games that focus on the specifics of joint

warfare and that involve theaters of war set in both developed and underdeveloped regions; (c) increasing the understanding of the four service cultures; and (d) most important, developing joint attitudes and perspectives.

4. Considering the required curriculum and the time necessary for "affective" learning, to be successful the Phase II course should be about 3 months in length, longer if necessary.

5. In-residence service intermediate education should be a prerequisite for attendance at AFSC to ensure that students are already competent in their own service, that they have acquired basic staff skills, and that they have achieved a minimal level of education in joint matters.

6. Service schools provide valuable service-oriented PME and they should be preserved. Service schools and joint tracks should not be accredited for joint specialist education.

### *Joint Standards*

7. Schools that provide joint specialist education should meet four standards:

(a) A *curriculum* that focuses on joint matters as defined in Chapter III.

(b) A *faculty* with equal representation from each military department.

(c) A *student body* with equal representation from each military department.

(d) *Control* exercised by the Chairman, JCS.

### *Joint Curriculum*

8. Based on the panel's understanding of the World War II Army-Navy Staff College and of the needs of joint and unified commands, the new AFSC curriculum should address war primarily at the operational level. It should concentrate on how to develop the joint force concept, both operationally and logistically. It should also build on the education in joint matters, specifically knowledge of other services and of joint processes and procedures, taught in service schools.

9. The Chairman, JCS, should use the joint schools to help develop and assess joint doctrine and related joint knowledge.

### *Faculty*

10. The military faculties of the *joint schools* should continue to have equal representation from each of the three military departments.

11. For the *service schools*, the Chairman, JCS, should develop a phased plan to meet the following standards:

—The *senior* service schools should have military faculty mixes approximating 10 percent from each of the two non-host military departments by academic year 1989-90 and 25 percent by academic year 1995-96.

—The *intermediate* service schools should have military faculty mixes approximating 10 percent from each of the two non-host military departments by academic year 1990-91 and 15 percent by academic year 1995-96.

12. The most difficult task will be recruiting joint school *faculty* competent to teach joint matters at a level above that of service intermediate and senior colleges. The faculty should include some relatively senior officers with outstanding records and broad operational and joint experience. Substantial numbers of the military faculty should have potential for further promotion. In time, military instructors would ideally come from the JSO ranks. To be competent the faculty must be large enough to develop joint materials for study and use in the classroom.

### *Student Body*

13. The student bodies of the *joint schools* should continue to have equal representation from each of the three military departments.

14. For the *service schools*, the Chairman, JCS, should develop a phased plan to meet the following standards:

—The *senior* service schools should have student body mixes approximating 10 percent from each of the two non-host military departments by academic year 1989-90 and 25 percent by academic year 1995-96.

—The *intermediate* service schools should have student body mixes of one officer from each of the two non-host military departments per student seminar by academic year 1990-91 and two officers per seminar by academic year 1995-96. Eventually, each military department should be represented by at least three students in each intermediate school seminar.

15. The new AFSC should accept students at the major/Navy lieutenant commander and lieutenant colonel/Navy commander grades. During transition and as needed later, AFSC could provide colonels/Navy captains a senior course.

### *Joint Control*

16. Under the overall authority of the Secretary of Defense, the Chairman, JCS, should *control* both the National Defense University (NDU) joint schools and the joint portions of the service schools. Making the Chairman responsible for *all* joint education should maintain a service-responsive school system, retain diversity in the overall education system, and yet ensure that officers have an adequate understanding of joint matters and are fully prepared for joint duty.

17. The Chairman, JCS, should establish the position of *Director of Military Education* on his staff to support his responsibilities for joint PME and for formulating policies to coordinate all military education. A senior officer with strong academic credentials should be charged with establishing a coherent framework for the 10 PME schools, coordinating military education overall, and developing, accrediting, and monitoring joint education in both service and joint PME schools.

### *Challenges*

18. A major challenge will be to *resist pressures to shorten the length of the Phase II* course at AFSC. The Phase II course should be long enough to meet the requirements of recommendation 3, in

particular for increasing student understanding of the other services and developing joint attitudes and perspectives, often referred to as "socialization" or "bonding." Considering these requirements, the Phase II course should be about 3 months long, as was the World War II Army-Navy Staff College, or longer if necessary.

19. A related challenge is to *keep the relatively short AFSC Phase II course free of material that should be covered in the service schools' Phase I*. There will be pressures to have AFSC teach descriptive matter both about other services and about joint processes, using the argument that AFSC can do a better job. The service Phase I courses should cover both of these subjects in depth.

20. A final challenge, particularly for the Navy, is to *ensure that all students attend Phase I in-residence prior to Phase II*. A "Phase II-only" joint PME is not in keeping with the Goldwater-Nichols Act establishment of the Critical Occupational Specialty (COS) exception and the act's requirement "to maintain rigorous standards for the military education of officers with the joint specialty." The goal should be for all officers to have completed intermediate service school in-residence prior to arriving at AFSC. That goal should be diluted only as demonstrably necessary in the near term by a few waivers of Phase I for non-COS officers.

—The Secretary of Defense should determine whether any waivers to in-residence Phase I are needed. Such waivers should be kept to an absolute minimum and be granted at a level no lower than the Chairman or Vice Chairman, JCS, on a case-by-case basis and for compelling cause. Each officer waived should meet prerequisites of: (1) having completed Phase I by correspondence or satellite course and (2) passing a rigorous test verifying the officer's ability to begin Phase II instruction. Finally, the Secretary of Defense should report annually to the House and Senate Committees on Armed Services listing each waiver and the reason why it was given.

—If there are near-term requirements for waivers to fill Phase I, the services should consider a short, temporary-duty course at their own intermediate colleges to teach Phase I to those officers who are eligible. Such a course should be validated by the Chairman, JCS.

#### NAVY PME

21. The Chief of Naval Operations (CNO) should review the Navy PME system to determine whether Navy officers can and should attend both intermediate and senior colleges and whether each Naval War College school should have a more distinct curriculum.

—The Chairman, JCS, and the civilian leadership of both the Department of the Navy and the Department of Defense should exercise oversight because the issue has national security implications for the development of the military officer corps and leadership of all services.

22. When the two-phase JSO education is implemented, the Navy should use its 90 plus AFSC spaces to assign officers to other-service schools.

23. If force structure cuts come in the future, consideration should be given to allowing the Navy to keep some officers for PME.

#### STRATEGY EDUCATION

##### *Service War Colleges*

24. The senior service colleges should make national *military* strategy their primary focus.

##### *National Center for Strategic Studies*

25. The panel supports the proposal being developed by the Chairman, JCS, for a National Center for Strategic Studies as both an educational and research institution concentrating on national *security* strategy. The nation needs a military institution focused on national security strategy that will provide a unique political-military perspective for those officers who will assume responsibilities in the flag ranks of the armed forces, just as World War II leaders prescribed. Functions performed by four institutes like the following should be included in the National Center.

(a) A *revamped National War College* to serve as a year-long school with a primary focus on national security strategy and policy for military officers and senior Federal officials from departments and agencies involved in national security matters. This school would serve as an advanced course for senior Joint Specialty Officers and others with potential for three- and four-star rank. It might become a "desired" qualification for theater commanders and other critical jobs that the Chairman, JCS, designates.

—The military officers should number about 50 and range in rank from colonel/Navy captain to major general/rear admiral. They should be graduates of senior PME schools or comparable programs who have the talent, experience, and potential to serve in senior intergovernmental and multinational security assignments.

—The full-time civilian students should number perhaps 25 and come predominantly from the State Department with others from the Department of Defense, the Central Intelligence Agency, and other agencies involved in national security matters, as is now the case at the National War College. These officials should come from the policy and line elements, not from administration and support.

In addition, perhaps another 25 high-level civilians from industry, labor, media, universities, and parts of the government outside the national security arena should participate on a part-time basis.

(b) An *institute for original thought* on national security strategy and secondarily on national military strategy. It should serve both as a "think tank" that wrestles with problems and issues faced by the Chairman, JCS, and senior civilian officials, and as a magnet for attracting national-level scholars, former high-level government officials, and former

senior military leaders for the study and teaching of strategic and joint matters:

—It could build on the best elements of NDU's existing Institute for National Strategic Studies, but would have a core of national-level scholars and a clear responsibility to provide the Chairman, JCS, non-service-oriented military and civilian strategic thought. In addition, a Joint Strategic Studies Group (JSSG) could serve as a building block.

—Individuals associated with this institute would also contribute to the other functions of the National Center.

(c) An institute for the education of newly selected general and flag officers (*Capstone*).

(d) An *institute for conducting seminars, symposiums, and workshops* in strategy in both the public and private sectors. A major activity of the National Center, pulling together its educational and research components, should be a yearly national conference on strategy and related subjects. The conference should examine the ideas of top strategic thinkers from the military and private sectors and should be sponsored and attended by senior DOD and other officials with national security responsibilities.

26. The *head* of the National Center should be an absolutely outstanding intellectual leader. This is key, especially to initial establishment of the center. The faculty should have a core of national-level scholars. Legislative relief will be required on pay scales and dual compensation constraints.

27. The revamped National War College course should be rigorous and challenging. Course materials and faculty presentations should be based on the assumption that military students arrive with a solid background in political-military history and national military strategy.

#### CAPSTONE

28. All newly selected general and flag officers should continue to attend Capstone. The current 6-week Capstone focus on joint force planning and employment at the theater level should remain a significant component of the course. The course should add substantial, rigorous study of national security and national military strategy from a joint perspective. Capstone's length should be increased to incorporate the additional material and allow for the more rigorous approach.

29. The course should be placed under the aegis of the National Center for Strategic Studies to permit shared use of the National Center faculty and facilities.

30. If the emphasis on strategy and jointness recommended by the panel and required by the Goldwater-Nichols Act are fully realized, perhaps 10 years in the future, the mission and need for Capstone should be re-examined.

#### INDUSTRIAL COLLEGE OF THE ARMED FORCES

31. ICAF should maintain its original focus on mobilization and joint logistics. Recognizing that there are analytical tools and knowledge shared between these two wartime disciplines and

peacetime acquisition matters, the major issue to evaluate is whether the focus on acquisition that has been added to ICAF studies is both appropriate and properly integrated into the curriculum. This issue should be addressed and the panel is pleased to note that the Chairman, JCS, is reviewing the ICAF mission.

32. The traditional proportions of "warfighters" and "war-supporters" in the ICAF student body should not be allowed to change because of Goldwater-Nichols Act considerations.

#### OTHER PROGRAMS

33. The Secretary of Defense should review existing policies on officer *exchange tours* between services to determine whether an increase would be valuable to joint education, sustainable in the operating forces, and manageable in the service personnel systems.

34. The Secretary of Defense should review current policies to determine whether some accessions into a service from an *academy of another service* could be managed and would be beneficial to the development of future military leaders.

35. *Brief student exchange periods* with other services should be considered as an adjunct of the revamped AFSC and National War College courses.



## CHAPTER V

### QUALITY

#### OVERVIEW

Fundamental to the development of the U.S. officer corps is quality professional military education (PME). The education that officers receive should be broad enough to provide new academic horizons for those who have been narrowly focused, but deep enough to ensure scholarship and challenge and whet the intellectual curiosity of all officers capable of developing strategic vision. PME should broaden officers' perspectives and, thus, help break down the myths of branch or warfare specialties, as well as service parochialisms. Because education is an investment in our country's future, the services must be willing to sacrifice some near-term readiness for the long-term intellectual development of their officers. Only by accepting these sacrifices will our officers have the intellectual talents to respond to the demands of their profession, especially in major crises and wars.

This chapter covers four areas the panel considers the bedrock of a quality professional military education. First and foremost is the *faculty*. Without competent, dedicated faculty consisting of both military and civilian educators, the schools simply become stops along a career path rather than institutions of higher learning. Second, the *commandants and presidents* of the various institutions should play a significant role in guiding their curricula and mentoring the faculty and student body. Third, and of vital importance, are the *student bodies*. Only through careful selection of students, followed by close monitoring of the assignments graduates receive, can our nation ensure that the money invested in professional military education has been invested wisely. Fourth is *pedagogy*, which involves active rather than passive learning, and rigor. Rigor is essential to the student body, faculty, and the institution to maximize learning and accountability to service and joint organizations.

#### FACULTY

The importance of a competent, credible, and dedicated faculty to both the fabric and reputations of our PME institutions cannot be overstated. The panel believes that an excellent curriculum or an outstanding student body cannot compensate for a mediocre faculty; the determinant factor in quality education is the faculty. To that end, faculty duty for military officers must be seen by everyone in the services—from the service chief to the young officers coming up through the system—as important, desirable, and rewarding. Civilian educators must view their positions at these colleges as academically stimulating and enhancing their professional credentials. The faculty must be more than discussion leaders or

“facilitators.” They must teach; they must be experts in their subject areas; and academically, they must be given the opportunity to develop further their expertise through research and writing. General Andrew Goodpaster, USA (Ret.), former Supreme Allied Commander Europe, and Superintendent, U.S. Military Academy, was one of many witnesses urging the panel to focus its attention and efforts on the dilemma of getting quality faculty.

During the period between World Wars I and II, faculty duty was seen as career enhancing, and the best Army officers were rewarded with faculty assignments to Forts McNair, Leavenworth, and Benning. This perspective was confirmed for the panel during an interview with General Charles Bolte, USA (Ret.), Army Vice Chief of Staff from 1953-1955 and head of a study on military education in 1956. Almost without exception, the Army officers—as well as many Army Air Corps and Navy officers—who rose to national prominence during World War II had tours of duty as instructors. As many have said, it is as an instructor that one best learns a subject. Generals Marshall, Army Chief of Staff; Eisenhower, Supreme Allied Commander, Europe; Bradley, Commander, 21st Army Group; and MacArthur, Commander, Southwest Pacific; served tours as instructors, as did Admiral Spruance, Commander, Central Pacific Forces, and Commander, Fifth Fleet; and Generals Spaatz, Commander, Strategic Air Forces Europe, and later Commander, Strategic Forces Pacific; and Vandenberg, Commander 9th Air Force, Europe. The schools were where the brightest and most talented officers learned the intellectual side of their profession. Today, however, the competing demands for the same caliber officers are far more numerous. Operational and staff assignments have decreased the time and motivation for faculty duty.

The panel recognizes that the armed forces were a great deal different in the 1930s than they are in the 1980s. The United States did not have a large contingent of forces deployed overseas. The Army had relatively small units overseas, located principally in China, the Philippines, and Panama. Similarly, our Navy did not have the large overseas commitments it has today. Consequently, officers spent much of their time in schools developing and teaching the tactics and doctrine that were successful during World War II.

Today, the nation is faced with the personnel requirements inherent in fielding large standing forces during peacetime while simultaneously training them to wartime readiness standards. Predictably, this has meant sending officers of exceptional ability to command and staff billets of active units in the United States and abroad. In fact, to varying degrees all the services convene screening boards to determine who will occupy the critical, prestigious command positions. Moreover, today's highly technical weapon systems require hands-on experience by our ablest officers. A retired Army colonel and former War College instructor stated in a panel interview that there are only two important things an Army officer does in peacetime—command and teach or train. Although this statement has been perhaps oversimplified to make its point effectively, the panel agrees that the service chiefs need to put greater emphasis on teaching now, during peacetime. Our systems require this expertise.

It is true that today the Department of Defense supports a large professional military education effort. Combined, the services provide faculties to about 2,300 intermediate and 1,100 senior school students, including international officers and civilians, who attend U.S. schools annually. The military faculty alone totals about 800 personnel, and in some cases the panel does not feel this number is adequate. This is a substantial number of officers. Of course, faculty duty provides benefits, because military faculty members have an opportunity to become experts in the intellectual aspects of their profession.

Another post-World War II change that affects the availability of officers for PME has been the growth of large service and other headquarters staffs. These staffs have mushroomed to manage the large standing forces and their support requirements. The service staffs devote considerable time and effort to developing and defending the rationale for their service's share of appropriated dollars and the resulting force structure. Because of the importance of this effort to the health of the service, these staffs draw talented officers. A tour at the service headquarters is viewed by the officer corps and senior leadership as essential to career development and career progression.

The dilemma becomes apparent as most officers shun faculty duty in favor of operational assignments or assignments to important headquarters staffs. This is reinforced by personnel systems that may penalize officers for accepting faculty assignments instead of rewarding them with valued follow-on assignments. In discussions with faculty members at the Army and Marine Corps intermediate schools, the panel was told that faculty duty was seen at best as "neutral" to an officer's career. Ironically, in academic year 1987-88, 45 percent of the instructors at the Army's Command and General Staff College (CGSC) had completed CGSC by correspondence and had not been selected to attend the course in-residence. In other words, they were good enough to instruct but not good enough to be students in-residence. At the Air Command and Staff College (ACSC) similar views were expressed. The instructors believed that faculty assignments had to fit carefully into one's career pattern so as not to "jeopardize" future assignments and promotions. In typical Air Force jargon, a tour at ACSC is frequently described as a "holding pattern." How can an educational system that produced great military minds in the 1930s sustain itself without faculty of the highest quality in the 1980s?

Obviously, not every position in the armed forces can be filled by the top 25 percent of officers, who are most in demand. The panel heard during several interviews that faculty duty should be considered equivalent to command. However, the panel believes faculty duty cannot—and should not—be perceived as having the same stature as command. Commanders are accountable for the performance of their commands, often in life or death situations. Faculty members do not bear such responsibilities. Nevertheless, the panel believes that the service chiefs should ensure that more former commanders with clear potential for further promotion and command assignments are assigned to PME faculties. During a panel interview, a former Commander of the U.S. Army Training and Doctrine Command stated that the lack of a quality military facul-

ty is a problem all service schools share; there is not enough talent to go around. The panel recognizes there are three primary areas that need top-quality officers—command, PME faculties, and headquarters. The panel believes that command and PME faculties can and should get the priority, even at some expense to headquarters.

#### MILITARY FACULTY

In the panel's judgment, the military faculties should be drawn from three groups of officers:

(1) *Operationally oriented military faculty*, i.e., those who are fresh from operational or staff assignments and are current in the latest tactics or policies;

(2) *Military specialists*, who support a part of the curriculum directly, such as foreign area experts or strategists; and

(3) *Military educators*, who possess the requisite academic subject matter expertise.

Admiral Stansfield Turner, former President of the Naval War College, described this as being a "mix of movers and shakers and academics." With the correct composition of these groups, the schools will have a credible, complementary military faculty that can both educate and challenge the student body.

*Operationally Oriented Military Faculty (Group 1)*. Whether the focus of the school is predominantly service or joint and combined, a portion of the military faculty must consist of officers possessing current, credible credentials in operations. Although the panel is not convinced that the faculty at senior schools need be role models for the experienced, highly competitive student officers,<sup>1</sup> these faculty members must be seen as competent, intelligent officers—leaders on the way up. Preferably they will be graduates of a resident program and have had teaching experience, too. Faculties need a high percentage of instructors who have both education and experience. But those who lack education or teaching experience need the opportunity to participate in a faculty development program to enhance their knowledge and teaching skills prior to assuming responsibilities in the classroom. The Armed Forces Staff College (AFSC) has a faculty development program that appears useful, particularly for intermediate PME schools. New AFSC faculty members participate in a 3-week orientation and development program, followed by a year of workshops and classroom mentoring by an experienced instructor.

Among faculty officers should be some who have successfully commanded at levels appropriate to their grade, in addition to those skilled in staff areas. Moreover, they should be representative of the branches or specialties of their service. Such officers bring to the schools several other important attributes. With their recent experience and seasoning, they, along with an inquisitive

<sup>1</sup>The panel believes that the need for "role models" decreases as the education level increases. Thus, captains on the faculty at West Point are useful role models for cadets. At the war colleges, however, the lieutenant colonels and colonels who are students should not need faculty colonels as role models. At the intermediate colleges, it is useful to have former commanders (of battalions, ships, and squadrons) on the faculty, less as role models than as individuals with relevant experience.

student body, can maintain the vitality of the institutions by discussing and debating the operational and doctrinal issues of the day. They will also have time to reflect on the positive and negative aspects of their most recent experiences and perhaps help resolve some of the dilemmas they faced.

The panel heard compelling arguments from several distinguished officers that one key purpose of PME colleges is to teach not only the students but the faculty as well. This means that the faculty must teach in an environment where rank is not necessarily "right" in resolving provocative questions and issues, and they must think through possible alternatives or solutions to a far greater extent than they could in the press of day-to-day duties. In preparing for and teaching classes, the best teachers may reach the deepest understanding of complex subjects like strategy. Historically, they are often the developers of strategic thought. Clausewitz and Mahan are examples. As discussed earlier, it was during their assignments as PME instructors that many senior American World War II leaders achieved genuine intellectual depth in their profession. The academic environment and a questioning student body are key ingredients to this development. If this argument has merit and validity, then the "teach-the-teacher" philosophy is most applicable to the officers in this category who will return to the operating forces both as experts and teachers in field organizations. In fact, Gen. George Marshall's biographer, Forrest Poague, believed that "a good part of his [Marshall's] impact on the army was actually as a teacher." Stated differently, faculty duty is important for the professional development of the officer corps.

