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REVIEW OF ARMY OFFICER EDUCATIONAL SYSTEM

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VOLUME II.

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CHAPTER 1

INTRODUCTION

Section I. BACKGROUND

1-1. Study Directive

At the direction of General Westmoreland, this review has the broad mission of recommending changes in the Army officer educational system which will better prepare our officers to meet the challenges of the seventies. The study directive for conducting this review is shown in Appendix A. A detailed approach to the review is given in Appendix B.

1-2. Philosophy

This review recognizes that our officer educational system has been a principal strength of the Army for many decades. Although the Army now is undergoing troublous times, these difficulties cannot be attributed directly to inadequacies in that educational system. Hence, this is no time for abrupt change. Conversely, it is no time for educational stagnation. There are new and significant forces at work in the Army, in the Nation, and in the world which demand recognition and evaluation. These forces may well call for changes in our existing educational system--perhaps drastic changes. Wherever justified, we should welcome change with the assurance that we will have an educational system that will serve the Army as ably in the future as the existing system has served it in the past.

1-3. Technique of Review

Personal visits were made to all Army schools, to selected schools of our sister Services, and to industry and civilian educational institutions. During these visits, I found a tremendous amount of original thought and ideas about our educational system, so the task confronting me became one of synthesis of existing thoughts and ideas rather than the conduct of original research or the development of new concepts.

1-4. Relationship to Haines Board

a. A far-ranging and intensive review of the Army officer educational program was completed by the Haines Board, with the submission of its report to the Department of the Army in February 1966. The Haines Report is acknowledged throughout the Army as marking an important milestone in our military educational effort. This current review is designed to complement and reinforce the Haines Board, not supplant it. Several matters considered in this review, as well as some recommendations, are already fully developed in the Haines Board Report.

b. The Chief of Staff indicated that he did not expect a duplication of the Haines Board effort; rather, he wanted the Army educational system examined primarily from a policy and philosophical approach which would serve to develop important issues. Therefore this report, though empirical, does not lean heavily on statistical support. It gives references, research data, and statistics only when essential to validity, accuracy, or emphasis.

1-5. Validity of Comments

Since this report is primarily personal and subjective, a question naturally arises as to the validity and accuracy of many of the comments. Normally, the statements which are derived from my visits to schools are not statistically supported because they do not stem from a formal questionnaire or from intensive recordkeeping. However, I am confident that in controversial areas this report accurately reflects a consensus of the individuals interviewed. Interviewees were a representative sample of three principal constituencies: commandants, faculties, and students. Moreover, when more than one school was involved, the consensus of a majority of the schools is expressed. For example, "unanimous support" for the existing organization, command, and control of the school system does not mean that all individuals support all aspects of the existing system in all circumstances. It does mean that the consensus of the majority of the schools was that the existing system is very good and need not be changed. Alternatively, when Advanced Course students were highly critical of the course and believed it could be improved substantially does not mean that all students were dissatisfied with all aspects of the course. Again, it simply means that a majority of the students were highly critical and that in their opinions much could be done to improve the course.

1-6. Other Study Efforts

This review occurred during a particularly intensive period of activity involving the Army officer educational system (eight important actions are listed at Appendix C). Each of these ongoing actions can have a substantial impact on the officer educational program (the visits of General Haines and General Newton are already bearing favorable results); and at least two of them--OPMS and VOLAR--may affect fundamental changes in the Army and in the officer educational system. Although informal liaison has been maintained with these ongoing actions, I have intentionally avoided direct coordination with them, again in the interest of self-sufficiency. Also, in the case of OPMS and VOLAR, any attempt to mesh this review directly with actions of such magnitude and importance would produce an unmanageable staff document and would confuse issues rather than clarify them. I have, however, drawn directly upon some actions where their results were translatable to this review, e.g., the History and Leadership efforts. I hope the unavoidable overlap and duplication will, through reinforcement of recommendations which appear to me to be sound, serve to support the common objective of improving officer education.

Section II SCOPE

1-7. The outline of this review is:

Chapter 1 - Introduction
2 - Overview--Environment of the 1970's/Impact on Officer Education
3 - Overview--Roles and Missions of Army Schools/Gaps in Coverage
4 - Basic Course
5 - Advanced Course
6 - C&GSC
7 - Army War College
8 - Civilian Education
9 - Theory of Teaching
10 - Faculties
11 - Evaluation
12 - Organization

13 - Areas of Special Interest--Leadership, History, Interbranch and Interservice Education, Regulations, Academic Facilities, and Educational Innovations
14 - Concluding Comments
15 - Consolidated List of Recommendations and Guidance

Annexes
A - Good Programs
B - Perspectives and Philosophies
C - Costs/Feasibilities/Priorities

