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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*.¹ 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

¹ 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.² 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-

² 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."³ 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

³ 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. ¹
Senior.....	National Military Strategy.
Intermediate.....	Combined Arms Operations and Joint Operational Art. ²
Primary.....	Branch or Warfare Specialty. ³

¹ 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.

² 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.

³ 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.⁴ 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

⁴ 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,⁵ 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).

⁵ 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.⁶

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

⁶ 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,¹ 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

¹The 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 ¹	Total ¹
Senior schools:			
National War College.....	13	21	34
Industrial College of the Armed Forces.....	18	24	43
Army War College ²	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

¹ 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.

² 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 ¹	Faculty	Student/faculty ratio	Faculty per 100 students
Senior schools:				
National War College	173	34	5.1:1	20
Industrial College of the Armed Forces	227	43	5.3:1	19
Army War College ²	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
Intermediate schools:				
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

¹ Student numbers include U.S. officers, civilians and international students. See Appendix E for details.

² 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 ¹	Highest academic education level: (percent of total faculty)					Military faculty ²	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 ³	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 ⁴	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 ⁵	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%)

¹ 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.

² Army War College data as of July 1988.

³ Only 127 of the 221 military classroom faculty (58%) at the Army Command and General Staff College have completed that school in residence.

⁴ 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.

⁵ Of 121 staff and faculty at Air Command and Staff College, about 90 moved directly to their faculty position after attending the resident course.

⁶ 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 ¹

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

¹ 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. ¹ military students
Senior.....	437	427	864
Intermediate.....	703	1,308	2,011

¹ 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: ¹		
CGSC	\$49,210	\$47,141
AWC: ²	47,800	47,800
Air Force: ³		
ACSC	\$97,138	\$98,919
AWC	121,348	121,933
Marine Corps: ⁴		
MC CSC	\$65,203	\$66,203
Navy: ⁵		
Both schools (CNW and CNCS)	\$45,000	\$43,000
National Defense University: ⁶		
NWC	\$9,387	\$8,810
ICAF	11,788	11,260
AFSC	⁷ 26,000	26,300

¹ Includes operations and maintenance, Army (O&MA); direct and mission overhead plus base operations and military personnel, Army (MPA).

² Does not include per diem, travel, student pay, or permanent change of station (PCS) costs.

³ Includes all direct academic, college administrative, and military/civilian compensation expenses.

⁴ Includes pay and PCS costs.

⁵ Includes student pay; without student pay, costs equal \$9,316.

⁶ Excludes student pay; with student pay costs are \$116,000 and \$113,000.

⁷ Excludes students' salary and moving costs.

⁸ 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 ¹ as percent of core	Hours		
		Core ²	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

¹ Auditorium lectures, panels, symposiums, and films.

² 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.....	(¹).....	(¹).
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.

¹ 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.