The operationally oriented military faculty will need to return to field or staff assignments to remain current. Consequently, their teaching tours will have to be relatively short—perhaps 2 years. The European schools the panel visited used this approach. For example, at the Ecole Militaire in France, there are five former Air Force base commanders (U.S. wing commander equivalent) on the faculty. Two are assigned for 24 months, while the other three serve 12 to 18 months before returning to operations or staff duty. A high percentage of these officers—usually about half—are subsequently promoted to general officer.

It is clear from panel discussions that not all operationally oriented officers will be successful faculty members. The characteristics of a good teacher are not always the same as those of a good operator or staff officer. Accordingly, the panel believes that the services must be sensitive when giving follow-on assignments to good officers who have not measured up as instructors. Their inability to teach at this level should not jeopardize their careers, and they should be allowed to move to more fitting jobs without prejudice.

*Military Specialists (Group 2).* This group of officers with their narrower fields brings genuine expertise in specific functional areas to the faculty. Officers in this category include foreign area specialists, intelligence officers, attaches, or strategists. They would seek and normally be granted the opportunity to develop even greater expertise in their fields through research, writing, and exchanges with students while on the faculty, and, if necessary, additional education. Normally these officers have prior education and

experience in their specialty. If they lack teaching experience, they may need to participate in faculty development programs.

*Military Educators (Group 3).* These are officers who, for a variety of reasons, find that teaching as a profession is particularly rewarding. Some may be mid-level career officers while others may be senior colonels. In either case, they should possess advanced degrees, teaching credentials (degrees or experience), and subject matter expertise. These faculty members give their institution long-term stability and also enhance the reputation of the schools as legitimate institutions of higher learning. Military education faculty positions should not be limited to officers in the grade of colonel/Navy captain and lieutenant colonel/Navy commander. There appears to be no compelling reason to prohibit a major/Navy lieutenant commander with the right education and experience from serving on the faculty of a senior college. Dr. William Taylor of the Center for Strategic and International Studies (CSIS) believes "there is a pervasive notion within the military that brains are issued with age and rank, consequently many would-be instructors—young Ph.D.'s—are overlooked."

In this context the panel reiterates: the contention that instructors must always serve as role models for their students is probably not valid at the senior, or even at the intermediate, schools. Role models, in the sense that a junior officer needs to emulate a superior, may hinder the selection of academically competent faculty. However, the commandants at the schools probably should be both role models and mentors to the students even at the senior schools. This is one reason to have at least a two-star commandant at war colleges—an officer who is senior enough to act as a role model for the students.

In selecting officers to serve in a professional teaching capacity, several criteria are important. Professional military educators should be volunteers for the assignment. They, more than those in Group 1, should have teaching ability and prior experience. Also, they should have an academic foundation, preferably a doctorate, in the area they are to teach. Finally, they should have an exemplary military record based upon solid performance.

The panel believes that the services should consider developing a cadre of professional educators from among their officers. These officers would volunteer for PME duty with the understanding that they had made a career choice. The options could be either for a tenure position—as discussed later in this chapter—or as a secondary specialty. In the secondary specialty case, the officers would mix faculty assignments with assignments in their primary specialty. This cadre would provide the long-term stability and continuity necessary to achieve excellence in education.

A special mention needs to be made about colonels and Navy captains in this category. These senior officers can infuse the student body and other faculty members with a sense of purpose based upon their maturity, stability, and desire to be effective educators. As Major General Howard Graves, Commandant of the Army War College, said during testimony at Carlisle Barracks, "We must look to our senior colonel instructors as having potential to be outstanding educators as opposed to potential for promotion." Clearly, these senior officers have much to offer junior officers by way of experi-

ence and mentorship. They must view their own mission as passing the military legacy to the next generation of senior officers.

The services must, however, capitalize on the talents of officers suited and motivated to apply themselves conscientiously to this task and not merely assign senior colonels to academic institutions as a reward for long and faithful service. Nothing could be more counterproductive to a vigorous PME school and deadening to the motivations of both faculty and students than a number of senior officers who are "retired on active duty." This same problem can exist for civilian faculty, as discussed below.

#### CIVILIAN FACULTY

Throughout the panel's visits to the 10 U.S. intermediate and senior PME schools, an overriding theme was the "graduate" nature of the education. A visible and meaningful approach to perpetuating this theme is through the civilian educators assigned to these colleges. Civilians who hold doctorates and are renowned in their fields can enhance both the academic stature and scholarship of the institution. Moreover, a small group of top-notch civilian academics can act as a magnet to attract others over a period of time. General Andrew Goodpaster has stated, "Civilians can add depth to the curriculum and help establish pedagogy." Current examples of such individuals include Dr. Eugene Rostow (National Defense University), Dr. Jay Luvaas (Army War College), Dr. Alvin H. Bernstein (Naval War College), and Dr. William Snyder (Air War College). Each of the schools could establish "distinguished chairs," as has the Naval War College for educators of such stature. Not only can they work directly with the student body but they can provide access to other scholars of equal stature who may otherwise be unavailable. A dedicated civilian faculty can also provide the continuity and subject matter expertise so crucial to any legitimate academic institution.

Such an arrangement is positive for the civilian educator as well. Nowhere in the country, except at an intermediate or senior military college, can a civilian professor teach a student body with comparable experience and maturity, especially in the major subject of PME schools—the employment of military forces. These officers can intellectually challenge a military historian or political scientist in unique ways. Students at military colleges already have extensive experience in their specialties, a situation not normally found in civilian undergraduate or graduate students, and many have experienced combat.

Civilian professors at PME schools must continue to research and publish. This is essential not only to keeping themselves in the forefront of their academic field, but also to ensure their academic credibility. According to Dr. Lawrence Korb, now at Pittsburgh University and former Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics, "They [civilian professors] must have a view that their scholarship is not in question by their colleagues as a result of where their pay check comes from." Dr. Korb also suggested that a positive aspect of this civilian-military relationship could be an increased appreciation for, or sensitivity to, the military culture.

Some civilian faculty members can, and should, be recruited from other Federal departments and agencies. They can be particularly useful in the national security, area studies, and resource management curricula. The panel cautions, however, that civilians should be of the same high quality as their military faculty counterparts. There should be civilian subject specialists in areas needed in the curriculum, and there should be agency "operators" or policymakers. The latter, like their military counterparts, should be civilians who are competitive for senior ranks in their agencies. Civilians also should not be assigned to faculty duty as a reward for past work but be fully capable as challenging teachers. The panel was told that, on occasion, agencies were not providing this quality faculty. In such cases, the school commandants may need the help of senior DOD officials to get the required high-quality civilians.

Like the military faculty, the civilian faculty should be a mixture of experienced, well-respected individuals of national stature who, in combination with younger Ph.D.'s building their academic reputations, will provide balance and expertise. Although not prepared to recommend a precise military and civilian faculty mix, the panel believes that school faculties should have some civilians at the intermediate level and a substantial portion, perhaps around one-third, of civilians at the senior schools. The exact percentages should vary depending upon the academic department and subject matter.

The panel frequently heard that relatively short (2- or 3-year) contracts are best for civilian faculty. Shorter contracts that are renewable enable the school commandants to ensure that instructors remain productive. Some of those interviewed by the panel charged that in the past some schools—notably the Industrial College—retained some faculty members who were non-productive. Even with shorter contracts, the commandants must make the hard evaluations to extend only top-quality faculty.

#### INCENTIVES FOR MILITARY FACULTY

As stated previously, the panel believes that to develop a quality faculty, the impetus must start at the top. Incentives must exist to attract a pool of outstanding officers and civilian educators. And the incentives must be tailored to each of the three groups (operationally oriented military faculty, military specialists, and military educators). While a military educator (group 3) may view an opportunity to attend graduate school in his specialty as an incentive, an operationally oriented military faculty member (group 1) may prefer an immediate return to operational duty.

The operationally oriented military faculty members are motivated by learning about the employment of forces and by the prospects of command. They want reasonable assurance from the personnel systems that they will not be taken away from operations for an extended period. They understand that the window of opportunity to compete for command and key staff positions is narrow. A faculty assignment should not preclude them from competing for selection; rather, it should enhance their competitiveness.

Another incentive that would apply to both operationally oriented faculty and to military specialists (groups 1 and 2) that should



not be missed as a result of faculty duty is a joint tour or joint PME credit. At present, as a result of DOD policy, only 50 percent of the joint faculty positions in the National Defense University and its schools are on the joint duty assignment (JDA) list for joint duty credit. A former service chief suggested three points that could provide incentives for joint faculty duty: (1) all those who teach joint curricula should receive some sort of joint tour credit, (2) all 2-year faculty tours involved in teaching joint operations should receive joint PME credit as well, and (3) those officers on exchange faculty assignments should receive joint tour credit. Ultimately, he believes, this will drive the academic standards higher while at the same time rewarding officers in faculty positions.

The panel believes that *all* military faculty at the National Defense University PME schools who meet the joint tour length requirements and teach subjects dealing with joint matters should get credit for a joint duty assignment. This would help to attract quality faculty to these three schools and correct the existing inequity where officers in the same joint school teaching the same joint subjects do not receive equal joint duty assignment credit. The panel also believes that consideration should be given to awarding credit for a joint tour to all exchange (non-host service) military faculty members at service PME schools who meet the joint tour length requirements.

Military educators (group 3) are likely to be motivated by different incentives. Many of them would welcome the opportunity to strengthen their academic credentials through research grants, sabbaticals, and additional civilian education. These incentives would also apply to military specialists (group 2), and the PME schools should have funds appropriated to support doctoral and other continuing education programs. In addition, military educators may value being given a voice in determining where they teach.

A few of these military educators could become a professional "corps" of educators similar to the tenured military faculty found at West Point and the Air Force Academy. Their endeavors could be focused on area specialties, military history, or national security policy. They would, perhaps upon graduation from intermediate service school, elect a career path that would place them in an "education specialty" for much of their remaining career. The management of these military educators' careers would be similar to that of the legal and medical professions in the military. They would be promoted in "due course" with their contemporaries to the grade of colonel or Navy captain. General officer (one-star) billets for a few as deputy commandants would provide even greater incentive to remain and teach. "Tombstone promotions" (without pay increases) to brigadier general or rear admiral on retirement for department heads who had made significant contributions to the college could also be used as an incentive for this career path. Because of their military experience, many of the more senior military educators may be involved in teaching the joint and combined curricula. An opportunity to serve in a temporary capacity on joint and combined staffs or to participate in any number of joint exercises may be rewarding for them and benefit the school as well.

The services should also explore the possibility of using permanent faculty from the service academies to teach at PME schools. Members of those faculties have the academic credentials, military background, and intellectual credibility to stimulate and challenge more senior students. Moreover, exchanges could benefit all of the institutions. The National and Army War Colleges in particular have done a good job of using former service academy faculty members on their faculties.

The panel recognizes that recruiting faculty is of prime importance for developing a quality military faculty. The panel is concerned, however, that undue pressure may be placed on some members of the current student bodies to remain on as faculty in order to achieve an immediate improvement in "quality" as measured by higher promotion rates and an increased percentage of in-residence graduates on the faculty. With some exceptions, this is a risky course to follow. Students who are faculty candidates should normally return to the field for a tour of duty prior to assuming faculty duties. It is unreasonable to assume that many of the newly graduated "students" are fully qualified to teach new students, as they do at both the Air Command and Staff College and the Army Command and General Staff College. Faculty members should be seasoned with additional experience.

#### INCENTIVES FOR CIVILIAN FACULTY

The need for stronger incentives for the military faculty candidates also applies to civilians. Many civilian educators would relish the opportunity to teach, research, and write at a first-rate PME institution. However, to be first-rate, it is imperative that these institutions have an atmosphere that promotes academic freedom and encourages critical, scholarly research. Moreover, to attract a quality civilian faculty, the PME colleges must be in a position to compete, not only academically with civilian colleges and universities but financially as well. Accordingly, the panel believes that legislation should be introduced to allow the Secretary of Defense, for joint schools, and service secretaries, for their respective schools, to hire and set the compensation schedule of civilian faculty. The precedent for this legislation is a 1956 law (10 USC 7478) that authorizes the Secretary of the Navy to establish the various pay scales for civilians teaching at the Naval War College. The panel believes that the civilian faculty at the Naval War College recruited with these and other incentives is worthy of its reputation.

Notwithstanding the necessity to recruit the best qualified military and civilian faculty members available, the panel believes other initiatives are worth serious consideration.

The panel has heard on numerous occasions that there is a dearth of material available from which to structure a course dealing with joint and combined operations, whether at a service or a National Defense University college. Likewise, few experienced officers are available to teach these subjects. The panel believes that a source of faculty members could be the retired officer corps, especially three- and four-star flag officers. As suggested by Admiral Harry Train, USN (Ret.), former Commander in Chief, U.S. Atlantic Command, retired officers could act as "professors of oper-

ations." Several individuals, including Admiral Train and Dr. Korb, believe that establishing "chairs" for senior fellows would benefit the college programs. General Richard Lawson, USAF (Ret.), former Deputy Commander in Chief, U.S. European Command, believes that selected officers "could make significant contributions to the service schools." Who would be more qualified to help develop material and guide a course in joint and combined warfare than the former practitioners themselves?

The panel is concerned that, from a practical standpoint, such officers would be disinclined to accept PME faculty positions. Many have already devoted 35 years of their lives to the service of our country and may be unwilling to continue making financial sacrifices dictated by the dual compensation legislation that reduces the retirement pay of retired regular officers who work for the Federal Government. The panel recommends that the Department of Defense seek a waiver from this legislation for senior retired officers who are selected for chairs at PME schools. The nation should not financially penalize senior retired officers for continuing to serve their country.

#### FACULTY COMPOSITION AND STUDENT/FACULTY RATIOS

There are significant differences in the format, presentation, and scope of the faculty and student data the panel received from each of the schools, including differences in the number of international students, the utilization of faculty to develop doctrine (especially at Leavenworth), and in the Naval War College's use of the same faculty to teach both its senior and intermediate courses. These differences required extensive footnotes on the charts that summarize the civilian-military composition of the faculties and the student/faculty ratios. *Any reader who is interested in interpreting the data beyond the generalizations that follow should see Appendix E, Charts E-1 to E-5. They present the details of faculty composition and the student/faculty ratios at both the joint schools and the schools of the four services.*

CHART V-1—CIVILIAN AND MILITARY FACULTY

[Academic year 1987-88]

	Civilian	Military <sup>1</sup>	Total <sup>2</sup>
Senior schools:			
National War College.....	13	21	34
Industrial College of the Armed Forces.....	18	24	43
Army War College <sup>2</sup> .....	31	84	115
College of Naval Warfare.....	29	51	80
Air War College.....	14	47	61
Intermediate schools:			
Armed Forces Staff College.....	4	51	55
Army Command and General Staff College.....	35	383	418
College of Naval Command and Staff.....	27	51	80
Air Command and Staff College.....	0	121	121
Marine Corps Command and Staff College.....	4	18	22

<sup>1</sup> For comparison with other schools, the total Army, Navy, Air Force, and Marine Corps faculty is shown in the "Military" column. The "Total" column includes other uniformed military faculty members such as U.S. Coast Guard officers and foreign officers. Therefore, the ICAF and CNCS civilian and military columns do not add up to the total.

<sup>2</sup> Army War College data as of July 1988.

*Civilian Faculty.* Chart V-1 shows the numbers of civilian and military instructors on the faculties of the PME schools. For reasons stated previously, the panel is convinced that civilian educators play an important PME role, especially at senior schools. The panel also believes that the numbers of civilian educators at the senior schools are reasonable. However, at the intermediate schools, there should be some increase in expert civilian faculty, especially military historians to help teach operational art. The panel recognizes the contribution of the Marine Corps civilian adjunct faculty at Quantico but believes there should be more civilians assigned permanently, in addition to those who now teach writing. By the same token, the Armed Forces Staff College should have more than its current four civilian instructors and the Air Command and Staff College should hire some civilian faculty.

*Student/Faculty Ratios.* For ease of reference Chart V-2 presents a summary comparison of student/faculty ratios at the 10 PME schools. *In using Chart V-2, the reader is cautioned to consider the differences in the school data submissions covered in the charts in Appendix E.*

CHART V-2—STUDENT AND FACULTY NUMBERS AND RATIOS

(Academic year 1967-68)

	Students <sup>1</sup>	Faculty	Student/faculty ratio	Faculty per 100 students
<b>Senior schools:</b>				
National War College .....	173	34	5.1:1	20
Industrial College of the Armed Forces .....	227	43	5.3:1	19
Army War College <sup>2</sup> .....	288	115	2.5:1	40
College of Naval Warfare .....	230	80	2.9:1	35
Air War College .....	243	61	4.0:1	25
<b>Intermediate schools:</b>				
Armed Forces Staff College .....	285	55	5.2:1	19
Army Command and General Staff College .....	975	418	2.3:1	43
College of Naval Command and Staff .....	168	80	2.1:1	48
Air Command and Staff College .....	565	121	4.7:1	21
Marine Corps Command and Staff College .....	170	22	7.7:1	13

<sup>1</sup> Student numbers include U.S. officers, civilians and international students. See Appendix E for details.

<sup>2</sup> Army War College data as of July 1968.

Although this chapter has dealt primarily with faculty quality, quantity is important, too. Chart V-2 indicates student/faculty ratios at all of the schools. An alternative presentation for those ratios—numbers of faculty members per 100 students—is shown in last column. The panel believes that the small group seminar method used at the service and joint colleges warrants a relatively low student/faculty ratio overall ranging between 3 and 4 to 1, with the lower ratios at the senior schools. This allows faculty expertise in all seminars and time for curriculum development, faculty professional development, and research—all of which the panel believes are essential. Moreover, it affords the opportunity for the faculty to conduct a rigorous academic program characterized by tests, short papers, and term papers that are graded carefully and used as feedback mechanisms to improve students' understanding, analytical ability, research techniques, and writing skills.

The "academic mechanics" of PME also require a low student/faculty ratio. The entire student body is involved in the same area of instruction at any given time. For example, at the Air War College, this involves 20 seminar groups. Unless the student/faculty ratio is sufficiently low, instructors will be unable to keep pace with the students because of the multiple subject teaching load, and grading, counseling, and preparation demands. Larger numbers of students per faculty member may cause adoption of a training mentality, under which lesson plans and approved solutions substitute for intellectual interaction and the faculty member is a facilitator, not educator.

Senior school student/faculty ratios vary from 2.5:1 at the Army War College to 5.3:1 at the Industrial College. Intermediate school student/faculty ratios vary from 2.1:1 at the College of Naval Command and Staff to 7.7:1 at the Marine Corps Command and Staff College at Quantico (when only classroom advisors are considered, the ratio is 14.2:1). The panel believes that the high ratio at Quantico is not conducive to quality education.

Not reflected in Chart V-2 is a recent addition of 19 faculty at the Air War College. The panel commends the Air Force for this addition, which should give the Air War College a 3.0:1 student/faculty ratio.

In the case of the joint schools, the panel believes there is a need for additional faculty, principally civilian, at all three National Defense University schools—the National War College, the Industrial College of the Armed Forces, and the Armed Forces Staff College. Additional civilian faculty will benefit the student/faculty ratio as well as curricula expertise. With their relatively small faculties, the NDU schools do not have the "economy of scale" available to schools with larger faculties. For example, taking three faculty members for a curriculum development project or academic administration is a more severe drain on a 34-member teaching faculty than on a faculty of 80 to 100 members. The panel believes that, as a minimum, the student/faculty ratios at the NDU schools should be equal to those at the service schools. The Secretary of Defense, with the advice of the Chairman, JCS, should assure comparability of the joint and service school student/faculty ratios.

#### FACULTY AT PROPOSED NEW JOINT SCHOOLS

Faculty will play an increasingly important role as proposed changes to the PME structure are made. The panel believes that careful selection and development of the faculty is crucial to the success of the proposed National Center for Strategic Studies and the Phase II joint PME at the Armed Forces Staff College. The National Center for Strategic Studies will require a select group of eminent, national-level scholars. The operationally oriented military faculty members (group 1) at the Armed Forces Staff College should be officers who have completed successful joint assignments, have promotion potential, and will be subsequently assigned to more responsible positions. With few exceptions, students from the previous class should not be retained at AFSC as faculty. They need intervening joint experience before returning to teach.

## FACULTY EDUCATION

The panel also made several observations about the civilian and professional military education of the faculties. The data are presented in Chart V-3.

CHART V-3—FACULTY EDUCATION

[Academic year 1987-88]

	Total faculty <sup>1</sup>	Highest academic education level: (percent of total faculty)					Military faculty <sup>2</sup>	Military who are PME grads of: (grads percent of military)				
		Doctorates		Masters		Baccalaureates		Intermediate		Senior		
		No.	(%)	No.	(%)	No.		(%)	No.	(%)	No.	(%)
National Defense University:												
National War College.....	34	15	(44%)	17	(50%)	2	(6%)	21	12	(57%)	11	(52%)
Industrial College of the Armed Forces.....	43	16	(37%)	22	(51%)	3	(7%)	24	20	(83%)	20	(83%)
Armed Forces Staff College.....	55	3	(5%)	38	(69%)	13	(24%)	51	33	(65%)	8	(16%)
Army:												
Army War College <sup>3</sup> .....	115	25	(22%)	81	(70%)	9	(8%)	84	84	(100%)	76	(90%)
Army Command and General Staff College.....	418	25	(6%)	286	(68%)	98	(23%)	377	368	(98%)	33	(9%)
Navy:												
Naval War College <sup>4</sup> .....	80	34	(43%)	34	(43%)	12	(15%)	51	27	(53%)	32	(63%)
Air Force:												
Air War College.....	51	17	(28%)	38	(52%)	5	(10%)	47	34	(72%)	37	(79%)
Air Command and Staff College <sup>5</sup> .....	121	3	(2%)	103	(85%)	15	(12%)	121	108	(89%)	2	(2%)
Marine Corps:												
Marine Corps Command and Staff College.....	622	1	(5%)	5	(23%)	12	(55%)	18	13	(72%)	5	(28%)

<sup>1</sup> For comparison with other schools the total Army, Navy, Air Force, and Marine Corps faculty is shown in the "Military faculty" column. The total faculty column includes either uniformed military faculty members such as U.S. Coast Guard officers and foreign officers.