1-8. Organization of the Report

a. In the environmental overview, I attempt to isolate and define certain factors or conditions which will predictably have an impact on the officer educational system. Since it is impossible to outline precisely the challenges of the seventies in terms of a requirement for "x" capability at "y" time in "z" nation, I chose to concentrate on some relatively simplistic and evident environmental factors. From this analysis, I derived some basic directions and broad parameters which will condition our educational program. Moving from this broad overview to a narrower scope, I examined the roles and missions of the Army schools with relationship to the types of assignments which Army officers can logically expect. From this, I derived a general appraisal of the effectiveness of the school system in preparing officers for their actual jobs as real-life requires. The scope was then directly narrowed to a separate consideration of each of the five echelons in our educational program (basic, advanced, C&GSC, Army War College, and civilian education). Next a separate chapter is devoted to each of four important subjects (the theory of teaching, faculties, evaluation and organization), and a number of areas of special interest are developed in less detail in a single chapter. Some general comments, and recommendations and guidance, conclude the body of the report.

b. Annexes are included only with the hope that they will be useful background; no recommendations will stem from them. The "Good Programs" (Annex A) are a compendium of specific efforts and activities observed at individual schools; I think these programs merit the attention of other schools and staffs. Annex B on

perspectives and philosophies is a compilation of thoughts, ideas, attitudes, and approaches which strike me as significant; for example, a comparison of the Army officer educational system with the civilian educational system, and a comparison of the Army system with the Air Force and Navy educational system. As for costs, feasibilities, and priorities (Annex C), I had neither the resources nor the capability to project them in the detail required for staff action. Nevertheless, I hope to develop some basic considerations and guidance that will be helpful to staffs as they work on the recommendations.

Section III. RECOMMENDATIONS AND GUIDANCE DEFINED

1-9. "Recommendations" cover issues which are generally clearcut, subject to a yes-no decision, and merit overall direction and supervision by DA and CONARC. For example, "Change the mission of the Advanced courses of the combat support and combat service support branches to include preparation for branch-related staff duties at major headquarters."

1-10. "Guidance" covers issues in the fields of educational policy, philosophy, and approach. Normally, issues are not as precisely defined as those generating recommendations, and effective action on them can often be taken at the school level. An example of guidance is "Branch schools should provide a full, happy, and satisfying year to the Advanced Course student and his family, with special attention to strengthening his career satisfaction and his career commitment."

1-11. The use of guidance rather than recommendations is preferred for some issues because--

a. It is consonant with the directive of the Chief of Staff to address problems on a policy and philosophical level.

b. Guidance permits a greater degree of flexibility and decentralization in taking action on issues than does a formal recommendation.

c. Guidance permits recognition that some schools may already have solved an issue while others have not addressed it at all.

1-12. The fact that an issue is covered as guidance rather than recommendations does not downgrade the importance of the issue. For this reason guidance merits the same review and decision actions as recommendations.

Section IV. RESPONSIBILITY FOR THE REPORT

1-13. As directed, this is a personal report; and I take full responsibility for all of its contents. However, insofar as credit may be due to anyone, my executive officer, LTC Paul E. Suplizio, has performed a uniquely competent job of scholarly research, analysis and contribution. Credit for the work which went into essentially all of the references, footnotes and citations--and much of the substance also--is rightfully his. SP5's Gary Craig and Jack Baker have turned in splendid jobs throughout; 1Lt Anthony Rocco, AGC, and SP4 Mark Lanning were most helpful and efficient in the final production effort.

CHAPTER 2

THE ENVIRONMENT OF THE SEVENTIES AND ITS IMPLICATIONS FOR OFFICER EDUCATION

2-1. Trends and Influences of the Seventies

A brief consideration of the trends and influences shaping the environment of the seventies is in order because:

a. It can portray in broad outline some salient features of the world in which Army officers will have to live and operate.

b. It permits conclusions concerning officer qualities--knowledge, skills, and interpersonal competence--required to function effectively in the future.

c. It illuminates some of the principal factors conditioning the choices, alternatives, and implications for officer education.

The results of this survey will be presented at a very rudimentary level. In no sense do they represent an exhaustive portrayal of all the environmental trends and influences that might be considered, but rather a discussion of certain factors that seem to have an especially significant impact on officer education. These factors are:

- Increased Threat, Decreased Resources
- Continued Antimilitarism
- The Nixon Doctrine
- Continued Sociological Revolution
- Continued Technological Advance
- Increased Specialization
- Educational Explosion
- Undereducated Hump
- Need for Fighting Ability

As Kahn and Weiner have noted,[1] "a basic, long-term, multifold trend" of society may be observed that provides a useful baseline for consideration of alternatives. The factors I have listed are simply one man's judgment of the forces in this basic, long-term, multifold trend that promise to affect officer education. While this environmental appraisal will be very basic and subjective, I think it will be helpful in indicating some general directions our educational effort should take in the seventies.

2-2. Increased Threat, Decreased Resources

There are two principal implications of the "increased threat, decreased resources" situation.[2] The first is that with the extremely limited resources available, the Army must make some very tough decisions on priorities. Where will it get the best return for the dollar? In light of the massive and diversified Communist threat, of our inability or unwillingness to meet the threat on a hardware basis, and of the number of potential conflict situations around the globe, it seems prudent to concentrate on three nonhardware areas where the payoff can be great: intelligence, R&D, and education. In the critical years ahead, these three deserve special weight. I make no attempt to ascribe relative priorities, but it should be recognized that education is the fundamental talent that supports intelligence and R&D.