<sup>2</sup> Army War College data as of July 1988.

<sup>3</sup> Only 127 of the 221 military classroom faculty (58%) at the Army Command and General Staff College have completed that school in residence.

<sup>4</sup> Faculty at Naval War College teach in both the College of Naval Warfare (senior) and College of Naval Command and Staff (intermediate). Because the curricula at both schools are similar, faculty specialize in one department and teach the subject matter of that department in both colleges.

<sup>5</sup> Of 121 staff and faculty at Air Command and Staff College, about 90 moved directly to their faculty position after attending the resident course.

<sup>6</sup> There are also 12 adjunct faculty who are Marine Reserve officers. They each teach an elective course and all hold Ph.D.'s.

The panel believes that, to teach at the war college level, all members of the faculty should have an *advanced degree* and that a doctorate is desirable. The "Joint Professional Military Education Policy Document" (SM-189-84) requires this for the senior joint schools, and the panel believes it should apply to all war colleges. Exceptions may be found, particularly among the military who are operationally oriented (group 1) officers, but these should be relatively few. At the intermediate colleges, the latitude can be greater, but the panel believes about 75 percent of instructors should have advanced degrees. Civilian faculty, with a few exceptions for those with considerable experience, should have a doctorate.

All the senior schools have 10 percent or less of their faculties with only baccalaureate degrees, except the College of Naval Warfare, which has 14 percent. All the intermediate schools have less than 25 percent of their faculties with only baccalaureate degrees, except the Marine Corps school. The panel is concerned over the high percentage of Marine Corps officers on the Command and

Staff College faculty who have only a baccalaureate degree (67 percent).

The civilian faculty at the Naval War College is especially noteworthy. All but four of the 27 civilian faculty have doctorates, and many have taught at highly respected civilian universities. They serve as a "magnet" for attracting other quality faculty. Similarly, the military faculty at the National War College stands out for its academic qualifications. Although small in numbers, 8 of its 21 military faculty members have doctorates and the remainder have master's degrees.

Another important qualification for the military faculty is *in-residence* PME. The panel believes that about 75 percent of the military faculty at *intermediate* schools should be in-residence graduates of intermediate (or higher) PME schools. The panel is concerned that only 55 percent of the classroom military faculty at the Army Command and General Staff College has attended intermediate service school in-residence.

At the *senior* schools, the panel believes that it is not necessary for all military faculty members to have previously completed senior PME in-residence. "Group 2" officers, whose military specialties support the curriculum directly (e.g., foreign area experts), and "group 3" officers, who are educators with academic subject matter expertise, do not necessarily need to have completed senior PME. At the senior schools, there is less need for the "role model" in the faculty. Further, requiring all faculty members to have completed in-residence senior PME would limit selection to relatively senior officers. This would mean that there were relatively few colonels/Navy captains to choose from, and it would eliminate more junior officers with area or academic talents. In the operationally oriented (group 1) officers on senior school faculties, the panel believes there should be a preponderance of in-residence senior PME graduates. Given the complexity of the factors involved, the panel believes the Chairman, JCS, with the advice of the services, should establish guidelines for the overall percentage of in-residence PME graduates on the faculty of the senior schools.

In summary, the panel cannot stress enough its view of the critical importance of faculty.

## COMMANDANTS AND PRESIDENTS

School commandants and presidents are also important because they provide the leadership to obtain and maintain the quality of all elements of the school—faculty, student body, curriculum, pedagogy, and facilities. This section discusses the attributes needed in commandants and the roles they play.

The most important and perhaps the single most difficult PME position for the services to fill is college commandant or president. Several former service chiefs, including General Edward C. Meyer, USA (Ret.), expressed concern that only a few officers possess the characteristics desired of a college head. These general and flag officers must have operational credibility, academic credentials, a superb intellect, and must be seen by the student body as having the highest standard of integrity. In addition, the billet must be viewed by the service chiefs as an assignment of major importance.

In fact, because of the critical importance of the position, the panel believes that only a service or the Chairman, JCS, (for a joint school) should make the selection.

The panel agrees with a retired service chief who established five criteria he thought were important when selecting a commandant. He must:

- (1) Have a strong academic inclination, but not be seen as an egghead.
- (2) Be a general/flag officer on the way up and not sent to this position as a reward for long and faithful service.
- (3) Be willing to devote a minimum of 3 years to the institution.
- (4) Have operational knowledge and be seen by his peers as well as the student body as having it. (This is an essential ingredient to his role as mentor.)
- (5) Have the ability to establish a sound rapport with the student body in order to relate to their varied backgrounds and experiences. He must be a mentor with a high degree of integrity.

Others have indicated that a commandant should have some type of teaching background, such as a prior teaching assignment at either a service academy or an intermediate or senior service college. This would give the commandant a greater appreciation for the individual commitment necessary to become a competent faculty member. Moreover, it would be most appropriate for the commandant to teach at least one or two courses to develop a direct appreciation for and knowledge of the students, share the curriculum load and teaching problems with the faculty, and most importantly, share his expertise. An educator, after all, ought to be an individual who understands education and how to educate.

The panel was impressed with the presidents and commandants of our military colleges, but is concerned about the short tenure of many. Commandants are in general selected carefully. Some are exceptionally able, and their efforts to improve their schools were apparent. But short tenure undermines their efforts and is not in the best interest of the institutions, especially the faculty. Since 1980, the commandants at the Army War College and the Army Command and General Staff College have changed every 18 to 24 months. These positions appear to be treated as typical general officer assignments. The health of the schools should be the overriding factor in determining the tour lengths of commandants. Consequently, the panel believes that the service chiefs and Chairman, JCS, should each decide on the tour lengths of commandants for their respective schools.

Although the panel realizes that numerous operational and other factors influence the reassignment of general and flag officers, several factors argue for stabilizing the duty tours of commandants at a minimum of 3 years. Colleges are complex institutions that essentially depend on a multitude of interpersonal relationships that take time for a commandant to learn and understand. Possibly more important, each new commandant inevitably causes reshuffling and realignment of the framework of interpersonal relationships. Too frequent changes of commandants cause upheavals that



prevent proper development of curricula and faculty. Especially during any period of significant change at the schools, such as that caused by the joint PME provisions of the Goldwater-Nichols Act, the tenure of the commandants will be instrumental to successful transition and consideration should be given to tours of 4 to 5 years. The commandants must link their service school requirements and the directions and desires of the Chairman, JCS, to ensure both objectives are met. Another development that may necessitate stabilizing tour lengths is the possible restructuring of the National Defense University system, to include a National Center for Strategic Studies. This will require the concentrated effort and enlightened, uninterrupted leadership of the school commandant or president to ensure its ultimate success.

Once assigned and given appropriate direction by the Chairman, JCS, or their service chief, commandants should have relative autonomy to design and develop the academic program based on discussions with their faculties and advice from CINCs and other commanders. Interference by various branch and agency heads within a service to ensure "their" subjects are taught adequately have historically caused the curricula to develop in a piecemeal fashion, lack coherence, and waste valuable time. Service chiefs must protect their colleges from unnecessary inputs to the curricula. The Chairman, JCS, must utilize joint officials, including the proposed "Director of Military Education," to ensure that the joint aspects of education are carried out at both NDU and service PME schools.

Along with service chiefs, commandants are key to recruiting the quality military and civilian faculty members. If the PME institutions are to become and remain centers of academic excellence, the commandants must be directly involved in this endeavor. The long-term vision necessary to recruit and develop a quality faculty can only be achieved by commandants who have the stability to determine a direction and ensure its implementation.

Commandants must directly champion the fiscal requirements of their schools through the various service Program Objective Memoranda (POM). National Defense University college presidents and commandants must petition their requests through the appropriate executive agency handling their programs.

Most importantly, the commandant must be viewed by the student body, his peers, and his service as a mentor. No single officer in any of the services has the capability to influence—positively or negatively—the direction and lives of so many of our nation's future military leaders. For example, during a 3-year tenure, the commandants of the five senior schools will directly influence approximately 3,000 lieutenant colonels/Navy commanders and colonels/Navy captains. These are the most able officers in their peer groups. Among them probably are all the future joint and service leaders. As a former Commandant of the Army War College stated, "The war colleges are looking for a few profound people who will develop into national leaders." It is only prudent that the commandant be of exceptional quality and remain in position long enough to learn the education business, chart a course of action, and implement the details of the course chosen.

## STUDENT BODY

## STUDENT SELECTION PROCESS

Annually, the services expend a considerable effort in time, energy, and resources to identify the student officers who will attend the intermediate- and senior-level PME colleges. According to data provided by the services, they will assign nearly 3,000 U.S. military officers to attend these schools in academic year 1987-88, as shown on Chart V-4.

CHART V-4—ANNUAL PME ENROLLMENT <sup>1</sup>

Service	Intermediate school	Senior school	Total
Army.....	1,004	338	1,342
Navy.....	215	184	399
Air Force.....	584	280	864
Marine Corps.....	208	62	270
Total.....	2,011	854	2,875

<sup>1</sup> Does not include U.S. officers who attend comparable foreign schools, their reciprocating officers, or civilian students.

Who are these PME students? First, they are career officers, serious about the military profession. At the intermediate level, they have 10 to 14 years military experience and at the senior level 15 to 23 years. They range in age from 31 to 45 years. Second, they are well-educated, qualified for serious studies. Nearly 100 percent have a baccalaureate degree, over 60 percent have master's degrees, and some have doctorates.

The panel reviewed service policies with respect to school designation processes, officer selection criteria, relationship of schooling to follow-on assignments, promotions, and whether or not these policies resulted in selection of those officers who were most able and had the greatest potential. The panel determined that within each area there was wide variance among the services' processes but that, by and large, the services select very capable officers for in-residence PME.

*Army Student Selection Process.* The Army uses a centralized selection process to determine which officers will attend intermediate and senior colleges. It is a long-established system similar to the Army's command selection boards for battalion and brigade command. Army officers who attend the intermediate schools usually represent the top 40 to 50 percent of the officers in the grade of major. Officers attending senior-level schools represent the top 20 percent of lieutenant colonels and colonels.

Selection to in-residence PME is the Army's acknowledgement that an individual's performance has been exceptional among his peers. Officers are screened by a board based upon demonstrated performance and perceived potential to assume positions of greater responsibility. This is a "quality cut," and those selected for in-residence PME are in the top half of their year group. Consequently, schooling is a prerequisite to these higher-level positions and to increased rank within the Army structure. Largely as a result of this highly competitive selection process, field commands and headquarters staffs actively seek graduates and the personnel system assigns

them to the more demanding and prestigious duty positions. An officer who has not been selected to attend both intermediate and senior school normally will not progress beyond the rank of colonel.

Board results are approved by the Army Deputy Chief of Staff for Personnel. This centralized designation process ensures that only the top performers are selected for in-residence schooling. A certain level of performance equates to attendance, and the individual officer has little to say in the process. At the intermediate level, officers not selected for in-residence schooling must complete the Command and General Staff Officers Course by correspondence as a prerequisite to consideration for promotion to lieutenant colonel. The distinction between resident and non-resident schooling does not greatly affect promotion to lieutenant colonel; however, the quality correlation with resident intermediate schooling is apparent in selection for colonel and for attendance at a war college.

*Navy Student Selection Process.* Navy officers are selected for attendance at a PME college by a reconstituted statutory promotion board. The board completes its actions on promotions, then reconvenes to examine the selectees as candidates for college attendance. Unlike the Army, which uses its board specifically to identify the most promising officers, the Navy qualifies the vast majority of its officers to attend PME schools and places them in a large pool of eligibles. In fiscal year 1988 the percentages of line officers in the pool were: 69 percent of lieutenant commander selectees, 80 percent of commander selectees, and 100 percent of captain selectees. Also unlike the Army, which sends almost all its board-selected officers to school, relatively few of the selected Navy officers actually attend. The Navy pares the large number of officers in the board-qualified pool by what is in effect a second selection procedure. But Navy personnel officers, not a board, make the second selection and school designation by assigning officers from the pool to specific schools. Selection criteria include the officer's professional development needs, personal preferences and credentials, billet requirements, career timing, and Navy manning needs.

Whereas in the Army system an officer has limited career progression without in-residence PME, in the Navy this is not the case. The Navy believes attendance at an intermediate or senior school may not be possible for all of its top officers because it gives higher priority to operational, operational training, technical, and even headquarters requirements. PME assignments compete on a secondary level with master's degree education and other staff assignments.

The Navy has not always given PME such a low priority. Previous to World War II, the best Navy officers did attend PME schools. In fact, in 1941 every flag officer eligible for command at sea in the Navy but one had spent a year at the Naval War College. However, after World War II, the Navy sent fewer of its best officers to PME. The panel members frequently heard that from World War II until 1983 the objective for Navy officers was to be selected for PME schooling (because it meant they had passed a quality screen) but not to attend. Duty with the fleet was considered more relevant and beneficial to an officer's career and was a fully sufficient measure of merit, regardless of PME. This attitude

was evidenced in the frequent failure of the Navy to send its quota of students to other service and joint PME schools, most notably to the Armed Forces Staff College. Similarly, Navy students who attended the National War College tended to be older and were generally from non-operational career fields. In academic year 1986-87 the senior student—a Navy officer—at the National War College represented a non-warfighting specialty and, with 28 years of service, faced mandatory retirement within 2 years after graduation. Examples such as this created the impression that the Navy was not as interested as it should be in using PME to develop its future leaders.

Recently, however, the Navy has been filling almost all of its allotted quotas and, since 1983, the quality of Navy students also has shown marked improvement at the College of Naval Warfare. Admiral James Watkins, the Chief of Naval Operations (CNO), established a policy that at least 65 of the 98 officers in the senior course at the college be “post-command” commanders, that is, officers who have commanded, at the grade of commander, units such as destroyers or aircraft squadrons. This was a significant quality improvement. Heretofore, relatively few officers of that caliber had attended PME. Although the demands for officers at sea have increased with the expansion of the fleet, Admiral Watkin’s policy has been reaffirmed by his successor.

More recently, the Goldwater-Nichols Act provided the impetus for the Navy to establish the policy that each year a total of at least 18 post-command commanders would be assigned to National Defense University (NDU) senior colleges—the National War College and the Industrial College of the Armed Forces. The 1988-89 NDU classes actually have 25 such officers in attendance. Clearly, the legislation requiring joint PME for JSOs played a profound part in causing Navy officers with higher career potential to attend the NWC and ICAF schools.

However, despite the legislative guidance in the Goldwater-Nichols Act to increase emphasis on jointness at the service schools, the panel is concerned that the Navy has not yet designated post-command commanders for its sister-service senior schools. Of the Navy officers at the Army and Air War Colleges, only one is a post-command commander. Nor has the Navy yet increased the quality of its officers assigned to the intermediate schools. The Navy attitude toward intermediate schools is indicated by the fact that it is the only service that has fewer students in its intermediate school than in its senior school. In fact, the Navy intermediate school has fewer host-service students than the Marine Corps intermediate school, although there are about four times as many Navy lieutenant commanders as there are Marine majors.

Another problem that should be corrected stems from the relative lack of experience of some Navy students. Of the almost 200 Navy officers attending senior schools, 31 are lieutenant commanders who have been “frocked” to commander. “Frocked” is the term for officers who wear the insignia of the next higher grade before they are officially advanced to that grade. Although these officers are on the promotion list and will eventually be promoted, their level of experience and knowledge is normally not on a par with their classmates from services that do not “frock.” The panel un-

derstands the difficulty involved in assigning Navy officers to senior PME, but believes that the practice of assigning "frocked" officers should be terminated.

The follow-on assignments of recent Navy PME graduates, particularly from the senior schools, has reflected the Navy's increased emphasis on sending its top officers to school. The panel's review of the follow-on assignments of 1988 Naval War College graduates indicated that most officers went to important command, staff, and managerial positions.

*Air Force Student Selection Process.* The Air Force system of officer selection for PME is currently a three-step process. First, officers become eligible to attend in-residence intermediate and senior schools as an additional result of promotion board selections to major and lieutenant colonel. Second, as with the Navy, these boards reconvene and determine which officers will constitute the intermediate and senior school nomination list. In contrast to the Navy, however, only the top 32 percent of majors and 15 percent of lieutenant colonels are selected for the "schools list." Like the Navy, the nominees are placed in a pool of candidates along with those of preceding years' boards. Air Force officers have an eligibility window of approximately 3 years for selection to school. Third, to attend in-residence PME, the officer must be selected by an intermediate or senior school designation board. This board of colonels and general officers convenes annually to determine which nominees will attend the various schools. Using a list of those officers in the nomination pool who are eligible for reassignment, the designation board makes its choices based on the results of a competitive review of the officer selection folders. The review includes an evaluation of each officer's current and past performance. Nomination, in step two, is no guarantee of selection, and some officers who fail to live up to expectations at the higher grade pass through the window of eligibility without being selected for school.

In an effort to decouple the school nomination process from the promotion board results, the Air Force intends to have its major commands (Tactical Air Command, Strategic Air Command, etc.) and separate operating agencies (Military Personnel Center, Accounting and Finance Center, etc.) submit lists of nominees to the central intermediate or senior school designation boards. Under this process, the designation board will maintain central control to ensure that the appropriate mix of officers still attends school. This change should be monitored to ensure that it does not diminish the quality of officers selected to attend PME schools.

An "early" promotion, the term frequently used for selection below-the-primary zone, is a clear measure of quality. All colonels who are selected for early promotion and who have not attended senior service school as lieutenant colonels are eligible to attend. In the Air Force, the below-the-primary-zone promotion is the most basic measure of career success; tying the selection of PME students to it ensures that the top-quality officers go to PME schools. Primarily because top-quality officers are selected for PME, Air Force officers are generally assigned on graduation to important command, staff, and managerial positions.

In summary, like the Army and like the Navy since 1983, the Air Force is selecting its best for attendance at senior PME schools.

Both the Army and Air Force are more committed to sending quality officers to intermediate schools than the Navy. It appears, however, that attendance at intermediate PME is less essential for further promotion in the Air Force than in the Army.

*Marine Corps Student Selection Process.* Marine Corps officers who attend *senior* schooling are selected by a process similar to the Army's. The Marine Corps does not have its own senior school; instead, approximately 60 lieutenant colonels and colonels are selected annually, based on qualifications and availability, to attend a senior sister-service or joint school. Records of all lieutenant colonels (except those selected to lieutenant colonel immediately preceding the school board) and all new colonels are screened. Except for those in command or those serving in joint duty assignments, they will attend the following year's classes. Selection to attend is the result of a competitive process, and the results are personally reviewed and approved by the Commandant of the Marine Corps. These senior officers are among the best officers available and are viewed as representatives who must maintain the reputation of the Corps. They are also selectively assigned following graduation.

Of all the services, however, the Marine Corps is the least formal when it comes to selecting officers to attend *intermediate* school. Its process is initiated by officer assignment monitors (detailers). During August of each year, assignment monitors review the records of all majors. Based on quality of performance and availability for transfer during the following year, the detailers recommend officers for intermediate schools to the Marine Corps Director of Personnel Management for approval. Officers are designated as either primary selectees or as alternates, in case primary selectees are unable to attend. Unlike the Navy, the Marine Corps does not establish a pool of "best qualified" candidates from which to designate officers to attend school. Furthermore, data provided the panel suggest that it is unlikely that an officer who attends the Amphibious Warfare School (AWS), a company-grade, relatively basic course, will also have the opportunity to attend the Marine Corps intermediate PME school, the Command and Staff College (C&SC). Of the lieutenant colonels currently on active duty, 91 percent have attended either AWS and C&SC, but only 14 percent have attended both. These data lead the panel to conclude that the Marine Corps considers AWS an "in-lieu-of" school for C&SC.

The panel believes that the *senior* school selection process for Marine Corps officers is on the mark, but is concerned about the *intermediate* school selection process. Officers of exceptional quality may not have the opportunity to attend intermediate-level school because they attended the Amphibious Warfare School. The panel believes the Marine Corps should review the relationship between the Amphibious Warfare School and the Command and Staff College and the selection process for the latter. This review should include senior officer participation.

#### LAST ELIGIBILITY FOR PME SCHOOLING

As part of its review of student body selection policies, the panel collected data on the "last eligibility" criteria for in-residence schooling in terms of an officer's maximum years service, maxi-

mum years in grade, or promotion point. Chart V-5 depicts the service policies.

CHART V-5—LAST ELIGIBILITY FOR PME SCHOOLING

	Intermediate schools	Senior schools
Army.....	16th year of service.....	22nd year of service
Navy.....	Until promotion to lieutenant commander.....	Through 4th year in grade as captain.
Air Force.....	15th year of service.....	20th year of service.
Marine Corps.....	Until promotion to lieutenant colonel.....	One-time consideration at promotion to colonel.

With the exception of the Navy policy for senior schools, the panel agrees with these last eligibility rules. There are many examples of PME school classes where the senior student—by several years—is a Navy officer. Often this officer is beyond the normal promotion point to admiral and within a few years of mandatory retirement. The panel believes that this results from the absence of an explicit Navy policy requiring that officers with the greatest long-term potential be assigned to school.

Navy career monitors believe this problem has been corrected. They informed the panel that lieutenant commanders who have not passed the executive officer screen or who have failed promotion to commander will not attend intermediate-level schooling. Similarly, although they acknowledged that current policy allows Navy captains with as many as 4 years in grade to attend senior school, they insisted that very few will ever be selected at this senior grade.

Nevertheless, the panel believes that a change in Navy policy is required. It recommends that the Navy establish more explicit guidelines to include time-in-service guidance for attending senior school.

#### STUDENTS ATTENDING SISTER-SERVICE AND JOINT SCHOOLS

Of the officers in PME today, more than half at the senior level and more than one-third at the intermediate level attend either a joint school or the school of another service as shown in Chart V-6.

CHART V-6—JOINT AND OTHER-SERVICE SCHOOL STUDENTS

[Academic year 1987-88]

School level:	Attend joint or other service school	Attend own service school	Total U.S. <sup>1</sup> military students
Senior.....	437	427	864
Intermediate.....	703	1,308	2,011

<sup>1</sup> Actively-duty students from all four U.S. services. See Chapter III for breakdowns by service and school.

Source: Input from colleges.

Officers who attend joint and other-service schools without receiving their own service's PME must be chosen very carefully. They are expected to represent their own service in discussions with other-service students and faculty. Consequently, they must

understand the doctrine, capabilities, and limitations of their service, and have the knowledge and ability to articulate service views. Increased professional self-development or short courses like the Army's at AFSC are indicated if these officers are to contribute fully to collegial learning in their seminars. Further, officers who attend joint schools are challenged to understand joint issues and develop a joint perspective. It is essential that highly qualified officers be selected to attend other-service and joint schools.

During the school designation process, the services should not be bound by what the panel views as an unwritten "quota" system under which specialty areas must be represented in the student body at each joint and other-service school. For example, the panel was told on several occasions that designation boards are frequently given guidance to include "professionals" (physicians, lawyers, chaplains, etc.) in the National Defense University student bodies. The panel believes that there is no justification for a quota for professionals, particularly at a time when the joint schools have limited capacity to meet the need for their graduates in joint assignments. The criterion for attendance at joint schools by professionals should be based on the limited number of joint billets designated for professionals.

#### THE COST OF PROFESSIONAL MILITARY EDUCATION

Based on information provided by the Office of the Secretary of Defense (OSD), the panel attempted to determine the cost per PME student at each school. Upon examination, it found that the information provided was merely raw data submitted by each college. As is apparent from Chart V-7, there are considerable differences in scope and cost methodology used by the schools.

CHART V-7—COST PER STUDENT

	Fiscal year 1987	Fiscal year 1985
Army: <sup>1</sup>		
CGSC .....	\$49,210	\$47,141
AWC: <sup>2</sup> .....	47,800	47,800
Air Force: <sup>3</sup>		
ACSC .....	\$97,138	\$98,919
AWC .....	121,348	121,933
Marine Corps: <sup>4</sup>		
MC CSC .....	\$65,203	\$66,203
Navy: <sup>5</sup>		
Both schools (CNW and CNCS) .....	\$45,000	\$43,000
National Defense University: <sup>6</sup>		
NWC .....	\$9,387	\$8,810
ICAF .....	11,788	11,260
AFSC .....	<sup>7</sup> 26,000	26,300

<sup>1</sup> Includes operations and maintenance, Army (O&MA); direct and mission overhead plus base operations and military personnel, Army (MPA).

<sup>2</sup> Does not include per diem, travel, student pay, or permanent change of station (PCS) costs.

<sup>3</sup> Includes all direct academic, college administrative, and military/civilian compensation expenses.

<sup>4</sup> Includes pay and PCS costs.

<sup>5</sup> Includes student pay; without student pay, costs equal \$9,316.

<sup>6</sup> Excludes student pay; with student pay costs are \$116,000 and \$113,000.

<sup>7</sup> Excludes students' salary and moving costs.

<sup>8</sup> Six-month course.

Note: All cost data were provided to OSD by individual schools. Because identical computation methodologies were not used, the figures are not usable for detailed comparison analyses and are provided as informational only. Regardless of which method is used, however, schooling is a far more expensive proposition than tuition for civilian graduate programs. Although the panel supports the view that PME costs must be considered an investment in the future, it believes senior defense officials, the Congress, and the public should know the magnitude of that investment and how the education dollar is spent.



The panel recommends that OSD initiate a comparable cost analysis study to determine the costs to educate officers in PME. This data should be provided to the panel by August 1989. The panel also recommends that OSD establish a uniform cost accounting system for the PME schools and that the annual report of the Secretary of Defense provide data on PME costs beginning in 1990.

#### INTERNATIONAL STUDENTS AT PME SCHOOLS

Complementing the U.S. military student body are international officers and civilian students. Participation at the schools varies, but on balance each group provides valuable contributions to the colleges and to the U.S. officers they meet.

The panel believes that for both policy and education reasons, international officers are an important group in U.S. PME schools. Many of these officers will ultimately emerge as leaders within their respective armed forces and governments. Not only do they gain an appreciation for the American lifestyle and customs, they provide an important perspective for the U.S. military students. Moreover, it is unlikely that future major military operations overseas will be conducted solely by the United States. Coalition warfare has become as much a watchword in the international environment as jointness has in our own military. The opportunity to build trusting relationships based upon understanding has the potential to pay large dividends in the future and is a major reason to include international officers.

There are at least two drawbacks, however, to the enrollment of international students. Their participation in classes and lectures may be limited initially by their English language skills, and they must be excluded from certain phases of the curriculum for U.S. security reasons. It is not uncommon (although the colleges try to avoid it) to have problems with security classification differences among the international officers themselves. For example, non-NATO officers are excluded from participation in some classes during lectures involving NATO classified material. Moreover, the presence of international officers can limit seminar discussions of sensitive material. However, the panel does not believe these shortcomings present significant disadvantages compared to the overall advantages.

#### CIVILIAN STUDENTS IN PME SCHOOLS

Civilian students are a significant segment of the PME student body for several reasons. They provide an important perspective to the PME system and often have tremendous expertise in a given area. Many tend to be less broad-gauged than their military counterparts, but by the same token their depth of knowledge in their area is unlikely to be surpassed by U.S. military officers. Also, it is important for civilians to understand the military culture. Many will likely rise to positions of increased responsibility where familiarity with military officers and the military environment will have great benefits. The intellectual challenge and perspective they contribute to the colleges enhance the quality of education and the development of the officers attending.

## SUMMARY COMMENTS ON STUDENTS

In sum, the quality of education is largely influenced and driven by the faculty, but unless the personnel systems of each of the military departments identify and send the best officers to the PME colleges, the services will be hollow intellectually.

None of the departments can give these officers who are destined for key leadership and other positions of responsibility the opportunity to experience all of the jobs necessary for their full development. Education alone can fill gaps and challenge them intellectually. Perhaps Admiral James Holloway, USN (Ret.), a graduate of the National War College and Chief of Naval Operations from July 1974 to July 1978, said it most eloquently, "Without this [professional military] education the capacity of an individual officer will be limited to the horizons of his own experience." The panel believes Admiral Holloway is absolutely correct.

The panel recommends that each service have a formalized selection board process at the intermediate and senior school levels to ensure that its most deserving officers with clear future potential are designated to attend PME. The board process is crucial to ensuring that the future military leadership is developed through resident PME.

## PEDAGOGY

The panel views pedagogy—the art, science, and profession of teaching—as an essential element of quality in intermediate and senior PME schools. How an institution teaches its curriculum can be as important as what is taught. If the pedagogy is ineffective and the students are not challenged intellectually, then the students, the military, and the country are being short changed.

## ACTIVE VERSUS PASSIVE LEARNING

Based on interviews and the testimony of many educators and others, the panel concluded that in the PME setting the most effective learning occurs in small seminar discussion groups where students participate actively and are accountable both to the faculty and to their peers for their participation. Active learning requires diligence and self-discipline. Students must have appropriate readings, be required to write, and be provided the time to study and prepare. Much less effective is time spent passively observing lectures, panels, symposiums, and films. Gen. David C. Jones, USAF (Ret.), former Chairman, JCS, stated this idea clearly when he said, "Passive education is the least productive for the time spent." Dr. Lawrence Korb linked a school's choice between active and passive learning to the necessity for officers to think more broadly as their rank increases. He said that "teaching people to think is active whereas listening is passive."

Lt. Gen. John Pustay, USAF (Ret.), former President, National Defense University, provided the panel with three watchwords that capture much of the essence of the active learning process—research, relevance, and rigor. The panel agrees that independent *research* gives the student an opportunity to focus his knowledge and think creatively. It requires the student to defend his views and to take part in the education process as an intellectual contributor,

not a bystander. Finally, high-quality research can raise the academic standards of the institutions while simultaneously contributing to the service and joint knowledge base.

The *relevance* of the subject matter to the mission of the service and its relationship to joint and combined activities should determine what is taught. A military reform advocate stated in an interview that the often quoted, "I learned more from my fellow students," is an indictment on the faculty and curriculum. The panel believes that when students profess to learn more from fellow students, this may mean that the formal subject matter is not perceived as relevant.

Although *rigor* is covered in greater detail in the next section, the panel views a rigorous education as a vital part of the active learning experience. Rigor, which includes grading, focuses the students and helps promote academic achievement. It helps ensure that outside-the-classroom assignments—reading, research, and writing—are active rather than passive learning.

Occasionally, lectures and symposiums should be used to support a major theme. For example, the school may find it beneficial to schedule a theater commander as a keynote speaker to introduce or conclude a specific block of instruction. However, the panel does not believe the institutions should have an open-door policy for individuals on the guest lecture circuit.

The panel's acceptance of the educators' counsel that active, small seminars are best for PME education led it to attempt to evaluate "active" versus "passive" learning at PME schools. The panel reviewed intermediate and senior school core curricula and identified auditorium lectures, panels, symposiums, and films as passive areas of education. Chart V-8 presents the data relating to passive education in academic year 1987-88:

CHART V-8—PASSIVE EDUCATION AT PME SCHOOLS

	Passive <sup>1</sup> as percent of core	Hours		
		Core <sup>2</sup>	Electives	Total
Intermediate schools:				
Armed Forces Staff College .....	36	711	24	735
Army Command and General Staff Course .....	10	613	210	823
College of Naval Command and Staff .....	16	408	90	498
Air Command and Staff College .....	49	716	48	764
Marine Corps Command and Staff College .....	33	977	27	1,004
Senior schools:				
National War College .....	38	505	162	667
Industrial College of the Armed Forces .....	31	458	162	620
Army War College .....	36	708	135	843
College of Naval Warfare .....	18	476	90	566
Air War College .....	62	549	60	609

<sup>1</sup> Auditorium lectures, panels, symposiums, and films.

<sup>2</sup> In its definition of core hours, the panel attempted to exclude time spent in administrative tasks, physical fitness, and other non-educational activities. Consequently, data here will not match school-produced data.

The panel recognizes that its methodology may not be precise, but believes the relative differences between schools are accurate enough to make the following observations:

- (1) Except for the Army Command and General Staff College and the two Navy schools, the PME schools rely

far too much on passive education. The data in Chart V-8 tend to confirm Gen. Andrew Goodpaster's statement that there is "too much reliance on outside lectures at all the schools." Instead, he insisted, "there needs to be a faculty that can teach and do their own lectures." Despite general agreement on the merits of active learning and an attempt on the part of many PME institutions to move away from passive learning, a high percentage of the curricula remains passive.

(2) The commendably low 10-percent passive education for the Army Command and General Staff College sets a goal for the other schools. The panel was told that the emphasis on active learning is the result of a 1970 decision to shift from large 60-student classroom lectures to seminars of approximately 16 students each.

(3) Both the intermediate and senior Naval War College schools spend minimum time on passive learning. Lecturers are used sparingly, and the faculty teaches the seminars. The college assigns 600-700 pages of reading each week, and study time is made available by keeping total core and elective hours low. There are graded exams and papers to help ensure that non-classroom work is active learning. This program is closer to graduate-level education than that of any other PME school.

(4) The Air University's heavy reliance on passive education (49 percent at ACSC and 62 percent at AWC) is unacceptable. The Air Force justifies reliance on guest lecturers as an attempt to expose its officers to the broadest range of subjects during the academic year. The panel has reason to believe, however, that the students frequently receive what is on the lecturer's agenda—or the "lunch circuit" briefing—rather than a discussion that fulfills a given lesson objective.

(5) The Army War College assigns about 250 pages of core course reading each week and has the highest number of total course hours (843) of any senior college. The panel believes that officers at the war college level would benefit from more time outside the classrooms and lecture halls for reading, research, and writing in the required fields of study.

The panel analyzed only the percentages of *core* education hours that were identifiable as passive. No analysis of *elective* hours was attempted because each school has varying numbers of electives, with varying numbers of students in each elective. Nevertheless, the panel recognizes that electives are less likely to have large portions of passive learning than core courses. This is because the elective classes are normally small enough for active participation by most students, students tend to be more interested in the subjects because they have chosen them, and the schools seek to maximize discussion in electives. Although the panel is unable to quantify these factors, it recognizes that schools with large numbers of elective hours provide more opportunity for active learning; conversely,

schools with fewer elective hours afford less opportunity for active learning.

Unfortunately, as the elective hours column in Chart V-8 demonstrates, the colleges with the highest percentages of core curriculum hours devoted to passive learning also have the lowest number of elective hours. Thus, the Air War College not only has the highest number of core curriculum hours in passive education of any senior school—340 hours (0.62 x 549), it also has the lowest number of elective hours—60. The three intermediate colleges that the panel estimated had one-third or more passive hours in their core curricula—Air Command and Staff College, Marine Corps Command and Staff College, and Armed Forces Staff College—also have the lowest number of elective hours—48, 27, and 24, respectively.

Some educators told the panel that a major cause of both more passive teaching and fewer elective hours is the limited qualifications of some school faculties. Although the panel recognizes that other factors also influence how many hours are available for outside lectures and electives, it agrees that faculty limitations is an important one.

A promising development at each of the schools is the increasing use of war games and simulations as methods of instruction. Wargaming and simulations create challenge, introduce rigor into courses, and stimulate thinking and creativity. Competitive wargaming among students at the various schools represents a major step toward understanding service capabilities and limitations. The panel was impressed by the wargaming facilities and the obvious dedication of the officers involved in wargaming and simulation development. Wargaming and other pedagogical techniques should, however, complement, but in no way displace, reading, research, and writing.

In summary, the panel is particularly disturbed by the amount of core curricula that is being taught by passive methods. The panel believes much of this time could be better spent in the more active pursuits of seminar discussions, studying, research, and writing. The overreliance on outside lectures by some schools suggests that the faculty consists primarily of seminar “facilitators,” not educators.

#### RIGOR

As mentioned in the previous section, active learning is related to another element of pedagogy—rigor. Section 663 “Education” of the Goldwater-Nichols Act requires the Secretary of Defense “to maintain *rigorous standards* for the military education of officers with the joint speciality.” (Italics added for emphasis.) From this legislative source sprang the discussion of rigor in all elements of PME.

The issue of rigor in the PME institutions is controversial and, often, emotional. Several recent studies, including the *Report of the Senior Military Schools Review Board*, in May 1987, fail to mention rigor in the colleges, reportedly because there are so many differing and conflicting viewpoints. The panel, however, believes the subject is too important to avoid.

Rigor can take many forms. The screening process for Army, Air Force, and Marine Corps officers destined to attend a senior war

college is rigorous. The Navy's 1983 requirement that a high percentage of successful post-command commanders and captains be sent to the College of Naval Warfare is a step in the same direction. Most student officers have served in command and management positions or on high-level staffs. Their selection is testimony to their success in these demanding positions.

The Goldwater-Nichols Act requirement, however, is concerned with rigorous *educational* standards. The panel defines academic rigor as consisting of (1) a challenging curriculum, (2) student accountability for mastering it, and (3) established standards against which student performance is measured. Some activities are inherently demanding. Examples include written assignments, particularly when they are prepared for publication, and seminar presentations when students are required to demonstrate intellectual achievement before their peers and professors in formal presentations. Other activities may or may not be rigorous: assigned reading, study, research, and day-to-day seminar participation. Unless they are measured against established standards, students are not held accountable for mastering the curriculum covered by these activities. Consequently, the panel concluded that although an individual student may impose rigorous standards on himself regardless of a school requirement, the sine qua non of a PME school's rigor is graded activities. Grading increases the rigor of seminar presentations and written assignments. It also helps ensure that outside-the-classroom assignments like reading, studying, and research are active rather than passive learning. In short, for the panel the deciding point for genuine academic rigor is grading.

During the panel's visit to each of the 10 intermediate and senior schools, rigor was a recurring topic. Schools claiming to be rigorous were quick to tout programs that include extensive reading and writing assignments and grading. Schools that were ostensibly less rigorous were just as quick to justify their "evaluation" programs. Civilian educators unanimously supported rigorous academic programs, as did the military officials at schools that graded. The military officials at schools that did not grade, and many retired flag and general officers, opposed increased rigor that includes grading. Both camps presented good arguments. The panel believes it is important to review the arguments on both sides.

A number of witnesses and interviewees argued that rigor should be the officer's, not the school's, responsibility. Dedication to learning about the profession of arms and related subjects in an academic environment, they believe, would distinguish future leaders. A senior retired Navy officer, for example, stated, "The lack of directed rigor is an investment in the future." Closely aligned to his thinking on the subject, Gen. Charles Donnelly, USAF (Ret.), said, "Self-imposed rigor is the toughest." Gen. Andrew Goodpaster, USA (Ret.), argued that the nation is looking for individuals who can make the personal sacrifices, have the self-discipline to study, and manage their time. "The senior schools," he said, "are looking for the future three-star general and flag officers. They will sort themselves." The panel believes, however, that it is not inconsistent to expect continued self-imposed rigor from the outstanding officers chosen to attend PME schools and at the same time for the schools to grade their students. The separate, though related,

duties and responsibilities of students and educational institutions have existed since formal education began.

In the opinion of several individuals the panel interviewed, grading the students may have important negative consequences. According to a senior retired officer, the officer corps is among the most "tested" (including combat) groups in America and is already among the most educated. They arrive at the schools after the stress of operational command and high-level staff duties and need the academic year to think and reflect in a non-stressful, non-competitive atmosphere. Moreover, some argue that an officer's career should not be based on competition against his or her fellow officers for promotions and distinction, but on service to the larger national purpose.

The panel acknowledges these views, but believes that they fly in the face of reality for several reasons. First, officers do compete with each other; officer performance is continuously evaluated and the results determine which officers advance in rank. Moreover, the scope of curricula that the 10 PME schools have themselves established for students to master suggests the opposite of a non-stressful environment. Also, the very limited periods for expensive PME schooling afforded by the crowded present-day career do not afford the luxury of a deliberative, reflective pace. Finally, some experts disagree with the effectiveness of the non-stressful school environment. For example, Gen. William Richardson, USA (Ret.), former Commander, U.S. Army Training and Doctrine Command, thought it was useful to place the students in an intellectually stressful environment in order to identify the better officers and enforce greater self-discipline.

Another argument that was frequently heard was that testing leads to school solutions and thereby impedes independent, creative thought. The panel found this argument superficial. Testing on PME subjects should force the student to deal with ambiguity and uncertainty in applying the knowledge he has acquired during his studies. The grader will know whether or not the response reflects an understanding of this knowledge. More importantly, he will be able to determine how well the student can think and apply knowledge to solutions. Consequently, no "school solution" should exist because it would not be able to address the range of possible student responses.

Throughout this study, the panel heard the claim that the various colleges provide a "graduate" level education to their students. The panel agrees this should be the standard for PME schools. But civilian graduate programs are almost universally characterized by the accountability that some PME schools oppose. Mr. Robert J. Murray, Director, National Security Programs, John F. Kennedy School of Government at Harvard University, told the panel that rigor is best achieved through the active involvement of the students and an accountability for their performance. Graduate education at civilian colleges and universities includes graded essays, term papers, and written examinations covering the core of knowledge the institution wants to impart to the students regardless of their age or maturity. None of these requirements occurs with consistency at all of the PME institutions. The fact that a large percentage of the students holds a master's degree or beyond from a

civilian institution should not exempt them from the rigors of serious scholarship and educational achievement in the study of their own profession. If the PME schools are to be equivalent to civilian graduate schools, they must have fully comparable grading standards.

There are several reasons why the panel believes competitive examinations and distinguished graduate programs are essential for the institutions. First, testing further motivates the carefully selected student officers, engages them in dialogues with the faculty, and confirms their learning. Second, it forces students, many of them senior officers, to learn to synthesize and organize information in a coherent manner. Prior to attending school, many officers have narrowly specialized career paths. Examinations cause them to reflect on a broad range of topics that many have never encountered. Third, examinations allow the students to demonstrate their level of knowledge, an important factor in the competitive service systems.