The second implication is that the Army must be able to get more defense from less resources. This is easy to say, but extremely

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[1]Herman Kahn and Anthony J. Weiner, The Year 2000: A Framework for Speculation on the Next 33 Years (New York: Macmillan Co., 1967).

[2]Admittedly, my environmental appraisal is narrow. For example, as discussed in this report, the threat is viewed solely in terms of the increasing USSR/CHICOM military capability. There is no discussion whether this military threat is directed primarily at the United States or elsewhere. The rapidly shifting international political scene is ignored.

difficult to do. One of the best potential means of getting more from less is found, however, in better management and better command. Both, especially management, can be taught effectively in our officer school system. Hence, a special challenge to the school system in the seventies is to assure that our management and command instruction is timely, adequate, and of high caliber.

2-3. Continued Antimilitarism

Within the United States, antimilitarism has traditionally embodied opposition to a large standing Army, constitutional provisions for Congressional control over the power of the purse and the power to declare war, and the principle of civilian control.[3] After each of our wars there has been a resurgence of antimilitarism, principally in the form of clamor for reduction of the Armed Forces.[4] "Opposition to war and to military preparations for it has been continuous on the part of small religions and pacifist groups, which existed as far back as colonial times. These constant opponents of war have been joined, in particular wars, by diverse groups of people who have believed the war in question to be unjust, immoral, unpolitic."[5] The strain of maintaining an adequate US military posture during the last 25 years of the "cold war" has also contributed. As one distinguished commentator recently told an audience of ROTC cadets:

> The arm that threw the stone that broke the windows in your ROTC buildings this past year had been cocked since 1945. Is it any wonder that it was thrown with such vehemence? Certainly such demonstrations are an expression of the frustration arising from the war in

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[3]Robert W. Coakley, Paul J. Scheips, Emma J. Portvondo. Antiwar and Antimilitary Activities in the United States, 1846-1954 (Washington: Department of the Army, Office of the Chief of Military History, 1970), p. 1.

[4]Ibid, pp. 2, 130-138.

[5]Ibid, p. 2.

> Southeast Asia. But they are also a part of American proclivity to antimilitarism that never found a strong voice after World War II and Korea.[6]

While recognizing that antimilitarism has been a traditional aspect of the American scene, there is a real question as to its scope, virulence, place, and significance in the coming decade. A number of observers view it with a seriousness approaching alarm. Their thesis can be capsuled as follows:

> America is entering a period of continuing and increasing challenge to her social, economic, and political institutions. Many of these challenges stem from value assumptions and premises completely foreign to the American system as we know it. In sum, the issue is not simply reform of the existing order, but fundamental alteration of the character of the order itself. In such circumstances the Army, which is the ultimate bulwark of the existing order, will be viewed with increasing hostility by those in the society calling for fundamental change. Those of this persuasion will tend to view the Army almost exclusively as a domestic political opponent, with the concomitant view that anything that injures the Army and tends to reduce its power is good because it all the more weakens the established order. To this basic antagonism must be added the power of the communication media in shaping opinion, the Army's "domestic order" mission which has brought it into head-on confrontation with dissident domestic elements, and the widespread disenchantment with the military among academicians, especially the younger group.

If the foregoing thesis is correct, the outlook is not bright for a cooling off of antimilitarism when the Vietnam War ends. Rather, antimilitarism would remain at a high level and even escalate, depending upon domestic tensions.

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[6]Brigadier General Robert N. Ginsburg, "Antimilitarism in Perspective," Supplement to The Air Force Policy Letter to Commanders No. 10-1970 (Washington: 1970).

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This view is not shared by all; many acute observers arrive at a much less serious appraisal. They adhere to the traditional "peak-and-valley" theory which postulates that the military will move from its valley without direct and continuing opposition from elements of current concern. This view is not complacent--it recognizes that the military must do a lot of bootstrapping. But, assuming this is accomplished, a much more favorable attitude toward the military will evolve.

Without attempting to reconcile or resolve these views here, it seems that our educational system should recognize that antimilitarism can be a highly important force in the seventies. Further, it seems prudent to take a serious view of its scope and potential, while hoping for the best. In that context, the implications of continued antimilitarism for officer education include the following:

a. The officer of the future must be educated in the forms antimilitarism can take and its sources in various social strata and ideological opinions. This includes not only traditional issues such as civilian control and size of the Army, but modern issues associated with the Army's role in quelling domestic disorders.

b. Officers must be prepared psychologically for existence in a neutral or potentially hostile environment. They must be able to inculcate in their men a balanced understanding of antimilitarism in order to mitigate its detrimental effects upon morale.

c. Increased weight should be given to education in the communications skills, especially how to handle the military position in a hostile audience.

d. Officers must be prepared in cases of civil disturbance to play a role in situations that will provide a severe test of their humanity and professionalism. It goes without saying that they must possess wisdom and prudence and be consummately well educated.