Fourth, examinations increase the accountability of faculty members, who must do the grading, as well as the student body. To grade effectively and provide the requisite feedback, faculty members must have subject matter expertise. Grading also requires dedication and hard work to critique examinations carefully; the result, however, is greater understanding of the subject by both the student and the professor. The panel believes that the faculty must be learned, talented, competent, and dedicated enough to administer and evaluate examinations thoroughly.

Fifth, examinations lend credibility to the schools as academic institutions. According to Rear Adm. Ron Kurth, President, Naval War College, "Grading commits the student body and faculty. It's hard work grading papers [but it] establishes the reputation of the institution and forces the student to compete with the faculty and institution." Selection to attend a PME school is highly regarded in the officer corps and graduation from a PME institution should confer even more prestige. It is difficult for institutions that do not grade the efforts of the students or provide distinguished graduate incentives to achieve solid academic reputations.

Finally, each of the service and joint institutions has a unique core of military knowledge that the students are expected to learn during the academic year. That is why the panel finds genuine merit to the separate service and joint schools. It follows that the schools should test to ensure that officers understand this material. Their expertise in the key areas of school curricula relates directly to their credibility and competence as military professionals.

After careful deliberation, the panel recommends that each of the service and the NDU schools adopt rigorous standards of academic performance for its students. Their education should involve study, research, writing, reading, and seminar activity—and they should be graded. Despite the experience level of the students, their educational backgrounds, and age, the panel believes that learning will improve when they are challenged and held fully accountable for their participation in a professional military studies program. The students must emerge from the institutions confident in their intellectual ability. Without demanding curricula it is difficult, if not impossible, for the truly talented officers to distinguish



themselves from their classmates. Equally important is the necessity to bring those less motivated by academic challenge to an acceptable level of understanding through a common set of standards and desired learning objectives.

The panel is not proposing multiple choice and true-false examinations. These types of examinations are not particularly useful for intermediate and senior PME. Rather, the panel recommends frequent essay exams as more suitable. Depending on what is appropriate to the material, they could take the form of closed-book, open-book, or take-home exercises. The panel expects the examinations to test the student's knowledge, his ability to think, and how well he can synthesize and articulate solutions, both oral and written; examinations should stimulate critical, original thought, not fear. For the same reasons, the panel supports both short, graded papers on assigned topics and several longer, graded term papers that are thoroughly reviewed, critiqued, and graded by the faculty. Such graded papers enable the students to demonstrate their understanding of a subject, and the evaluations provide means for a dialogue with the faculty.

Chart V-9 summarizes the evaluation policies and distinguished graduate programs at the PME schools.

CHART V-9—RIGOR AT PME SCHOOLS

	Graded exams	Distinguished graduate program
Intermediate:		
Armed Forces Staff College.....	Yes.....	No.
Army Command and General Staff College.....	Yes.....	Yes.
College of Naval Command and Staff.....	Yes.....	Yes.
Air Command and General Staff College.....	Yes.....	Yes.
Marine Corps Command and Staff College.....	( <sup>1</sup> ).....	( <sup>1</sup> ).
Senior:		
National War College.....	No.....	No.
Industrial College.....	No.....	No.
Army War College.....	No.....	No.
College of Naval Warfare.....	Yes.....	Yes.
Air War College.....	No.....	No.

<sup>1</sup> The Marine Corps school does not give numerical or letter grades; its evaluation uses the terms "mastery," "non-mastery," or "high mastery." Beginning with the academic year 1988-89 class, it now has a distinguished graduate program.

On balance, the panel determined that the *intermediate* schools were more rigorous than the senior-level schools. Some suggest this is because the intermediate schools contribute to the process of winning the officer corps. However, the fact that there are few academic failures at any of the schools and that academic performance has no bearing on post-graduation assignments tends to discount this rationale. Officers are usually dismissed from school for incidents involving poor judgment, not for poor academic performance, and cases of dismissal are exceptionally rare.

On the other hand, students can distinguish themselves at the Army Command and General Staff College, Air Command and Staff College, and the College of Naval Command and Staff. Distinguished graduate programs could be considered a part of the winning process. Of the intermediate schools, three have a distinguished graduate program designed to identify approximately the

top 10 percent of their students. These students are ranked based on seminar participation, graded written and oral assignments, faculty assessment, and test scores. In some instances, the better performers are rewarded with more prestigious post-graduation assignments. Although the Armed Forces Staff College and Marine Corps Command and Staff College evaluate their students, they do not have distinguished graduate programs. (Note: After this information was collected, the Marine Corps college adopted a distinguished graduate program beginning with academic year 1988-89.) Exam scores are typically provided for the student's own feedback and edification and in no way count for merit. The panel was particularly intrigued by the grading terms "non-mastery," "mastery," and "high mastery" used at the Marine Corps Command and Staff College.

Of the *senior* joint and service colleges, only the College of Naval Warfare at Newport has a competitive system with grades and honor graduates. The other colleges evaluate their students subjectively and their faculties provide additional feedback, but they administer no tests and give the student no opportunity to obtain distinction. There are, however, numerous individual writing awards that students may compete for and thus receive recognition.

The panel believes that all PME schools should have distinguished graduate programs. These programs should single out officers with superior intellectual abilities for positions where they can be best utilized in the service, in the joint system, and in the national command structure.

Each service requires its colleges to submit a personal evaluation report for each of its officers. The Air Force, for example, uses a training report that is placed in the officer's personnel folder at the end of the academic year. These reports are reviewed by promotion boards and assignment officers as part of the officer's overall record. However, they do not appear to have the same weight as the standard officer performance reports that are the principal documents used by promotion boards. If an officer is a distinguished graduate, his or her academic report will highlight this achievement. Also, an adverse training report that an officer failed to perform would, of course, severely prejudice his chances for promotion. But except at these two extremes, training reports in PME apparently have little influence. Moreover, because of their timing, these academic reports do not play a significant role in the immediate follow-on assignments of PME graduates. They occur at the end of the academic year; in contrast, assignments are normally decided several months prior to graduation.

The panel believes serious consideration should be given to using officer efficiency reports rather than training reports for PME institutions. This is the practice in Europe, and it makes sense. The mission of the colleges is education, not training. Education involves improving the ability to think. That requires hard work and study, followed by demonstrated performance in writing and classroom discussions. Evaluation of performance is both the stuff of officer performance reports and key to a high-quality officer corps.

## QUALITY OF EDUCATION RECOMMENDATIONS

The panel believes that certain quality areas must be improved in order to ensure that our PME graduates are afforded the best possible educations.

### FACULTY

1. Faculty is the key element in determining the quality of education in PME schools. To develop an outstanding faculty, the impetus must start at the top. The Chairman, JCS, and the service chiefs must place a very high priority on recruiting and maintaining highly qualified faculty to teach at both joint and service PME colleges.

2. The military faculty should include three groups: officers with current, credible credentials in operations; specialists in important functional areas; and career educators. Incentives must exist to attract outstanding military officers in each of these groups.

3. Service chiefs should ensure that more former commanders who have clear potential for further promotion and for command assignments serve on PME faculties. Their teaching tours should be relatively short and should not preclude them from competing for command and key staff positions; rather, a faculty assignment should enhance their competitiveness.

4. The services should develop programs to qualify military faculty members to ensure they are prepared professionally. These programs could include prior graduate education, faculty conferences, and sabbaticals at other institutions. Those military faculty who lack education or teaching experience need the opportunity to participate in a faculty development program to enhance their knowledge and teaching skills prior to assuming responsibilities in the classroom. The panel opposes the widespread practice of retaining graduating officers as faculty for the following year. Graduating students should have additional experience prior to teaching.

5. The services should develop a cadre of career educators for PME institutions similar to those at West Point. They should have an academic foundation, preferably a doctorate, in the area they are to teach as well as an exemplary military record based on solid performance. Military educators and functional area specialists should be given the opportunity to strengthen their academic credential, and the careers of the former should be managed like those of other "professional" groups in the military.

6. As a goal, about 75 percent of the military faculty at the intermediate schools should be graduates of an in-residence intermediate (or higher) school and should have an advanced degree.

7. All military faculty at the National Defense University PME schools who meet the joint tour length requirements and teach subjects dealing with joint matters should get credit for a joint duty assignment. In addition, consideration should be given to awarding credit for a joint tour to all exchange (non-host service) military faculty members at service PME schools who meet the joint tour length requirements.

8. Selected retired officers, particularly senior general and flag officers, could contribute appreciably to the teaching of operational art and military strategy at the war colleges. The dual compensa-

tion law should be amended to waive the financial penalties these officers incur by serving their country again.

9. The PME faculty should have a high-quality civilian component in order for PME schools to attain a genuine "graduate" level of education. The civilian faculty should be a mixture of experienced, well-respected individuals of national stature, who, in combination with outstanding younger Ph.D.s, will provide balance, expertise, and continuity. Civilian professors must continue to research and publish not only to keep themselves in the forefront of their academic field, but also to ensure their academic credibility. The panel believes that civilian faculty are particularly important at senior colleges, where they should make up a substantial portion, perhaps around one-third, of the faculty.

10. As a goal, all members of the faculty at senior schools should have advanced degrees. The panel believes that a doctorate is desirable.

11. Stronger incentives are also needed to attract a high-quality civilian faculty. The law should be amended to give the Secretary of Defense and each service secretary the same flexibility in employing and compensating civilian faculty that the Secretary of the Navy currently has under 10 USC 7478.

12. The student/faculty ratios at the professional military institutions should be sufficiently low to allow time for faculty development programs, research, and writing. The panel envisions a range between 3 and 4 to 1, with the lower ratios at the senior schools. The panel also recommends that additional faculty, principally civilian, be provided to the National Defense University schools and that the Secretary of Defense, with the advice of the Chairman, JCS, assure the comparability of the joint and service school student/faculty ratios.

13. The services should study the feasibility of improving their faculties by using members of the service academy faculties on an exchange basis to teach at PME institutions.

#### COMMANDANTS AND PRESIDENTS

14. The commandant and president positions are so critical that only a service chief or the Chairman, JCS, (for a joint school) should make the selection, including determining the tour length of those selected.

15. The commandants or presidents of senior and intermediate PME schools should serve a minimum of 3 academic years. During periods of major change in scope, curricula, or purpose at PME schools, commandants should stay longer, perhaps 4 or 5 years.

16. Ideally, the commandants or presidents should be general/flag officers with promotion potential, some expertise in education, and operational knowledge. They should become actively involved in teaching the student body.

#### STUDENT BODY

17. The services should establish policies to ensure that highly qualified officers are selected to attend PME schools. Each service should have a formalized selection board process at the intermediate and senior school level to ensure that its most deserving officers with clear future potential are designated to attend PME.

Such a board process will ensure that the future military leadership is developed through resident PME. The boards, with general/flag officer membership, should be empowered to recommend officers for specific school attendance. Thus, the leadership of the service should determine who attends PME, not assignment officers or detailers acting independently. Although it may require some restructuring of the selection process, consideration should also be given to making commandants and presidents of the PME schools active participants in the process of designating students for specific institutions.

18. The services should ensure that highly qualified officers are selected to attend both joint and sister-service schools.

19. Although the panel endorses the Navy policies that now require that at least 65 post-command commanders be sent to the College of Naval Warfare and at least 18 to the National Defense University senior schools, the Navy should send a significant percentage of post-command officers to the sister-service war colleges as well. In addition, both the Navy and the Marine Corps should increase the quality of the officers they assign to the intermediate schools.

20. The Navy should develop specific policy guidelines with respect to an officer's time-in-service for attending intermediate and senior service school. Because of the apparent limited opportunity to attend resident PME, neither the Navy nor any other service can afford to send officers whose retainability and future potential is limited. By the same token, the Navy should minimize the number of its officers attending senior PME schools who are junior in grade and experience compared to the rest of the student body.

21. The criterion for officers in the professional category attending joint schools should be based on the limited number of joint billets designated for professionals.

22. The Office of the Secretary of Defense should establish a uniform cost accounting system for all of the PME schools. By August 1989, the Secretary should provide to the panel data comparing the cost of educating officers at each PME school. And, beginning in 1990, the annual report of the Secretary of Defense should include comparative PME costs.

#### PEDAGOGY

23. The Chairman, JCS, and service chiefs should review the current methods of instruction at PME schools to reduce significantly the curriculum that is being taught by passive methods (e.g., lectures, films). PME education should involve study, research, writing, reading, and seminar activity—and, in order to promote academic achievement, students should be graded. The commendably low 10-percent passive education for the Army Command and General Staff College sets a goal for the other schools.

24. The Chairman, JCS, and each service chief should establish rigorous standards of academic performance. The panel defines academic rigor to include a challenging curriculum, student accountability for mastering this curriculum, and established standards against which student performance is measured.

25. All intermediate- and senior-level PME schools should require students to take frequent essay type examinations and to write

papers and reports that are thoroughly reviewed, critiqued, and graded by the faculty. Examinations should test the student's knowledge, his ability to think, and how well he can synthesize and articulate solutions, both oral and written.

26. All PME schools should have distinguished graduate programs. These programs should single out those officers with superior intellectual abilities for positions where they can be best utilized in the service, in the joint system, and in the national command structure.

27. The Chairman, JCS, and the service chiefs should give serious consideration to using officer efficiency reports rather than training reports for PME institutions.

**APPENDIX A**  
**MISSION STATEMENTS**  
**OF SENIOR AND INTERMEDIATE LEVEL**  
**PROFESSIONAL MILITARY SCHOOLS**

Note: To facilitate identification of any official assignment of responsibility for teaching joint matters, wherever the word "**JOINT**" appears in a college mission statement it is in bold face type.

**ARMY WAR COLLEGE**

*A. Mission.*

(1) Prepare officers for senior leadership positions in the Army, Defense, and related departments and agencies.

(2) Conduct independent studies and analysis.

(3) Conduct general officer continuing education programs.

(4) Physical fitness research.

(5) Operate U.S. Army Military History Institute.

(6) Operate Worldwide Military Command and Control System (WWMCCS) in support of academic programs.

**B. Senior Leader Development Mission**—Provide the Army and the nation senior leaders who:

(1) Understand the role of an Army officer in a democratic society;

(2) Can advise our National Command Authorities on the use of military force to achieve national objectives; and

(3) Are adept at the use of military force to achieve these objectives.

**C. This senior Leader Development Mission** is currently accomplished by focusing on the following major objectives for the Academic Year 1988 curriculum. Prepare future leaders to:

(1) Lead other professionals;

(2) Work in strategic environment;

(3) Serve in **JOINT** and combined commands;

(4) Direct Army and DOD management systems;

(5) Command at the operational level; and

(6) Plan/operate theater/global forces.

Source: Army Regulation 10-44 and school catalog.

**ARMY COMMAND AND GENERAL STAFF COLLEGE**

*A. Mission.*

(1) Develop leaders who will train and fight units at the tactical and operational levels.

(2) Develop combined arms doctrine and assist in its promulgation.

#### B. Goals.

(1) Train and educate leaders who can apply combat power at the tactical and operational levels.

(2) Develop combined arms doctrine, assist in its integration throughout the Army, and stay on the leading edge of warfighting ideas.

(3) Develop leaders competent in **JOINT** and combined operations.

(4) Develop leaders who exemplify the highest professional standard.

(5) Develop leaders who will anticipate, manage, and exploit change.

(6) Develop the full potential of all personnel within the Command and General Staff College.

Source: Command and General Staff College catalog.

### NAVAL WAR COLLEGE

*Mission.* The mission of the Naval War College is to enhance the professional capabilities of its students to make sound decisions in both command and management positions, and to conduct research leading to the development of advanced strategic and tactical concepts for the future employment of naval forces.

Source: OPNAVINST 5450.207, May 22, 1982.

### COLLEGE OF NAVAL COMMAND AND STAFF

Same mission statement as for the Naval War College.

### MARINE CORPS COMMAND AND STAFF COLLEGE

*Mission.* To provide intermediate level professional military education for field grade officers of the Marine Corps, other services, and foreign countries; to prepare them for command and staff duties with Marine Air-Ground Task Forces with emphasis in amphibious operations and for assignments with departmental, **JOINT**, combined, and high level service organizations.

Source: MC CSC Table of Organization/USMC Formal Schools Catalog.

### AIR WAR COLLEGE

A. *Mission.* The mission of the Air War College is to prepare senior military officers to develop, maintain, and lead the aerospace component of national power to deter conflict and achieve victory in the event of war.

B. In addition to the above mission statement, the college quoted the PME *objectives* of the senior-level colleges from the "Joint Professional Military Education Policy Document," a JCS document.



(1) To provide an advanced level of knowledge of the mission-specific warfare doctrine and the capabilities of the sponsoring service or organization.

(2) To provide knowledge about and to enhance individual capability to participate in the planning and employment of **JOINT** and combined forces.

(3) To provide knowledge and understanding of the mission, tasks, and resources of other branches of the armed forces and of those agencies and branches of government and industry that contribute to national security.

(4) To provide knowledge and understanding of the DOD decisionmaking and implementation process at the executive level.

(5) To teach the art and science of formulation and implementation of national security policy.

(6) To enhance leadership and management skills and to provide executive-level knowledge of the analytical techniques used in the decisionmaking and implementation process.

(7) To enhance knowledge and advanced comprehension of the national and international security environment.

(8) To provide the opportunity, through research, to develop warfighting doctrine and to offer solutions to current national security issues.

Sources: Air University catalog for mission statement and JCS document SM-189-84 for PME *objectives*.

#### AIR COMMAND AND STAFF COLLEGE

A. *Mission*. The mission of the Air Command and Staff College is to enhance the professional knowledge, skills, and perspectives of mid-career officers for increased leadership roles in command and staff positions.

B. In addition to the above mission statement, the college quoted the PME objectives of the intermediate-level colleges from the "Joint Professional Military Education Policy Document," a JCS document.

(1) To provide a basic understanding of **JOINT** and combined warfare.

(2) To provide a thorough understanding of command, staff, and operational procedures.

(3) To further the development of leadership, management, analytical, and communication skills.

(4) To provide an understanding of the DOD decisionmaking and implementation processes, and of DOD budget development.

(5) To provide a basic understanding of the formulation and implementation of national security policy.

(6) To provide a basic understanding of the national and international politico-military environments.

Sources: Air University catalog (AFR 53-8) for mission statement and JCS document SM-189-84 for PME *objectives*.

## NATIONAL WAR COLLEGE

A. Current Official *Mission* (1976). To conduct senior level courses of study and associated research in national security policy with emphasis on its formulation and future directions in order to enhance the preparation of selected personnel of the Armed Forces, the Department of State, and other U.S. Government departments and agencies for the exercise of **JOINT** and combined high level policy, command, and staff functions in the planning and implementation of national strategy.

Source: JCS 2484/96-13, April 8, 1976, which circulated the NWC charter approved by Deputy Secretary of Defense William Clements on January 16, 1976.

B. Original *Mission* (1947).

(1) To prepare selected personnel of the armed forces and the State Department for the exercise of **JOINT** high level policy, command and staff functions, and for the performance of strategic planning duties in their respective departments.

(2) To promote the development of understanding of those agencies of government and those factors of power potential which are an essential part of a national war effort.

Source: JCS 962/38, October 13, 1947, Directive for the National War College.

## INDUSTRIAL COLLEGE OF THE ARMED FORCES

A. Current Official *Mission* (1976). To conduct senior level courses of study and associated research in the management of resources in the interest of national security in order to enhance the preparation of selected military officers and senior career civilian officials for positions of high trust in the Federal Government.

Source: JCS 2484/96-14, April 8, 1976, which circulated the ICAF charter approved by Deputy Secretary of Defense William Clements on January 16, 1976.

B. Original *Mission* (1948). To prepare selected officers of the Armed Forces for important command, staff, and planning assignments in the National Military Establishment and to prepare selected civilians for industrial mobilization planning assignments in any government agency, by:

(1) Conducting a course of study in all phases of our national economy and interrelating the economic factors with political, military, and psychological factors.

(2) Conducting a course of study in all aspects of **JOINT** logistic planning and interrelation of this planning to **JOINT** strategic planning and to the national policy planning.

(3) Conducting a course of study of peacetime and potential wartime governmental organizations and the most effective wartime controls.

Source: JCS Staff Memorandum SM-10831, September 3, 1948.

ARMED FORCES STAFF COLLEGE

*Mission.* The mission of the college is to prepare selected mid-career officers for **JOINT** and combined staff duty.

Source: JCS Staff Memorandum SM-672-78, August 21, 1978.

## APPENDIX B

### PANEL VIEWS

### ON EXISTING PME SCHOOLS

#### PURPOSE OF THIS APPENDIX

The purpose of this appendix is to present material that did not fit into the basic analysis of the panel's three areas of inquiry—strategy, jointness, and quality—as covered in the chapters of this report. To get a complete picture of any school, one would need to read those chapters. This appendix covers material that the panel believed might be useful to those concerned with professional military education. The material in the appendix is of three types: descriptions of special background and arrangements at the schools, additional details on subjects discussed in the basic report, and brief discussions of some new subjects.

The appendix first expands the Chapter I discussion of the role and focus of PME schools, then turns to panel observations on specific schools.