2-4. The Nixon Doctrine

While the Nixon doctrine is but one of many factors conditioning the U.S. role in world affairs, it is symptomatic of a basic trend which may be described as the evolution of a "new pragmatism" in

American foreign policy. The origin of the new pragmatism lies in the improvement of relations with the Soviet Union since the death of Stalin, the current thaw in relations with Communist China, American disillusionment with the policy of containment as a result of the Vietnam War, and a sharp increase in social and political ferment calling attention to domestic ills. The ultimate effect of urgent domestic priorities, the demise of containment, and the rise of pragmatism in discerning national interest foreshadow a less dominant U.S. political and military role in the world arena. 18

One may decry these developments. But as indications of the shape of things to come, they must be dealt with. A foreign and military policy can only be effective as the underlying consensus that supports it. It is the dissolution of the anti-Communist consensus of the fifties that has unhinged the strategy of containment as a viable basis for U.S. foreign and military policy today. The Nixon doctrine is a response to the dissolution of this consensus and the need to establish U.S. foreign policy on a more pragmatic base.

It is extremely difficult to develop precise implications from the Nixon doctrine, because these will become apparent only through practice and application of the doctrine itself. Nevertheless, it is certain that the doctrine calls for a "lower U.S. profile" internationally. This means reduced formal commitments of U.S. troop units overseas and, conversely, increased importance of the few U.S. military people who do remain overseas, especially those in MAAG's and missions. A second implication is the increased importance of training allied officers in our schools so that they not only learn our military techniques and professions, but also become acquainted with the United States at large. From an educational standpoint, these trends suggest the need for a very high level of support of the Military Assistance Officer Program conducted by the Institute for Military Assistance at Fort Bragg, and for increased emphasis on the allied officer educational program.

As a further consequence of shifting attitudes of the American people, the large peacetime military establishment built after World War II and sustained by "automatic" defense budgets and a peacetime draft is under fire. The rationale for these forces and institutions has of course resided in the nature of the Communist threat and the doctrine of containment. If these concepts are no longer considered valid, a rethinking of our strategy must be the first order of business

in the seventies. The rationale for forces in being and their supporting budgets will come under closer scrutiny. The draft may not last the decade. These factors will radically alter the setting within which U.S. defense policy has been cast since World War II.

To summarize, the important implications of the Nixon doctrine and the new pragmatism in foreign affairs include:

a. Officers will have to develop perspectives consistent with the new outlook, just as perspectives were shaped by the policy of containment during the cold war.

b. A rethinking of the strategy and force implications of the new pragmatism, in view of changed assumptions about the threat and the limits of U.S. involvement in dealing with the threat, must go forward.

c. This rethinking should embrace not only military strategy but the total strategy for dealing with instability and insurgency in modernizing nations.

d. In keeping with a less dominant role for the United States in the world arena, MAAG's and missions will assume greater importance even as their visibility is reduced; consequently, the best possible educational program for military assistance advisors is called for. This education should embrace the entire spectrum of social, economic, political, military and intelligence measures to assist friendly governments to preserve stability and defeat incipient insurgency. Special consideration should be given to developing political awareness and sophistication; for the consequences of political naivete in the advisory role can be severe. This will require continuing and strong support for the MAOP program.

e. Continued emphasis must be given to training allied officers in the United States.

2-5. Continued Sociological Revolution

The continuation of the social revolution has special implications for the military and its educational system, primarily because we are a disciplined element of an assumedly democratic society. The overall question of how to maintain discipline in a society undergoing this sociological revolution is a most difficult one; yet it is one which the

military must face, and is one where the educational component can be significant. The principal implication of the sociological revolution apparently rests in the leadership field, because it certainly poses new dimensions of difficulty and complexity to military leaders--from corporal to four stars. The broad educational implications are evident: first, the Army must develop and maintain a leadership instructional program of the highest caliber; second, it must establish the authority of leadership on the soundest possible footing, overcoming the crisis of authority engendered by the new lifestyle and influx of those with values and beliefs not necessarily compatible with the traditional military ethos.

It may be useful to examine certain aspects of the leadership problem posed by the sociological revolution at the various echelons of command.

a. The junior leader (lieutenant, captain) in today's Army confronts command problems which differ radically in scope and dimension from the problems which previous generations of junior Army officers have faced. It is hardly an exaggeration to say that most of the socio-psychological issues of our times (drugs, dissent, racism, "participatory leadership," etc.) come to a direct and inescapable focus at the level of the junior leader. For example, we not infrequently find a very junior, unsophisticated, and inexperienced OCS platoon leader being challenged on philosophical, moral, and ideological issues by extremely well-coached and glib enlisted personnel. This same lieutenant is literally in the front line on racism and drugs. The difficulties posed by this situation and the extraordinary burden which today's junior officer must try to bear are obvious.

b. On a comparative basis, I believe it is accurate to say that this is the first time in the Army's history that the junior leader has been required to carry the heaviest, most arduous, and most difficult part of the command problem. Of course, in all active combat in all wars, the junior leader did most of the fighting and the dying just as he does now. However, in almost all past circumstances, his command and leadership problems, once a decision has been reached, were relatively simple. He almost never faced the current problems--How am I going to get my men to do this? Whether my men are going to do this or not is a big question? Will I get in more difficulty trying to straighten this particular disciplinary problem out, or will I get

into more difficulty by ignoring it? Two of our most ominous current problems--racism and drugs-- simply did not exist as significant factors for past leaders. In brief, the focus and degree of difficulty of the leadership problem have shifted so that the junior leaders and smaller units now face the biggest problems. The commanders of these units simply lack the experience, maturity, and intellectual competence to handle them well.

c. A special dimension of the junior leadership problem which was brought forth by a number of experienced company commanders and instructors is the role of the second lieutenant. These officers stated that the bulk of today's lieutenants tend to associate themselves, within the organizational structure, with the junior enlisted men rather than with the officers and the senior NCOs. The comment was made that when today's second lieutenant speaks of "we," he is not speaking of the corporate "we" as the leadership of the company. Rather, he is speaking of "we" as being himself and the junior enlisted men. He tends to align with them rather than with his company commander and the senior enlisted men. This, of course, puts a special strain on the command relationship between the captain and the second lieutenant, to say nothing of the senior enlisted personnel involved.

2-6. Continued Technological Advance

While continued technological advance can be safely predicted, I would not hazard a guess as to the rate of advance given the rise of an influential body of opinion which advocates more stringent social control of the uses of technology.[7] Nevertheless, important new technological advances are in the offing and these will be significant enough to greatly alter both the external environment of the seventies and the internal structure of the military organization seeking to adapt to that environment. Technological advance will be particularly evident in transportation, communications, computers, energy,

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[7]See Technology: Processes of Assessment and Choice, Report of the National Academy of Sciences to the Committee on Science and Astronautics, U.S. House of Representative, July 1969.

space, weather control, organizational processes, travel, oceanography, microbiology, and bioengineering.[8] Of these, the last mentioned, with its potential for animal and human engineering brought about through the discovery of DNA, poses the most profound ethical dilemma. However, the rapid pace of undersea exploration and consequent competition for minerals and other resources seems potentially the most explosive in the near time frame. As one astute observer has noted:

> In the brief lifetime of the protesting youth of today, we have had four major epochs--the atomic age, the computer age, the space age, and the bioengineering, or DNA age. Each of them is as significant as the Bronze Age, the Iron Age, the Rennaissance, or the Industrial Revolution, and all have been telescoped into the postwar years.[9]

While this brief review is not the place to highlight the consequences of all these developments, attention may be focused on certain factors of considerable significance to society and the Army. These are:

a. The rise of highly technical economies in the United States and most of the other industrialized nations. This means most of the labor force is engaged in the production of services--transportation, communications, data processing, finance, education, government, research and development--rather than the production of goods. This

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[8]For discussion, see the following:

* U.S. Army Combat Developments Command, Man and the 1990 Environment (Washington: 6 July 1970).
* Alvin Toffler, Future Shock (New York: Random House, 1970).
* U. S. Department of Labor, Bureau of Labor Statistics, Technological Trends in Major American Industries, Bulletin 1474, (Washington, 1966).
* Syracuse University Research Corporation, The United States and the World in the 1985 Era (Syracuse, N. Y.: 1964).

[9]Lord Ritchie Calder, "The Doctor's Dilemma," The Center Magazine, (Vol IV, No. 5, Sep-Oct 71), p. 72.

has important implications for the skill composition and educational requirements of the economy from which the Army must draw its manpower.[10]

b. The computer and information processing revolutions ("the Second Industrial Revolution"). These lead our advance into a largely uncharted post-industrial, technetronic era which will shape and reshape American society (and the Army along with it).[11]

c. Not only are new fields emerging as a result of continued technological advance, but a less glamorous process of subspecialization is taking place within existing fields of endeavor as a result of large-scale development of new knowledge and more complex and sophisticated innovation. Even professions that were once rather homogeneous, such as law, medicine, engineering, and physics, have today spawned numerous subspecialties in response to the process of knowledge accumulation and professionalization of those choosing careers in the subspecialties. The same kind of trend is evident in the Army where the Signal Corps, for example, embraces rather clearly defined subspecialties such as communications systems engineering, frequency engineering, systems logistics, and electronic warfare. Also, the Corps of Engineers includes such functional areas as facilities engineering, contract construction, and cartography. The knowledge and techniques utilized in these areas have reached such a level of sophistication that it is possible for some officers to spend a full career in these fields. Indeed, this is becoming increasingly necessary to maintain a modicum of expertise. A further and related result of technological advance is the emergence

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[10]Frank Armbruster and Doris Yokelson, Contextual Planning for NASA: A Second Workbook of Alternative Future Environments for Mission Analysis, Hudson Institute Interim Report II, Volume II (Croton-on-Hudson, N. Y., 1971), pp. 309-316.