#### ROLE OF PME SCHOOLS

The Chairman of the JCS, Admiral William Crowe, testified that professional military education cannot be accomplished in civilian schools. The panel agrees. The profession of arms requires its own schools because, like all other genuine education institutions, military schools develop as well as impart knowledge about the subjects they teach. Civilian universities often teach some of the subjects that professional officers should study, but none can offer the variety of courses needed. Nor can they provide the authoritative perspective of the various services and joint schools. Nor, finally and perhaps most importantly, can they fill the role PME schools, when they fulfill their potential, perform. PME schools should systematically analyze the continual influx of new information, much of it classified, on such matters as technological changes, characteristics of weapons systems, and the capabilities of potential adversaries and integrate the results of the analyses into the body of professional military knowledge.

Beyond that, PME schools offer other advantages to the services and joint system. They perform research on military subjects and develop doctrine for employing military forces. This is particularly true at Fort Leavenworth, Maxwell Air Force Base, and Quantico. These schools produce faculty members who become genuine experts in their fields of study and later return to operating forces to apply their expertise and become mentors to officers in their units. One witness, General William Richardson, USA (Ret.), former Com-

mander of the Army Training and Doctrine Command, claims this is the principal function of PME schools.

The colleges also help the socialization process of officers who are peers in rank, age, and quality. These students will meet again as they rise to positions in their service where friendship and trust are key factors in executing difficult policy decisions. Socialization between officers of different services, whether in service schools or joint schools, helps break down barriers of tradition, language, and culture. This greater understanding of other-service perspectives also acts as a counter to parochial service stands on issues of national importance and can lead to more objective thinking about the use of joint forces to attain specific military objectives.

#### PME SCHOOL FOCUS

Considering the fact that the majority of officers attending school at these levels already have at least a master's degree from a civilian university, the panel believes that PME schools should concentrate on the one subject that only they can teach—the use of the military to attain specified national objectives. The schools should have sufficient guidance provided to them by their service chief or the Chairman, JCS, so that they can teach from a specific perspective on the appropriate level of war—tactical, operational, or strategic.

Many witnesses and experts criticized the overly broad nature of PME. The panel agrees. However, the panel also recognizes that there is much to cover in the few years available for PME. Officers must understand warfighting, but also need to acquire some knowledge of how their service, the joint system, and DOD function in peacetime. These are complex management systems and deserve attention. However, beyond the management systems, specific methods and techniques of management and most other subjects should be learned in-depth in civilian universities or military schools like the Naval Postgraduate School or the Air Force Institute of Technology. PME schools cannot afford to spend too much time on less relevant subjects if officers are to learn the essence of their profession.

The origin of the overextended scope of PME curricula can be traced to the mission or purpose statements of the colleges (see Appendix A). In most cases, the stated purpose of the school is not fully articulated. In some, it is outdated. In others, it is too vague to serve as a guide for curriculum development.

Although several of the mission statements provided to the panel by the colleges refer to service regulations or joint documents, those for the Army Command and General Staff Officer Course and National War College were extracted from their catalog.<sup>1</sup> It appears that some colleges have determined their own missions or unilaterally changed previous ones to conform to the school's view of its role in officer education.

A recurring problem is that the mission statements lack specificity about the level at which the courses should be taught. In a joint

<sup>1</sup> Initially, the National War College provided a mission statement similar to the one in its catalog. Later, it provided a somewhat different statement that the JCS had sent to its commandant in 1976.

school, is it through the eyes of the Chairman, JCS, and commander in chief (CINC) of a unified command or the eyes of a three-star contingency joint task force commander? In a service school, is it through the eyes of the service chief, the commander of a service component in a unified command, or the three- or four-star level uni-service commander? Or is it as a staff officer on the Joint Staff, service headquarters staff, or CINC staff?

The foci of the curricula are not well defined either. At the intermediate schools, is the focus on tactics or the operational level of war or strategy? How does this focus change at the senior level, if at all? Is the school strictly for warfighters and war-supporters, or should the curriculum be tailored for professional, scientific, and technical officers as well?

As discussed in Chapter I, existing JCS guidance on PME is too broad to be useful. Currently under revision, JCS Staff Memorandum 189-84, "Joint Professional Military Education Policy Document," dated March 23, 1984, contains a laundry list of general and specific objectives by level of school, that, in the panel's opinion, is not achievable in the months allowed for intermediate and senior education. Included in the range of general objectives are:

. . . prepare military officers to meet the demands placed on them for the conduct of war, . . . promote understanding and teamwork within and among the services, . . . promote the planning for and conduct of joint and combined operations, . . . develop leadership, management, and executive skills and competencies, . . . enhance . . . knowledge, understanding, and proficiency in . . . art and science of war, military history, leadership, management, intelligence, geography, professional ethics, mobilization, national security strategy, the DOD decisionmaking and implementation processes, budget formulation, public relations, the impact of technology on war, the DOD planning system, and the international environment.

JCS specific objectives for intermediate- and senior-level schools are similarly broad (see Appendix A, Air War College and Air Command and Staff College objectives, which quote the JCS objectives). In a 10-month course, much of this, if attempted, can only be done superficially.

The panel supports the notion that military education should broaden officers during their field grade years. The question is, How much? The panel believes the central focus of the schools should be clearly identifiable in their curriculum: force employment (warfighting) and force development. The curricula contain many subjects that are unrelated to warfighting or force development. The panel questions the inclusion of such an extremely broad range of subjects as core material at this level of education. Examples include executive skills and management, foreign policy and foreign area orientation, writing workshops, and various leadership courses. The panel does not oppose these subjects per se, but objects to the weight they have been given in several colleges' core programs. Specifically, the Air Command and Staff College, Air War College, National War College, and Armed Forces Staff College devote a significant portion of their curricula to subjects such

as these. The panel believes they require a sharper focus on war-fighting.

## OBSERVATIONS ON SPECIFIC SCHOOLS

### ARMY SCHOOLS

*General.* The Army PME system includes an intermediate school—the Army Command and General Staff College (CGSC)—at Fort Leavenworth, Kansas, and a senior school—the Army War College—at Carlisle Barracks, Pennsylvania. This *geographic separation* places the schools at a disadvantage, especially in operating costs, compared to the Air Force and Navy schools, which are both located on single installations. Among the significant advantages of locating both schools together are shared libraries, printing plants, and installation support infrastructure. Although the Air Force, even with collocated colleges, does not share faculty between its intermediate and senior levels, shared faculties would appear to be the greatest potential advantage of collocation given the competing demands for quality and expert officers.

The Army is also unique among the services in having *separate command arrangements* for its intermediate- and senior-level schools. Fort Leavenworth operates under command of the Training and Doctrine Command (TRADOC), which has broad responsibility for Army officer training and education from pre-commissioning through intermediate-level schooling and develops doctrine for employing Army forces worldwide. Significantly, the Command and General Staff College develops much of the Army's doctrine for combined arms warfare at the tactical and operational levels, integrating branch-related doctrines developed in branch schools into combined arms concepts. Because all of the branch schools and CGSC are under TRADOC, the doctrine development system has unified command. There are advantages to having a close relationship between those who develop doctrine and those who teach it, and Leavenworth has officers who do both. The doctrine developers have an opportunity to test their ideas before bright student officers from all branches in an open academic environment and the students benefit from talking with faculty who are in the forefront of developing new doctrine.

The senior PME school, the Army War College at Carlisle, however, is under the Army Chief of Staff, not TRADOC, and has not in the past had doctrinal responsibilities. Faculty at both locations indicated during discussions that educational disconnects occur in instruction at intermediate and senior levels because of the difference in command lines. In the Navy and Air Force systems, both the intermediate and senior schools respond to the service chief, not the service training commands. The nature and level of instruction and the fact that the purpose of these schools is education, not training, recommend the other services' solution.

The dilemma is that putting CGSC under the Chief of Staff obviously decreases TRADOC's control of the doctrine developers at Leavenworth and may decrease the interaction between doctrine developers and teachers. The Army dilemma is compounded because the Leavenworth college also contains the Combined Arms

and Services Staff School—a training course that all Army captains attend.

The panel believes the Army should structure its school system to best suit its needs and assure high quality in its education. The Army should review the rationale for separate geographic locations and command chains to ensure that this arrangement best satisfies the educational needs of Army officers and is worth the high cost in funds, facilities, and faculty manpower.

*Command and General Staff College.* The CGSC at Fort Leavenworth consists of five schools: the Command and General Staff School, the School of Advanced Military Studies, the Combined Arms and Services Staff School, the School of Corresponding Studies, and the School for Professional Development. The panel review focused on the first two schools. The first, the Command and General Staff School, teaches the Army's intermediate PME course, which is called the Command and General Staff Officer's Course (CGSOC). The panel believes the CGSOC provides a sound education for officers progressing beyond the rank of major. CGSOC's focus is on the interface between the tactical and operational levels of war and on the operational level of war. This seems appropriate. It should be noted, however, that while the operational level of war is normally considered joint, the CGSOC is not a joint school. Courses concentrate on turning separate Army branch elements into integrated combined arms forces capable of conducting land warfare with the support of air power. In teaching about the higher echelons of command, the CGSOC's perspective appears to be that of an Army corps commander or of the Army component of a unified command.

The *student body* at CGSOC is the largest of all the service and joint intermediate schools and allows more Army officers in-residence intermediate education than any other service. The Army's target is for 50 percent of its officers to receive in-residence, intermediate-level schooling, and each year that goal is reached. About 40 percent of the Army majors attend Leavenworth and another 10 percent attend other intermediate schools. Recognizing the essential nature of the Leavenworth education to Army majors and lieutenant colonels, but lacking the resources to provide it in-residence, the Army requires all majors not selected to attend in-residence to complete the course by correspondence as a prerequisite for promotion to lieutenant colonel.

The Army, however, has difficulty justifying quantitatively through a position-by-position requirements process the large number of officers it sends to CGSOC in-residence. Numbers in school are apparently driven by tradition, size of the facility, and a general impression that more is better. It is expensive to educate over 900 students every year, but the Army is reluctant to be more selective because this schooling represents more than just an opportunity for education. Selection for in-residence schooling is a quality cut for Army officers. From this group will emerge battalion commanders and attendees at senior-level schooling. The Army's concern is that narrowing selection this early would equate to pre-selection of the future leadership of the Army.

A problem at Leavenworth is the *rapid turnover of the deputy commandants* and senior leadership. The three-star commandant is



the overall Fort Leavenworth Combined Arms Center commander; the two-star deputy commandant heads the CGSOC on a day-to-day basis. There have been four deputy commandants in the past 6 years. Many of the faculty and staff considered the frequent changes of leadership counter-productive. They expressed frustration with constant changes in policies, focus, and educational approach. The lack of tenured faculty exacerbates this problem. There are no deans, department heads, or professors with sufficient stature and longevity to temper new deputy commandants' desires for change or to protect their faculty from the turbulence. The last three-star commander of Fort Leavenworth disapproved the school's request for tenured positions, preferring to deal with tenure on a case-by-case basis.

*School of Advanced Military Studies (SAMS).* Under CGSC the Army also conducts an advanced program of military studies for about 60 officers each year at Fort Leavenworth. The program is made up of two courses—the Advanced Military Studies Program (AMSP) and the Advanced Operational Studies Fellowship (AOSF).

AMSP is a 1-year course in the tactical and operational levels of war for new graduates of the Command and General Staff College who have competed for admission to the program through entrance examinations, interviews, past records of performance, and demonstrated motivation. They are selected in the fall of each year by the CGSC commandant. For academic year 1988-89, 46 Army, 4 Air Force, and 2 Marine majors were chosen to attend. Once selected, students participate in specific electives in the last half of their year at the Command and General Staff Officers Course, complete the intensive AMSP course, and, after graduation, serve an internship as a division or corps general staff officer.

Each year the AOSF program accepts eight Army lieutenant colonels who have been selected to attend a war college and, instead, assigns them to the School of Advanced Military Studies for 2 years. During their first year they study the operational and strategic levels of war, participate in AMSP seminars, and travel to U.S. and allied commands. Like students in AMSP, the AOSF officers have extensive written requirements that are graded. Upon completion of their first year, the fellows become the faculty for the next session of AMSP. They are then assigned as general staff officers to a division, corps, or higher headquarters.

Initiated in 1983, SAMS fulfills the Army's need for officers possessing advanced education in the art and science of war at the tactical and operational levels. In this respect it parallels the 2-year courses conducted at Fort Leavenworth in the 1920s and 1930s from which many of the prominent leaders of World War II graduated, including J. Lawton Collins, Matthew Ridgway, Mark W. Clark, and Maxwell D. Taylor. In the long term, the school will provide:

A pool of tactically and operationally expert general staff officers and potential commanders of major Army formations and joint headquarters, and

A group of highly qualified military educators and developers of doctrine.

The panel was impressed with the caliber of the SAMS students, the quality of the faculty, and the sharp focus of the curriculum on warfighting issues. However, one limitation caused concern. The course is primarily Army-oriented even though the subject matter of its curriculum—the operational and strategic levels of war—is, by definition, joint. As structured, the course lacks sufficient other-service faculty, students, and focus to provide true joint education.

*Army War College.* The panel is concerned that the Army War College lacks a clearly defined focus. During testimony, the Commandant explained that he had been tasked by the Army Chief of Staff to review and recommend changes to the mission and curricula of the college. He was directed to: (1) build on the diverse backgrounds and previous education of the college's students; (2) concentrate on the operational art and the strategic context within which the Army, other services, and allies operate in peace and war; and (3) become a center for "development of strategic thought for the Army."

If the study results in the college focusing more on national military strategy, that will help dispel some of the panel concerns. How the college implements the Chief of Staff's decisions to sharpen the focus of the curriculum on strategy, however, will be the final determinant of how successful this effort is.

*War at the theater level* occupies a large part of the college's core curriculum, leaving little room for treatment of national military strategy. The strategy instruction is concentrated in two blocks—Course 2, War, National Policy, and Strategy; and Course 7, U.S. Global Military Strategy. In Course 7, a summary course, students pull together the year's study and develop a national military strategy. The college discusses strategy in other courses and teaches courses related to strategy, like regional appraisals. In the future as the Army Command and General Staff College focuses more on the operational level of war, the Army War College will also have to adapt its focus by shifting the curriculum to greater treatment of national military strategy.

Overall, the panel believes that the faculty at Carlisle is adequate in numbers and quality. The Commandant would prefer a broad mix of military faculty, consisting mainly of mature, experienced officers, primarily colonels, and a smaller number of young "front-runners" with potential as future Army leaders. He has the former, many of whom are genuine experts in their field, but he lacks the latter. For many reasons, among them time available in very busy careers, faculty duty is not seen as desirable or beneficial by officers with potential for high rank. As in all service colleges, this attitude can only be changed by the service chief attaching greater importance to faculty duty to ensure it has a positive impact on promotion and command selection boards at all ranks. Beginning in academic year 1988-89, three additional former brigade commanders—front-runners in General Graves' definition—have been assigned to the faculty at Carlisle, and the total will be maintained at seven.

Although 25 of its 115 (22 percent) faculty members have doctorates, with a few exceptions, the college does not have a "magnet" faculty, a core of nationally recognized experts in their fields who can attract other faculty, both civilian and military. The college

also lacks the resources and flexibility to offer substantial faculty development opportunities or time for selected faculty to conduct independent research. Both opportunities are viewed by educators as important incentives in recruiting quality faculty.

The Army has chosen to increase the *tour length for the commandants* at Carlisle. Past commandants have stayed for only 1 or 2 years; the present Commandant, General Howard Graves, believes he will stay for 4 to 6. In part, this is because of the ongoing review of Carlisle and the need for stability while implementing what appears to be significant change to the college. It also results from a need for stability in the academic environment. Rapid turnover in leadership creates turbulence and distracts from the primary mission—education. Although Carlisle has had “revolving door” commandants in the recent past, some degree of continuity has been maintained through longer tours for the dean and some department heads.

Carlisle educates more than just in-residence students. The *Corresponding Studies Program* provides a senior-level education to about 200 officers selected each year by an Army board. This course is reputedly more rigorous than the resident course because of extensive reading and writing requirements. It lacks only the instructor interface and the exchange between students to be comparable to the resident course.

#### NAVY SCHOOLS

*Naval War College.* The Army War College is the senior Army PME school. The “Naval War College,” however, refers to both the intermediate and senior Navy PME schools. The Naval War College collocates at Newport, Rhode Island, both the intermediate-level college—the College of Naval Command and Staff—and the senior-level college—the College of Naval Warfare. Unlike the other services, whose officers successively attend intermediate and senior PME, only about 8 percent of Navy officers attend both an intermediate- and a senior-level school. Consequently, the curricula at the two Navy colleges are basically the same, except for the operations course, which has a different focus at each level.

According to the Naval War College staff and as reflected in OP-NAVINST 5450.207, the *mission* of both the intermediate- and senior-level schools is the same (see Appendix A). This mission statement is vague and provides little guidance to the college in curriculum development. The college continues to operate according to the restructuring effected by its President, Vice Admiral Stansfield Turner, in 1972. This three-part curriculum concentrates on strategy, resource management, and military operations. This would seem appropriate to Navy purposes.

*College of Naval Warfare.* The senior Navy college was founded at Newport in 1884 by Rear Admiral Stephen B. Luce and in its early years its faculty included Captain Alfred Thayer Mahan—one of the country’s most famous strategists—and Army Captain Tasker Bliss, who later became the first Commandant of the Army War College and ultimately Army Chief of Staff. At the college almost all of the students’ time is spent on core courses, with only one elective offered each semester. The elective may be replaced with a research project should a student be so motivated. This ac-

cords with the philosophy expressed by Admiral Turner that there is so much to learn that there isn't enough time available to offer a more individually tailored curriculum.

The program at the College of Naval Warfare is *intense* with 600 to 700 pages of reading each week, frequent writing requirements, and testing on core courses. Newport is the only senior school that tests. The Newport view, shared by the civilian educators the panel heard, is that testing adds rigor to student efforts, challenges faculty to attain a higher level of excellence because of the demands of grading, and forces students to synthesize course material as they grapple with complex issues for which there are no definitive answers. It has experienced none of the "unhealthy competition" among students that other PME colleges alleged would exist if they tested.

The Naval War College *strategy course*, like the entire curriculum, is more sharply focused than in other PME schools. The Strategy and Policy Course is the shortest of the three parts of the core curriculum, comprising about 115 of the 475 core hours. Military strategy is the single focus of this course. It does not deal with non-military instruments of national power, the national security bureaucracy, or the decision-making process. In addition to the strategy block, several lessons in the Joint Operations Course also deal with military strategy.<sup>2</sup> As at the Army War College, the panel believes the College of Naval Warfare should emphasize national military strategy more than operations and resource management and that operations should be treated at lower levels of schooling.

Although the *faculty* is used by both the senior college and the junior college, its size is large, with about 85 members, which allows time for research and for professional development. About one-third of the faculty is civilian, all but four of whom have doctorates. Many have taught at highly respected civilian universities prior to instructing at Newport.

The military faculty are of high quality. Most are captains, post-command Navy officers; and their promotion rates from commander to captain are higher than the Navy average. The reputation of Newport and its civilian faculty acts as a magnet to attract other civilian and military faculty, particularly in the National Security Decisionmaking and Policy and Strategy Departments of the college. Recruiting quality faculty is also enhanced at Newport by its location, by the attractive pay scale, and by an outstanding physical plant. As with similar departments in other colleges, the panel found that the Joint Military Operations Department has not achieved the level of excellence attained in other parts of the college, and its reputation is lower.

Despite the rapid *turnover of its presidents* in the past 20 years—their tours have averaged 2 years—the Naval War College retains its continuity by having long-term faculty and department heads and by maintaining, at least since 1972, consensus on the curriculum. The last several commandants have been promoted upon reas-

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<sup>2</sup> A caution is warranted. For example, what the syllabi describe as "Strategy for the Pacific," is really theater-level warfare, the CINC's view of how he will employ military force to achieve the political objectives in his theater. Consequently, the panel did not count these course hours in its assessment of strategy.

signment, clearly establishing the positive career aspects of this post.

*College of Naval Command and Staff.* Since its mission, faculty, and physical plant are the same as the senior college's, the College of Naval Command and Staff shares the observations of the preceding section. However, the panel believes the real question for the Navy is whether this college should provide an intermediate education for naval officers or just continue to serve as a surrogate for those officers who will not attend a senior college (see Chapter IV).

Although the *curriculum* of the intermediate college is similar to the senior course, it is not identical. The Staff College has fewer hours in the core program and is more heavily service-oriented, as one would expect in an intermediate school. The portion devoted to maritime operations (approximately one-third) focuses on integration and planning of naval warfare at the battle group rather than the senior course's fleet and theater level.

Like Army colleges, the Naval War College has a *College of Continuing Education*. Last year this college graduated 470 students from its correspondence course program and 640 from its non-resident seminar program conducted at nine locations in the continental United States.

#### AIR FORCE SCHOOLS

*Air University.* The Air Force has consolidated all of its officer PME at the Air University at Maxwell Air Force Base, Alabama. The panel focused on the intermediate and senior schools there—the Air Command and Staff College and the Air War College. The Air University enjoys the same benefits of collocation as Newport. The physical plant is excellent. Several witnesses and interviewees cited a problem with the geographic location of Maxwell, but other problems contribute to the colleges' inability to recruit and retain high-quality faculty and to attract the best Air Force officers to the school. Air Force studies, corroborated during discussions with students and faculty, indicate that many come to the Air University reluctantly, having preferred to be assigned to other PME schools. One result is a faculty that is not generally of the same caliber as other service schools.