[11]Zbigniew Brzezinski, Between Two Ages--America's Role in the Technetronic Era (New York: Viking Press, 1970).
Daniel Bell, "Notes on the Post-Industrial Society," The Public Interest, (Nos. 6 and 7, Winter and Spring 1967).
Peter Drucker, The Age of Discontinuity (New York: Harper and Row, 1970).

of hybrid profession such as economic historians, mathematical physicists, and bioengineers. The branch aviator is perhaps the best example of a hybrid professional in the Army. However, the Army can expect to experience continued development of this sort in response to newly emergent techniques. For example, the inventory-in-motion concept tends to establish a requirement for officers who are expert not only in supply but also in transportation.

d. The changing technological environment is bringing to the fore new forms of organization and new management techniques. The management of complex technical enterprises in a setting of widespread potential for technological innovation places a premium on organizational adaptability and responsiveness. As one observer has noted:

> The normal condition facing Air Force managers is change. Dealing with the new and unexpected has become routine, while the problem that can be solved in the same way as yesterday's problem is the exception. The only certain prediction that can be made for the future is that rates of change will increase while permanence--in technologies, skills, jobs, organizational relationships, and missions--will decrease. . . . Such changes, along with significant changes in technology, reflect developments that may force a revolution in defense management and organization and create the need for serious focus on the needs for organizational self-renewal. A few of the changes called for by this revolution may be reduction in levels in the hierarchy, implementation of systems management with reduced reliance on formal functional authority, organization around information systems, widespread elimination of routine jobs, changes in the kinds of skills most highly valued and rewarded, upgrading of responsibility, and a greater concern for the individual in personnel policies.[12]

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[12] David C. Korten, "New Directions for Air Force Leadership--Design for Organizational Renewal," Air University Review, Nov-Dec, 1970. pp. 59-68.

e. Lastly, technological advance is a principal factor responsible for educational obsolescence as new knowledge is generated and previously learned knowledge and skills become obsolete.[13] Our highly technical, service-oriented society with its inherent capacity for continued technological progress has many significant implications for officer education. Some of these are:

(1) Technical advance will generate requirements for officers with knowledge and skills in newly emergent fields of potential military significance, such as oceanography, weather control, and cybernetics.

(2) Burgeoning knowledge and increased complexity of technical innovations will increase the educational investment required in some fields. To illustrate, Signal and Air Defense branches, both highly subject to technical change, have found it necessary to conduct lengthy courses for selected officers in critical areas: Communications-Electronics Systems Engineer Course (54 weeks) to train officers in the engineering and planning activities involved in the employment of military communications; the MOS 1181 Course (33 weeks) involves comprehensive study of the physical sciences associated with mechanical, electrical, and aeronautical engineering and includes a follow-on graduate program leading to a masters degree.

(3) Educational and technical obsolescence will impose an increasing requirement for the professional military education system to institutionalize the process of continuing education.

(4) Technical advance is pushing the Army toward increased specialization to develop and maintain essential expertise. Pay-off of an educational investment should be completed before obsolescence sets in. The longer the education, the larger the payoff. Utilization tours should be interrupted by as few skill-immaterial assignments as possible to maintain proficiency. These considerations will continue to lead farther away from the concept of every officer a generalist and will impact upon officer career patterns, the philosophy of officer career development, and career management practices.

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[13] Toffler, Future Shock.

Changes in career patterns will naturally influence the type of education or training an officer should receive.

(5) A service-oriented economy will demand new skills, many of which will also be required by the Army. In a no-draft or low-draft environment, the Army will have the choice of either hiring trained people from civilian life or of conducting the training itself. In either case, it will be necessary to be more selective, tailoring procurement or training more closely to actual requirements. The system of branch assignment of ROTC cadets and the whole program of junior officer procurement may have to be more closely related (except for the combat arms) to disciplines in which the Army has requirements. The concept of training to stockpile particular military occupational specialties will be increasingly inappropriate because of the higher costs associated with obsolescence of knowledge.

(6) Technological advance will profoundly affect Army organization and management. The future will see more use of team management--ad hoc working groups specially created for a particular purpose and dissolved when the purpose has been achieved, more lateral communications to reduce response time, and more experimentation with new organizational forms.[14] A greatly enhanced capacity for flexibility, made possible by the computer and modern communications, will reshape the traditional hierarchical structure and improve organizational responsiveness and problemsolving. Management capabilities (ADP, systems analysis, decision theory) and managerial functions required by a shifting organizational setting will be important components of professional military education.

(7) Effective communication with the scientific and technological community in government, business, and industry will continue to pose a requirement for a certain number of Army officers, mainly in the R&D field, who have a level of educational attainment equivalent to their civilian contemporaries.

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[14]See Toffler, Future Shock, Chapter 7; USACDC, Man and the 1990 Environment, Vol II; SURC, The United States and the World.

(8) Changing technology will continue to impact heavily on the Army school system, adding new courses and at times new schools. Adjustments in the structure of the school system will become increasingly complex as traditional lines of differentiation among schools become blurred. For example, a systems approach to the supply and transport functions produces a requirement for specialists capable of integrating these functions. Where should these officers be educated? The present Army school system is mostly a product of the First Industrial Revolution, the principal branch schools having been established between 1860 and 1930. The Second Industrial Revolution will reshape Army requirements and will pose continued problems of readjustment and renewal within the traditional schools, as well as leading to formation of new schools. This process is already evident in the creation over the last two decades of the Army Logistics Management Center, Army Management Engineering Training Agency, Defense Computer Institute, and Defense Project Management School.

2-7. Increased Specialization

Skill diversification as a consequence of technological progress is an evident trend within the military and raises important questions concerning education, organization, and career development.[15] The trend toward increased specialization in the Army and the other services is reflected in the five tables in Appendix D. For all of the military services, the percent distribution of technical enlisted personnel (electronics, other technical, mechanics, and repairmen) increased from 39.1 percent in 1953 to 48.5 percent in 1967; for the Army the corresponding increase was from 24.3 percent to 37.4 percent. During the same period, the percentage of ground combat troops in the Army declined from 34.4 percent to 26.2 percent; administrative, clerical, and service personnel reflected a similar decline. In the society at large, professional and technical workers have been the fastest growing segment of the labor force, increasing from 7.5 percent in 1955 to 14.5 percent in 1969.[16] The trend toward

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[15]Morris Janowitz (ed), The New Military (New York: Russel Sage Foundation, 1964).

[16]U.S. Department of Commerce, Bureau of Census, Statistical Abstract of the United States 1970 (Washington, 1970), Table 334, p. 225.

increased specialization in the officer corps is also reflected in the emergence of the 11 officer special career programs. These programs are in fields of critical Army-wide importance that do not fall within the career development pattern of any single branch. Current Army policy requires members to maintain branch proficiency and to perform alternating assignments in their branch and specialty areas. This attempt to straddle two stools is becoming increasingly difficult as branch and specialty functions become more complex and obsolescence of knowledge occurs at a faster rate. Full-career and mid-career specialization, including repetitive assignments in specialty areas, is one of the principal innovations of the new Officer Personnel Management System (OPMS) currently under review (see Appendix C).

A special survey of 3,563 special career program members conducted by OPO in November 1967 found that:

- Fifty-two percent of those in the special career program had a master's degree or higher, compared to 27 percent for all Army officers of comparable grades.

- Sixty-six percent had attended Command and General Staff College or higher, compared to 22 percent for all Army officers of comparable grades.

This reflects not only the advanced level of education desired, but also the high degree of selectivity. Also, the largest proportion of officers (62 percent) have 10 to 20 years active Federal commissioned service when selected. (Only six percent entered with less than five years of service; 23 percent with 5 to 10 years.) At the time of the survey, 71 percent of the members were not assigned to a position officially designated to be filled by a special career program officer. A large majority had favorable attitudes toward the program, evidenced by the fact that 82 percent indicated they would advise qualified nonmembers to become program participants. Sixty-eight percent said they entered a special career program because special prior knowledge and qualifications would make them of greater value to the Army through participation, or they anticipated a greater degree of job satisfaction. Two-thirds believed that the most appropriate assignment policy for program members would be to alternate between special career field and branch material command or staff positions. However, when asked to indicate a preference among

possible changes to improve special career programs, the largest proportion (31 percent) believed that creating longer stabilized tours of duty for members would most improve the programs.[17]

A November 1967 sample survey of military personnel disclosed favorable attitudes toward specialization on the part of commissioned officers in general (Appendix E). The largest proportion (39 percent) believed that the most effective Army officer was half specialist and half generalist. Junior officers as a group revealed a significantly higher preference for specialization than seniors did. The same survey disclosed that while 48 percent of commissioned officers favored alternating assignments between branch and special career positions as the best assignment pattern for officers participating in special career programs, a substantial number--39 percent-- favored consecutive duty tours in the special career field (13 percent had no opinion).[18]

The favorable attitude of junior officers toward specialization is confirmed by my own discourse with Basic and Advanced Course students at virtually all the branch schools. If anything, my impression is that the trend is toward greater acceptance of specialization and greater willingness to specialize, provided this is not detrimental to one's career. The complexity of the functions performed by today's officer, the rapid advance of technology, and the growing obsolescence of previous knowledge all serve to impress the young officer with the impossibility of mastering a large number of skills and the greater danger of getting out of one's depth in making the transition to a new skill. They seem to feel they can obtain a greater degree of career satisfaction from assignments that utilize and develop the skills they possess and give them an opportunity to remain in a field they enjoy working in. Whatever the source, the attitude is real and apparently

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[17]Office of Personnel Operations, DA Survey of Participants in Army Officer Special Career Programs as of November 1967, OPO Report 10-68-E (Washington, 1968), pp. 5, 12.