The panel recognizes that dissatisfaction with the Air Force colleges may, in fact, result in a vicious cycle. According to former officials interviewed by the panel, the reputation of the Air University has always suffered in comparison with most of the other PME schools. That reputation, whether fair or not, may cause officers to believe that Air University schools are second-rate and explains their clear bias toward being assigned to another PME school. The reputation becomes self-fulfilling for both the student body and faculty—there is no "magnet" to attract the best to the Air University.

The commandants of the colleges testified that the situation has been recognized since the publication of the 1985 Blue Ribbon Committee on Air University Faculty Improvement report prepared for Secretary of the Air Force Verne Orr and is being remedied. Statistics provided to the panel reflect an improving promotion rate for

instructors, but improvement in quality was not reflected in student or faculty comments during the panel's visit.

The panel is convinced that the Air Force should redouble its efforts to improve the Air University schools. With its outstanding physical plant, centered on the best airpower library in the world, Maxwell should regain the eminence it once enjoyed as the fountain of innovative thinking and study on the use of air forces.

*Air War College.* The Air War College *mission statement* is broad and vague and gives the commandant and faculty little direction in developing the curriculum. The broad mission statement may explain the high percentage of hours in the curriculum that do not contribute to the warfighting education of the students.

Even though the Air War College has no tests, its Commandant, Major General Harold Todd, testified that the school has a *rigorous* academic program. Students complete frequent written and oral requirements that are evaluated by instructors. Students also present their papers to their peers who critique their ideas. The Commandant does not believe testing is necessary or useful at this level. He stated that the current evaluation system functions satisfactorily to motivate students, validate the curriculum, and provide feedback to faculty on their performance. In contrast, the panel's curriculum review indicated that roughly 60 percent of the core program is passive learning. This is far higher than other senior colleges and would seem to indicate less rigor than at other schools.

*Faculty* quality at the Air War College is a key panel concern. Students described instructors as "discussion leaders" who had little real subject matter expertise. Many are recruited directly from the graduating class, a practice criticized in the 1985 Blue Ribbon Committee report for Air Force Secretary Verne Orr. These officers lack experience and seasoning, a disadvantage recognized by officials of other PME schools. On the other hand, the Air War College Commandant may have no other choice. He acknowledged that it was difficult to recruit the military faculty he wanted despite the high priority he placed on this effort. Maxwell similarly has had problems recruiting civilian faculty, although the Commandant stated that the situation has been improving. The panel believes the Air Force leadership should place renewed emphasis on resolving the faculty problem at the Air War College.

*Air Command and Staff College.* The *mission statement* for Air Command and Staff College (ACSC) is, like that of the Air War College, broad and vague. Its lack of precision supports comments heard from several officials who have visited or lectured at ACSC that the Air Force has issued no clear, detailed mission statement for the intermediate-level course. The course has a reputation for poor quality and lack of focus.

In the panel's estimate roughly one-third of the ACSC *curriculum* is devoted to joint matters, about 10 percent to strictly Air Force operational matters, and over half to a profusion of other subjects, primarily staff and communications skills. This diffusion of focus causes the panel to question whether the Air Force has thought through the purpose of its intermediate school. The emphasis is clearly not on warfighting and supporting. This failure to impart the Air Force *raison d'être* is doubly unfortunate because, as the Commandant reminded the panel, for many officers this will

be the last PME of their careers. Unlike the Army and Marine Corps intermediate colleges, the Air Command and Staff College devotes little time to Air Force doctrine. Because the Air Force responsibility for doctrine development is now assigned to the Center for Aerospace Research, Doctrine, and Education (CADRE) at Maxwell, the school may be missing a magnificent opportunity to teach the use of air power in the full range of possible contingencies from the tactical to the strategic levels.

Although the quality of officers on the ACSC *faculty* has improved compared to that reported by Secretary Orr's 1985 Blue Ribbon Committee, the preponderance of faculty members are majors recruited from the graduating class and function as "seminar leaders." They have little or no more experience than their students and are, in general, not subject matter experts. Consequently, their teaching abilities are limited to facilitating discussion of each lesson, and they may be only a day or so ahead of their students. The panel believes that the Air Force will have to institute significant changes in faculty recruitment and assignment policies at ACSC to make it as productive as other service schools.

The most outstanding feature of ACSC is the obvious quality of the *students*. According to information from the Air Force, there is a strong correlation between those promoted to lieutenant colonel and those who have been to ACSC, indicating that the Air Force selects well-qualified officers with strong potential for future service as students.

Unfortunately, the students at ACSC, as a group, expressed the same preference as their seniors at the Air War College to attend another service college or the Armed Forces Staff College. The panel believes the Air Force should improve ACSC to match the caliber of its students, redeem the reputation of the school, and thus make ACSC a desirable assignment.

It appears from discussions at Maxwell Air Force Base and from the testimony of General Larry Welch, the Air Force Chief of Staff, that the Air Force will begin an *advanced military studies course* in the near future. Although details have not been fully worked out, the panel expects that the new program, designated the Advanced Defense Studies Course, will resemble the Army's School of Advanced Military Studies (SAMS) 1-year course that follows its Command and General Staff Officer's Course. The panel encourages the Air Force to establish this course in the near future. It also hopes that the course may help the Air Force recognize there is useful material to be studied in a year-long Air Command and Staff College course.

#### MARINE CORPS COMMAND AND STAFF COLLEGE

The Marine Corps PME system at Quantico, Virginia, has evolved significantly over the past 25 years. From 1947 until 1964, the system included a school for "career field grade officers"—the Amphibious Warfare School, Senior Course—and a junior or intermediate-level course—the Amphibious Warfare School, Junior Course. By 1954 the Senior Course was given only to lieutenant colonels and colonels with the objective of training them for command of regiments and groups and staff duties at division, wing, and landing force level. This was considered the Marine Corps

senior-level school and it clearly focused on military operations. Although broadening the educational background of the Marine officer corps was an objective, it played a minor role.

In 1964 major changes occurred at Quantico. The Senior Course was renamed the Command and Staff College, and the Junior Course became the Amphibious Warfare School. The Command and Staff College was restructured to teach less senior officers—majors and lieutenant colonels—a curriculum similar to the old Senior Course. By 1983, the student body was all majors, paralleling other intermediate schools.

Despite changes in the name of the school and the rank of the student body, the original *mission and curriculum* of the Amphibious Warfare School, Senior Course, changed only slightly. The college has been, and remains, focused on teaching landing force operations, primarily the amphibious phases. Thus, the Marine Corps intermediate school, though named a “command and staff college,” is very different from, and much more narrow in focus than, any other intermediate PME school. Despite emphasizing the educational nature of the college program, school officials agreed that the Command and Landing Force Operations portions of the curriculum are essentially training for that 75 percent of the Marine students en route back to Fleet Marine Forces on graduation. Some students claim the course is 90 percent training, with little real education.

The result is that in some respects Marine Corps PME consists of two schools that focus mainly on amphibious warfare—the Amphibious Warfare School for captains and the Command and Staff College for majors. The Deputy for Education described the content and techniques of the two schools as similar, but conducted at different levels—“The doctrine is the same, only the levels differ.” The panel was told that 20 to 30 percent of the Marine officer corps attends the Amphibious Warfare School, while about 30 percent attend Command and Staff College. Only 14 percent attend both. Because of the similarity between the schools, a relatively large proportion of Marine officers learn higher level amphibious operations in-residence.

The heavy Marine emphasis on force employment partially parallels the curriculum at Leavenworth where most of the time is spent teaching combined arms operations. For the Marine Corps, the integrated warfare concept involves the air-ground team and coordination with naval forces supporting amphibious landings. Quantico, however, concentrates on the regimental or tactical level, with some teaching at the division level. Leavenworth progresses beyond the tactical to deal with the operational level of war. In this respect, Quantico is not comparable to other service and joint intermediate schools. Its level of focus is on a lower level of warfare and it is narrower in scope.

This characteristic can also be seen in the small part of the curriculum devoted to joint matters. Although Quantico may argue that joint content is high, they include the study of the Navy-Marine interface in calculating a high joint curriculum content. Considering they are all one department, the panel did not support this contention.



Although the Marine Corps Command and Staff College may be well suited in some respects for educating Marine officers, it ill serves the 36 officers annually who come from other services and do not receive the broad military education provided at other intermediate colleges. Nor does the school broaden Marine officers who will require a more comprehensive education in later years. The panel believes that broadening at the intermediate level is important.

Quantico has almost 1,000 hours of *classroom instruction* in the core program, far more than other schools. The impact of this number of hours in class is reduced time for reading, writing, and thinking. It contributes to a training camp mentality. The panel believes that this level of classroom intensity undermines creative thought and innovation.

The *attitude* of some staff and faculty reflected minimal concern for education at Quantico. Their view was that developing officers for future command and staff positions was not a high priority and that education at the college was of little consequence in improving the performance of graduates in follow-on operational assignments. Many students shared this attitude; they saw the college primarily as either a "ticket" back to a field assignment or a reindoctrination course for those who had been in staff positions ashore. They acknowledged that attendance distinguished them as among the higher quality officers. But they indicated that selection and non-attendance would also provide the same distinction, particularly if the officer had already attended the Amphibious Warfare School as a captain.

The panel notes that one way to increase the importance of Marine PME and to change this view of attendance would be to make completion of the staff college by either residence or correspondence a prerequisite for promotion, as the Army does.

The panel recognizes the unique combat mission of the Marine Corps, but also notes the prominent role played by Marine officers at high levels in the Defense establishment and the concomitant need for a professional military education broader than amphibious operations. The Marine Corps should review its overall PME structure to determine whether it appropriately serves the needs of the officers who aspire to higher command and staff positions or whether an education more similar to that of other services would serve the Corps better. Moreover, since the education given at the Marine Command and Staff College is not equivalent to that of other schools, the panel questions whether other-service students should attend in lieu of going to their own service college.

The Marine Corps has no need to run a *joint track* at Quantico to meet its own requirements for joint PME qualified officers. However, to qualify those 36 students from other services who attend the college, the school established a joint track program in academic year 1988-89. College officials dislike this solution to joint specialist education because Marine Corps students in the joint track will miss important parts of the instruction that trains them specifically for their next assignment with Fleet Marine Forces. They expressed a preference for a "finishing school" solution at AFSC for joint specialist PME.

The *faculty* at Command and Staff College is austere. Of the 18 Marine Corps officers filling instructional and administrative positions, there are only 13 instructors—1 faculty adviser per each of the 12 seminars and 1 historian—who teach most of the curriculum. Even with an additional four civilian instructors, Quantico has by far the highest student/faculty ratio of any college the panel visited (see Chapter V for additional discussion). The instructors are, however, assisted in their teaching role by the faculty of the Amphibious Instruction Department of the Marine Corps Education Center at Quantico, by adjunct faculty, by 12 enlisted Marine classroom aides, and by the Armed Forces Staff College, which teaches the Joint Operations Planning System to the college each year. For academic year 1988-89 the college adds four Marine instructors and one officer each from the Army, Navy, and Air Force to its the faculty. This will allow greater flexibility, provide more expertise in joint matters, and add depth to the faculty. Nevertheless, the Quantico faculty—with 29 members—will remain small for 170 students and over 1,000 hours of classroom instruction.

The educational portion of the Marine curriculum is unique in its use of 12 “adjunct” professors, members of the Marine Corps Reserve who also hold doctorates and have an active association with civilian universities. They teach a broad range of electives in which they have particular expertise. Each student must take one of these 27-hour electives during the academic year. In this unique and commendable manner, the adjunct professors serve their annual Marine Corps Reserve commitment through teaching.

Although military faculty quality had been a problem in past years, that has recently changed. The 12 seminar advisors are outstanding officers with recent experience in units and demonstrated potential for higher rank. They serve a multitude of functions—advisor, instructor, role model. Their focus is Marine operations, not broader academic matters.

The *Director* of the Command and Staff College, reflecting the relative size of the Marine Corps, is a colonel who reports to the Deputy for Education of the Marine Corps Combat Development Command, a brigadier general. The length of the Director’s tour does not appear to be a problem at Quantico, judging from the evolutionary changes to the curriculum over the past 30 years.

The Marines have not had a *senior-level* college since they restructured their PME system in 1964. They do, however, send about 65 officers each year to other service or joint senior colleges. These officers are centrally selected based on past performance and potential for future service. At senior schools the panel visited, comments about the quality and motivation of Marine students were always favorable.

#### NATIONAL DEFENSE UNIVERSITY (NDU)

*General.* Since 1976, the National Defense University, headquartered at Fort McNair, Washington, D.C., has functioned as a higher level institution to promote constructive dialogue and a mutual sharing of facilities between its subordinate colleges and institutes. The university has expanded far beyond its original scope and today includes not only the National War College and Industrial

College of the Armed Forces, but the Armed Forces Staff College at Norfolk, Virginia, the DOD Computer Institute, the Institute of Higher Defense Studies, and the Institute for National and Strategic Studies.

The DOD Computer Institute (DODCI) located in Washington, D.C., provides information resources management education to DOD executives. Approximately 3,400 students annually attend its classes in-residence, as electives offered to other NDU schools, or in on-site courses tailored for organizations requiring special assistance. DODCI also provides advisory services to DOD activities. Although the institute has existed since 1964, NDU did not assume responsibility for DODCI until 1982.

The Institute for Higher Defense Studies (IHDS) was established in 1982 to support the Capstone course for new general and flag officers. IHDS also assumed responsibility for the NDU International Fellows Program, the 2-week long NATO Staff Officer Orientation Course taught 9 or 10 times a year for U.S. officers en route to NATO staff duties, the National Security Management Correspondence Course with its annual enrollment of 2,000 students, the Reserve Components National Security Course taught at sites around the country, and various defense-related symposiums.

The Institute for National Strategic Studies (INSS) was created in 1984 to support requirements of the Secretary of Defense and the Chairman, JCS, for research and studies. Originally configured with a Strategic Concepts Development Center (SCDC) and Mobilization Concepts Development Center (MCDC) (recently redesignated the Strategic Capabilities Assessment Center or SCAC), the institute now includes a Wargaming and Simulation Center and the Research and Publication Directorate, which consolidates the research efforts of about 24 senior fellows doing independent studies each year.

The National Defense University expansion, some critics believe, has over time resulted in a diffusion of effort and a *reshuffling of priorities* detrimental to the three PME colleges that are, after all, the *raison d'être* for the university. Three areas that tend to substantiate the critics' charges are research, facilities utilization, and personnel.

Civilian educators, in testimony and interviews, emphasized that graduate-level schools need a robust research program. Research allows faculty to develop expertise in their fields and contributes to the quality of education in a school. Theoretically, the Strategic Concepts Development Center and the Strategic Capabilities Assessment Center provide that capability. But these research activities and the college faculties rarely exchange personnel, ideas, or concepts. Moreover, neither SCDC nor SCAC currently contribute much to the defense policy and strategy process in DOD, according to several witnesses and other high Defense Department officials. The large number of personnel assigned to the centers contributes to the perception that the colleges are adequately staffed. In fact, however, center personnel have not been available to support faculties or to allow faculty members to conduct research that could contribute to the colleges.

The increase in the number and size of NDU organizations at Fort McNair has resulted in a severe constriction of facility space

at the National War College and the Industrial College. NDU plans to address a long-identified shortfall in facilities through construction of an Academic Operations Center adjacent to Fort McNair at a cost of \$31 million.

NDU has a total manpower strength of 407, an increase of 51 percent since 1976. The faculties at the three colleges, however, total only 132 military and civilian, a number that has remained relatively stable since 1976. Moreover, each college commandant stated that he lacks sufficient faculty to teach the curriculum properly. Recent requests to increase manpower for the faculties of NDU colleges were denied, and only four spaces were identified in existing NDU manpower allocations to increase faculty at ICAF.

The President of NDU, in addition to his responsibilities for the joint colleges and institutes, serves as Chairman of the *Military Education Coordinating Committee* (MECC). Another product of the Clements Committee on Excellence in Education, the MECC includes the commandants of all intermediate and senior colleges and is designed to coordinate curricula and other education matters among the colleges. However, the MECC has no directive authority and functions primarily to address education issues raised by the Joint Chiefs of Staff and as a forum for airing problems in education. The Chairman of the MECC, even though he reports directly to the Chairman of the Joint Chiefs of Staff, lacks the ability to direct change in any service school, even when that change may affect education in joint matters. The Clements Committee envisioned that the MECC chairman would chair an annual review of the Clements recommended core curriculum to refine and update it as necessary. This imputed authority never materialized, and the situation makes the MECC chairman unsuited now to enforce a common joint curriculum in all schools. Without that authority, only the Chairman, JCS, can establish and demand compliance with a common joint curriculum in all schools.

*National War College.* The faculty at National contains an appropriate mix of service officers for joint education, but it is small in comparison with service colleges. The academic qualifications of the faculty are excellent. Among the 34 faculty members, there are 8 military and 7 civilian doctorates, 13 military and 4 civilian master's, and 2 civilian bachelor's degrees (see Chapter V). The National War College has only a few faculty members of national stature and consequently does not attract the quality faculty needed in a prestigious institution of this nature. In comparison with other senior service colleges, National, like its sister college, the Industrial College of the Armed Forces, has a high student/faculty ratio. This places more demand on instructors, decreasing time available for preparation, research, and curriculum development. In short, the faculty workload is not conducive to graduate-level education; it precludes faculty from attaining and maintaining expertise in all the fields they teach. Although National has access to national-level civilian scholars in the Washington area as adjunct faculty to teach electives, it also needs more such individuals as permanent faculty. See Chapters III and V for additional discussion.

*Industrial College of the Armed Forces.* Based on recommendations from two wartime boards studying future military education requirements, the Industrial College of the Armed Forces emerged

from World War II as one of two joint senior colleges. From 1924 until 1946, the Army Industrial College had evolved even during this early period into a joint school. In 1946 it was officially placed under joint control of the Departments of the Army and the Navy, and in 1948 it was transferred to the JCS.

The panel found the academic qualifications of the Industrial College *faculty* to be satisfactory. Of 43 teaching faculty, 15 civilian and 1 military officer have doctorates and 1 civilian and 23 military officers have master's degrees. All but seven of the military officers appear to have experience, in addition to education, that is relevant to the mission of ICAF. The practice of granting tenure for civilian professors at ICAF has not always functioned well. The current Commandant described an effort over the past few years to reduce the number of tenured civilian faculty and to replace them with civilian professors on 2- to 3-year contracts. This policy parallels that used in most other senior military schools.

*Students* at ICAF have qualifications similar to those in most other senior colleges. The college actively seeks a balance of both warfighters (operators) and war-supporters (logisticians, communicators, etc.). This permits the war-supporters to learn firsthand about the needs of the warfighters and, conversely, for the warfighters to hear directly about logistical complexities. The Commandant has expressed concern that Goldwater-Nichols Act requirements for joint specialist education and for assignment of greater than 50 percent of ICAF students to joint duty billets upon graduation may eventually alter the balance. Because there are few professional, scientific, and technical positions on the joint duty assignment list, he believes that the services will be unwilling to send officers with these specialities to ICAF where they would fill joint education billets that are in short supply and needed by combat arms or line officers. The panel supports the Commandant's position that the "warfighter/war-supporter" balance should not be allowed to change as a result of Goldwater-Nichols Act considerations.

*Armed Forces Staff College.* AFSC has an *evaluation system* for course examinations, staff papers, case studies and exercises, oral presentations, and formal papers; however, it has no distinguished-graduate or order-of-merit programs. Students receive numerical grades on their "performance" examinations. On their communicative arts assignments, they get a descriptive summary of their work stating that it "failed to meet standards," "met standards," or "exceeded standards." Objective examinations require a minimum passing score of 75 percent. Students must pass all exams and evaluated work to complete the school. Failed areas are retested or reevaluated until a satisfactory score is attained. Although not as rigorous as some other intermediate colleges, the AFSC system provides feedback to the student and faculty and can be annotated on an officer's academic or fitness report upon graduation. Thus, it is both a measure of performance and a motivator.

Students indicated satisfaction with the AFSC course, particularly the "affective"<sup>3</sup> learning aspects of the school which are enhanced by an extensive athletic and social program and an exceptionally high number of classroom contact hours.

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<sup>3</sup> The AFSC faculty distinguishes cognitive and affective learning. They describe cognitive learning as gaining an understanding of concepts, principles, and skills. They describe affective learning at AFSC as developing a joint perspective and an appreciation of what it takes to work effectively in a joint environment.

**APPENDIX C**  
**HEARINGS**  
**BY MILITARY EDUCATION PANEL (1987-88)**

DECEMBER 9—FORMER PRESIDENT, NAVAL WAR COLLEGE

Adm. Stansfield Turner, USN (Ret.).

JANUARY 20—ARMY COMMAND AND GENERAL STAFF COLLEGE, FORT  
LEAVENWORTH, KS

Maj. Gen. Gordon R. Sullivan, USA, Deputy Commandant.

Col. Creighton W. Abrams, Jr., USA, Director, Combined Arms and  
Services Staff School (CAS3).

Col. Leonard D. Holder, USA, Director, School of Advanced Military  
Studies (SAMS).

Col. Lewis I. Jeffries, USA, Director, Academic Operations.

JANUARY 29—ARMY WAR COLLEGE, CARLISLE, PA

Maj. Gen. Howard D. Graves, USA, Commandant.

FEBRUARY 2—FORMER SERVICE CHIEFS

Gen. David C. Jones, USAF (Ret.). Also former Chairman, Joint  
Chiefs of Staff.

Gen. E. C. Meyer, USA (Ret.).

Adm. James L. Holloway, USN (Ret.).

FEBRUARY 25—CHAIRMAN, SENIOR MILITARY SCHOOLS REVIEW  
BOARD

Gen. Russell E. Dougherty, USAF (Ret.), former Commander in  
Chief, Strategic Air Command.

MARCH 18—AIR UNIVERSITY, MONTGOMERY, AL

Lt. Gen. Truman Spangrud, USAF, Commander, Air University.

Maj. Gen. Harold W. Todd, USAF, Commandant, Air War College.

Brig. Gen. Frank E. Willis, USAF, Commandant, Air Command  
and Staff College.

MARCH 25—ARMED FORCES STAFF COLLEGE, NORFOLK, VA

Maj. Gen. J.R. Dailey, USMC, Commandant.

APRIL 15—MARINE CORPS COMMAND AND STAFF COLLEGE, QUANTICO,  
VA

Brig. Gen. John P. Brickley, USMC, Deputy for Education, Marine  
Corps Combat Development Command.

APRIL 21—JOHN M. COLLINS, SENIOR SPECIALIST IN NATIONAL  
DEFENSE, CONGRESSIONAL RESEARCH SERVICE

MAY 5—FORMER COMMANDERS

Gen. Charles L. Donnelly, Jr., USAF (Ret.), former Commander in  
Chief, U.S. Air Forces Europe.

Gen. Frederick J. Kroesen, USA (Ret.), former Commander in  
Chief, U.S. Army Europe.

Adm. Harry D. Train, II, USN (Ret.), former Commander in Chief,  
U.S. Atlantic Command.

MAY 10—CIVILIAN EDUCATORS WITH DOD EXPERIENCE

Hon. Lawrence J. Korb, University of Pittsburgh, former Assistant  
Secretary of Defense for Manpower, Reserve Affairs and Logis-  
tics.

Hon. Robert J. Murray, Harvard University, former Under Secre-  
tary of the Navy.

MAY 12—FORMER COMMANDERS

Gen. Paul F. Gorman, USA (Ret.), former Commander in Chief,  
U.S. Southern Command.

Gen. William Y. Smith, USAF (Ret.), former Deputy Commander in  
Chief, U.S. European Command.

MAY 16—NAVAL WAR COLLEGE, NEWPORT, RI

Rear Adm. Ronald J. Kurth, USN, President.

MAY 17—FORMER PRESIDENTS, NATIONAL DEFENSE UNIVERSITY

Vice Adm. Marmaduke G. Bayne, USN (Ret.).

Lt. Gen. Richard Lawrence, USA (Ret.).

Lt. Gen. John S. Pustay, USAF (Ret.).

MAY 19—COMMANDER IN CHIEF, U.S. ATLANTIC COMMAND

Adm. Lee Baggett, Jr., USN.

MAY 24—NATIONAL DEFENSE UNIVERSITY, FT. MCNAIR, DC

Lt. Gen. Bradley C. Hosmer, USAF, President, National Defense  
University.

Maj. Gen. Albin G. Wheeler, USA, Commandant, Industrial College  
of the Armed Forces.

Rear Adm. John F. Addams, USN, Commandant, National War  
College.

JUNE 2—CIVILIAN EDUCATORS WITH MILITARY SCHOOL EXPERIENCE

Prof. Allan R. Millett, Ohio State University.



Prof. Williamson Murray (statement only), Ohio State University.

JUNE 7—CHIEF OF STAFF, U.S. AIR FORCE

Gen. Larry D. Welch.

JUNE 7—COMMANDER, U.S. ARMY TRAINING AND DOCTRINE  
COMMAND

Gen. Maxwell R. Thurman.

JUNE 15—COMMANDERS IN CHIEF

Gen. John T. Chain, Jr., USAF, Commander in Chief, Strategic Air  
Command.

Adm. Ronald J. Hays, USN, Commander in Chief, U.S. Pacific  
Command.

JUNE 17—SUPREME ALLIED COMMANDER, EUROPE

Gen. John R. Galvin, USA. Also Commander in Chief, U.S. Europe-  
an Command.

JUNE 21—FORMER SUPREME ALLIED COMMANDER, EUROPE

Gen. Andrew J. Goodpaster, USA (Ret.). Also former Commander  
in Chief, U.S. European Command.

JUNE 23—CHIEF OF NAVAL OPERATIONS

Adm. Carlisle A. H. Trost.

JUNE 28—FORMER COMMANDERS

Adm. Robert L. J. Long, USN (Ret.), former Commander in Chief,  
U.S. Pacific Command.

Gen. William R. Richardson, USA (Ret.), former Commander, U.S.  
Training and Doctrine Command.

Gen. Donn A. Starry, USA (Ret.), former Commander in Chief, U.S.  
Readiness Command.

JULY 12—COMMANDANT, U.S. MARINE CORPS

Gen. A. M. Gray, USMC.

JULY 28—CHIEF OF STAFF, U.S. ARMY

Gen. Carl E. Vuono, USA.

AUGUST 11—CHAIRMAN, JOINT CHIEFS OF STAFF

Adm. William J. Crowe, Jr., USN.

SEPTEMBER 22—DEPUTY SECRETARY OF DEFENSE

Hon. William H. Taft IV. Accompanied by Vice Chairman, Joint  
Chiefs of Staff, Gen. Robert T. Herres, USAF.

**APPENDIX D**  
**INTERVIEWS/DISCUSSIONS**  
**BY MILITARY EDUCATION PANEL**

- Rear Adm. Robert C. Austin, USN, Superintendent, Naval Postgraduate School.
- Adm. Lee Baggett, Jr., USN, Commander in Chief, U.S. Atlantic Command.
- Captain Andrew Beck, USN, Navy Military Personnel Command.
- Gen. Charles L. Bolte, USA (Ret.), former Vice Chief of Staff, U.S. Army
- Col. Garnett C. Brown, Director, Institute for Higher Defense Studies, National Defense University.
- Gen. John T. Chain, USAF, Commander in Chief, Strategic Air Command.
- Col. Robert D. Childs, National Defense University.
- John M. Collins, Senior Specialist in National Defense, Congressional Research Service.
- Mr. Seth Cropsey, Deputy Under Secretary of the Navy (Special Review and Analysis).
- Adm. William J. Crowe, Jr., USN, Chairman, Joint Chiefs of Staff.
- Lt. Gen. John H. Cushman, USA (Ret.), former Commander I Corps, Republic of Korea.
- Capt. Richard D. DeBobes, USN, Office of the Joint Chiefs of Staff/Legal Adviser and Legislative Assistant to the Chairman, Joint Chiefs of Staff.
- Gen. William Depuy, USA (Ret.), former Commanding General, Continental Army Command.
- Gen. Charles L. Donnelly, USAF (Ret.), former Commander in Chief, U.S. Air Forces Europe.
- Gen. Russell E. Dougherty, USAF (Ret.), former Commander in Chief, Strategic Air Command.
- Dr. John E. Endicott, Director, Institute for National Strategic Studies, National Defense University.
- Dr. Gregory D. Foster, Professor of Sociology, Industrial College of the Armed Forces.
- Lt. Col. Stephen O. Fought, USAF (Ret.), faculty, Naval War College.
- Maj. Gen. Fred M. Franks, USA, Director, Operational Plans and Interoperability (J-7), Office of the Joint Chiefs of Staff.
- Dr. Michael Freney, Secretary of the Navy Senior Research Fellow, Naval War College.
- Gen. John R. Galvin, USA, Supreme Allied Commander, Europe.
- Congressman Newt Gingrich, (R-Ga.).
- Gen. Andrew J. Goodpaster, USA (Ret.), former Supreme Allied Commander, Europe.

- Gen. Paul F. Gorman, USA (Ret.), former Commander in Chief, U.S. Southern Command.
- Gen. A. M. Gray, USMC, Commandant, U.S. Marine Corps.
- Mr. Bruce I. Gudmundsson, Harvard University.
- Professor Paul Hammond, Pittsburgh University.
- Dr. Steve Hanser, West Georgia State College.
- Col. William L. Hart, USA, Total Army Personnel Agency.
- Maj. Gen. Ralph Havens, USAF, Director, Military Personnel Center.
- Adm. Ronald J. Hays, USN, Commander in Chief, U.S. Pacific Command.
- Gen. Robert T. Herres, Vice Chairman, Joint Chiefs of Staff.
- Adm. James L. Holloway, USN (Ret.), former Chief of Naval Operations.
- Col. C. Powell Hutton, Director, Academic Affairs, National Defense University.
- Adm. Bobby Inman, USN (Ret.), former Director, National Security Agency.
- Gen. Samuel Jaskilka, USMC (Ret.), former Vice Commandant, U.S. Marine Corps.
- Gen. David C. Jones, USAF (Ret.), former Chairman, Joint Chiefs of Staff.
- Dr. Amos Jordan, Center for Strategic and International Studies.
- Adm. Isaac Kidd, USN (Ret.), former Commander in Chief, U.S. Atlantic Command.
- Gen. Robert Kingston, USA (Ret.), former Commander, Rapid Deployment Joint Task Force.
- Honorable Lawrence J. Korb, University of Pittsburgh and former Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics.
- Gen. Frederick J. Kroesen, USA (Ret.), former Commander in Chief, U.S. Army Europe.
- Lt. Gen. Richard Lawrence, USA (Ret.), former President, National Defense University.
- Gen. Richard Lawson, USAF (Ret.), former Deputy Commander in Chief, U.S. European Command.
- Mr. Bill Lind, author.
- Honorable Jim Lloyd, former Congressman.
- Mr. Jim Locher, Senate Armed Services Committee staff.
- Adm. Robert L. J. Long, USN (Ret.), former Commander in Chief, U.S. Pacific Command.
- Gen. E. C. Meyer, USA (Ret.), former Chief of Staff, U.S. Army.
- Capt. William Miller, USN.
- Professor Allan R. Millet, Ohio State University.
- Honorable Robert J. Murray, Harvard University, and former Under Secretary of the Navy.
- Professor Williamson Murray, Ohio State University.
- Col. H. L. Parris, USAF, National Defense University.
- Mr. John Petersen, President, Petersen and Associates.
- Dr. Elizabeth Pickering, Air University.
- Lt. Gen. John S. Pustay, USAF (Ret.), former President, National Defense University.
- Gen. William R. Richardson, USA (Ret.), former Commander, U.S. Army Training and Doctrine Command.

- Professor Eugene Rostow, National Defense University.  
 Capt. Paul Schratz, USN (Ret.).  
 Mrs. Harriet Fast Scott.  
 Col. William Scott, USAF (Ret.).  
 Gen. Robert Sennewald, USA (Ret.), former Commander in Chief, United Nations Command, Republic of Korea.  
 Lt. Gen. Philip D. Shutler, USMC (Ret.), former Director of Operations (J-3), Office of the Joint Chiefs of Staff.  
 Lt. Gen. Dewitt C. Smith, USA (Ret.), former Commandant, Army War College.  
 Maj. Gen. Perry M. Smith, USAF (Ret.), former Commandant, National War College.  
 Gen. William Y. Smith, USAF (Ret.), former Deputy Commander in Chief, U.S. European Command.  
 Col. Roy W. Stafford, Jr., Dean of Faculty, National War College.  
 Gen. Donn A. Starry, USA (Ret.), former Commander in Chief, U.S. Readiness Command.  
 Col. Harry G. Summers, USA (Ret.).  
 Dr. William J. Taylor, Center for Strategic and International Studies.  
 Adm. Harry D. Train, II, USN (Ret.) former Commander in Chief, U.S. Atlantic Command.  
 Lt. Gen. Richard G. Trefry, USA (Ret.), former U.S. Army Inspector General.  
 Adm. Carlisle A. H. Trost, USN, Chief of Naval Operations.  
 Adm. Stansfield Turner, USN (Ret.), former President, Naval War College.  
 Lt. Col. Dale Vande Hey, USAF, Air Force Military Personnel Center.  
 Gen. Carl E. Vuono, USA, Chief of Staff, U.S. Army.  
 Adm. James Watkins, USN (Ret.), former Chief of Naval Operations.  
 Gen. Larry D. Welch, USAF, Chief of Staff, U.S. Air Force.  
 Dr. Tom J. Welch, Deputy Assistant to the Secretary of Defense (Atomic Energy).  
 Gen. John A. Wickham, Jr., USA (Ret.), former Chief of Staff, U.S. Army.  
 Honorable R. James Woolsey, former Under Secretary of the Navy.  
 Col. David W. Wozniak, USAF, Personnel Plans and Policy Division (J-1), Office of the Joint Chiefs of Staff.

#### SERVICE HISTORIANS

- Army—Brig. Gen. William A. Stofft, USA.  
 Navy—Dr. Ronald H. Spector.  
 Air Force—Dr. Richard H. Kohn.  
 USMC—Brig. Gen. E. H. Simmons, USMC (Ret.).

#### U.S. MILITARY SCHOOLS: VISITED AND INDIVIDUALS INTERVIEWED

- Army War College. Maj. Gen. Howard D. Graves, USA, Commandant.  
 Army Command and General Staff College. Maj. Gen. Gordon R. Sullivan, USA, Deputy Commandant.

Combined Arms and Services Staff School (CAS3). Col. Creighton W. Abrams, Jr., USA, Director.  
 School of Advanced Military Studies. Col. Leonard D. Holder, USA, Director.  
 Army Command and General Staff College. Col. Lewis I. Jeffries, USA.  
 Naval War College. Rear Adm. Ronald J. Kurth, USN, President.  
 Naval War College. Dr. Robert S. Wood, Special Academic Advisor.  
 Marine Corps Combat Development Command. Brig. Gen. John P. Brickley, USMC, Deputy for Education.  
 Air University. Lt. Gen. Truman Spangrud, USAF, Commander.  
 Maj. Gen. Harold W. Todd, USAF, Commandant, Air War College.  
 Air Command and Staff College. Brig. Gen. Frank E. Willis, USAF, Commandant.  
 National Defense University. Lt. Gen. Bradley C. Hosmer, USAF, President.  
 National War College. Rear Adm. John F. Addams, USN, Commandant.  
 Industrial College of the Armed Forces. Maj. Gen. Albin G. Wheeler, USA, Commandant.  
 Armed Forces Staff College. Maj. Gen. John R. Dailey, USMC, Commandant.

#### FOREIGN MILITARY SCHOOLS: VISITED AND/OR RECEIVED BRIEFS

##### United Kingdom:

Royal College of Defence Studies, London.  
 Joint Service Defence College, Greenwich.  
 Army Staff College, Camberley.  
 Higher Command and Staff College, Camberley.  
 Royal Navy Staff Course, Greenwich.  
 RAF Staff College, Bracknell.

##### France:

Center for Higher Military Studies, Paris.  
 Army/Navy/Air Force/Joint Senior Staff Colleges, Paris.  
 Allied Staff College, Paris.

##### West Germany:

Führungsakademie (General/Admiral Staff College), Hamburg.

## APPENDIX E

### DETAILED CHARTS

#### ON FACULTY COMPOSITION

The following five charts present details on the faculty composition and the student/faculty ratios at the joint schools and the schools of the four services. Unless otherwise noted, student numbers include all U.S. officers, civilians, and international students taught in each school in academic year 1987-88. Student and faculty data were provided by each school. Because of significant differences in faculty utilization at the various schools, the charts are presented with detailed footnotes.

CHART E-1—FACULTY COMPOSITION AT NATIONAL DEFENSE UNIVERSITY SCHOOLS

	Civilian	Military	Total	Students	Student/ Faculty Ratio
National War College (NWC) <sup>1</sup> .....	13	21	34	<sup>2</sup> 173	<sup>3</sup> 5.1:1
Industrial College of the Armed Forces (ICAF) <sup>4</sup> .....	15	28	43	<sup>5</sup> 227	<sup>6</sup> 5.3:1
Armed Forces Staff College (AFSC) <sup>7</sup> .....	4	51	55	285	<sup>8</sup> 5.2:1

<sup>1</sup> One military officer and two civilian instructors have been given tenure.

<sup>2</sup> Includes an additional student loading figure of 6 for the 12 international officers who attend NDU and divide their time between class attendance at NWC and ICAF and travel.

<sup>3</sup> Ratios based on actual faculty of 34; ratio is 5.6:1 if authorized faculty of 31 is used. Additional faculty have been provided by the services and agencies on an overstrength and temporary basis, resulting in an average of four additional faculty per year over the past 10 years.

<sup>4</sup> One military officer and three civilian instructors have been given tenure.

<sup>5</sup> Includes an additional figure of 6 for the 12 international officers who attend NDU and divide their time between class attendance at NWC and ICAF and travel.

<sup>6</sup> Ratio is based on actual faculty of 43; ratio is 5.4:1 if authorized faculty of 42 is used.

<sup>7</sup> No tenured faculty.

<sup>8</sup> Faculty members are assigned to each seminar of 19-20 students.

CHART E-2—FACULTY COMPOSITION AT ARMY PME SCHOOLS

	Civilian	Military	Total	Students	Student/Faculty Ratio
Army War College (AWC) <sup>1</sup> .....	<sup>2</sup> 31	<sup>2</sup> 84	115	<sup>3</sup> 288	2.5:1
Command and General Staff College (CGSC) <sup>4</sup> .....	35	383 (221)	<sup>5</sup> 418 (256)	<sup>6</sup> 975	2.3:1 (3.8:1)

<sup>1</sup> No tenured faculty; military faculty normally serve a 4-year tour; civilian faculty, on a selected basis, remain in excess of 6 years. Military faculty move from correspondence and other positions to and from on-campus teaching positions during the year.

<sup>2</sup> As of August 1988, an additional 2 civilian and 15 military faculty positions are authorized but vacant.

<sup>3</sup> Includes 18 international officers and 18 reserve officers.

<sup>4</sup> No tenure; four leadership positions are staffed for 6-7 years, others for 3 years.

<sup>5</sup> These numbers include instructors, curriculum and course developers, doctrine writers, and their supervisors. Numbers in parentheses include classroom instructors only.

<sup>6</sup> Includes 123 international officers who attend about three-fourths of the course.

CHART E-3—FACULTY COMPOSITION AT NAVY PME SCHOOLS

	Civilian	Military	Total	Students	Student/Faculty Ratio
College of Naval Warfare (CNW) <sup>1</sup>	29	51	80	<sup>2</sup> 230	<sup>3</sup> 2.9:1 (5.0:1)
College of Naval Command and Staff (CNCS) <sup>1</sup>	29	51	80	168	<sup>3</sup> 2.1:1 (5.0:1)

<sup>1</sup> No tenure. Civilian faculty are hired under contractual terms: 1 year to indefinite. Currently, 6 civilians serve on indefinite contracts. The faculty teach an additional 45 international officers annually at the intermediate level in the Naval Staff College and U.S. Navy reserve officers in separate courses. The faculty also provide teaching support to the Senior Enlisted Academy, the Chaplains School, Surface Warfare Officers School, and the Naval Justice School (these numbers are not included in data above).

<sup>2</sup> Includes 40 international officers who are combined with the senior U.S. students for two-thirds of the course and travel during the operations trimester.

<sup>3</sup> Naval War College faculty are assigned to one of three departments. Faculty in each department teach in the CNW during one trimester and in the CNCS during a second trimester. The third trimester is used for course development and study. The student-to-faculty ratio for the Naval War College as a whole is 5.0:1 (398 students to 80 faculty).

CHART E-4—FACULTY COMPOSITION AT AIR FORCE PME SCHOOLS

	Civilian	Military	Total	Students	Student/Faculty Ratio
Air War College (AWC) <sup>1</sup>	14	47	<sup>2</sup> 61	<sup>3</sup> 243	4.0:1
Air Command and Staff College (ACSC) <sup>1</sup>	0	121	121	<sup>4</sup> 565	4.7:1

<sup>1</sup> No tenured faculty.

<sup>2</sup> This total does not include an additional 2 civilian and 17 additional military faculty members as of October 1, 1988; the new student/faculty ratio is 3.0.

<sup>3</sup> Includes 36 international officers who attend the entire course.

<sup>4</sup> Includes 71 international officers who attend about one-half of the course.

CHART E-5—FACULTY COMPOSITION AT MARINE CORPS PME SCHOOLS

	Civilian	Military	Total	Students	Student/Faculty Ratio
Marine Corps Command and Staff College (MCCSC) <sup>1</sup>	4	<sup>2</sup> 18 (12)	<sup>3</sup> 22	170	<sup>4</sup> 7.7:1 (14.2:1)

<sup>1</sup> No tenured faculty.

<sup>2</sup> The staff and faculty include 18 military officers and 4 civilians (the 4 civilians teach writing communication to 80 percent of the students). These 22 core staff and faculty are augmented by adjunct faculty (17 Marine Corps Reserve officers who each teach a 27-hour elective), instructors from other schools, and faculty from the Amphibious Instruction Department (31 officers) of the Education Center at Quantico. The Amphibious Instruction Department faculty teach specific functional areas associated with Amphibious Operations (about one-half of the curriculum).

<sup>3</sup> Numbers in parentheses include classroom faculty advisors only.