[18]Office of Personnel Operations, Sample Survey of Military Personnel as of 30 November 1967--Survey Estimate of Opinions of Male Commissioned Officers Concerning the Officer Special Career Programs, OPOPM Report 18-68-E, Tables G and O (Washington, 1968).

here to stay. I expect the trend toward increased specialization in the Army and civilian world to continue into the future as a result of the following forces: 30

a. Continued technological advance, with consequent subdivision of old specialties and spin-off of new specialties.

b. Increasing technical job content which places a premium on expertise.

c. Continued accumulation of new knowledge and increased requirements for educational updating.

d. The need to obtain a payoff from education before obsolescence of knowledge occurs.

e. The need to stay in touch with new developments within a specialty, making it increasingly difficult to be an intermittent specialist. Conversely, the need to ensure that the specialist attains an adequate perspective of the larger scheme of things.

f. The increasing status and prestige of many specialties and subspecialties, giving them considerable career attractiveness.

The trend toward increased specialization has important implications for officer education and career development. Most important from an educational standpoint are:

a. The proper balance of military and civil schooling for the specialist officer.

b. The problems of continuing education for specialists.

These questions can only be fully answered in the context of the career patterns and career development policies applied to specialists. The concepts of full-career and mid-career specialization now under consideration by the Department of the Army, which are themselves a response to the trend toward specialization, will consequently impact on the type of education required and the manner of its accomplishment.

2-8. Educational Explosion

The educational explosion suggests at least four important implications for the Army educational system. First, the educational advances of the past decade will continue to upgrade the formal educational level of U. S. society. To illustrate, during the decade 1958 to 1968, the national output of master's degrees and doctorates increased 164 percent. During the decade 1968 to 1978, the U. S. Office of Education projects the percentage of increase in graduate enrollment to be almost twice the percentage of increase in undergraduate enrollment.[19] This means the status of the baccalaureate degree is decreasing, and the master's or postgraduate degree is beginning to assume the status ascribed to the baccalaureate. Note that the decrease in the status of the baccalaureate does not necessarily connote a decrease in its importance. In this age of credentialism, the baccalaureate is a minimum entree for many positions.

Second, sharply rising aspirations for higher education among today's youth will influence the Army's ability to attract and retain quality officers. When the West Point Class of 1970 was asked what was the highest academic degree they expected to earn, the response was: 6.5 percent, baccalaureate; 59.5 percent, master's; 29.5 percent, doctorate; the remainder, professional. This means that 89 percent of this class aspired to attain at least a master's degree. Thirty-three percent said they would leave the armed service if they could not attend graduate school; 38 percent said they might leave. Thus, the career plans of 71 percent of the class were related to the opportunity to pursue an advanced degree.[20] In sharing this aspiration for higher education, West Point cadets were not different from

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[19] U. S. Office of Education, National Center for Educational Statistics, Digest of Educational Statistics 1970 and Projections of Educational Statistics to 1978-79 (Washington: United States Government Printing Office, 1970).

[20] USMA Office of Research, Results of First Class Questionnaire Class of 1970 (West Point, N.Y., July 1970).

students in the United States in general,[21] or from students in the USSR.[22] Not surprisingly, there has been a dramatic upsurge in aspirations of students from lower income groups.[23] A principal implication of the broadening participation in higher education by students with a wide range of abilities is increased diversity in socio-economic background, outlook, and talent. Accommodating to this diversity will be a major task of the officer education system in the seventies (for discussion, see chapters 4 and 5).

Third, there are important trends and directions at work in the higher civilian education fields which will influence our military effort. As of now, not much concrete change is evident in the civilian area, but the outline and mandate for change have been drawn by some recent excellent studies--for example, Dr. Frank Newman's Report on Higher Education and the fine series by the Carnegie Commission on Higher Education. These studies forecast: increased emphasis on continuing education of the individual after he finishes formal college training; broadening educational opportunities for adults; multiple paths to learning, to include expansion of certification by examination; diversification of educational methods and increased use of mechanical aids to teaching; and the "college without a campus," with liberal transfer of credit provisions. Since the Army's professional military education is essentially "continuing education of adults," the parallel with civilian trends is real and our opportunities for mutual improvement are great.

Fourth, progress in instructional technology is another major factor on the educational horizon. Application of technology to education has progressed steadily for more than a decade and is rapidly approaching the takeoff stage. As if to herald this, the

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[21] Joseph Froomkin, Aspirations, Enrollments, and Resources: The Challenge to Higher Education in the Seventies, U.S. Office of Education Pamphlet OE-50058 (Washington: GPO, 1970).

[22] Zev Katz, "Sociology in the Soviet Union," Problems of Communism, Vol. XX, No. 3, May-June 1971, p. 35.

[23] Froomkin, Aspirations, Enrollments, p. 2.

McMurrin Commission[24] recommended in 1970 the establishment of a National Institute of Instructional Technology and initial expenditure of over $500 million for research, development, application, distribution, and training functions. Although the Commission's recommendations have not been implemented thus far, the report is clear evidence that technology has perhaps the greatest potential for revolutionizing the future of education.

Further, the implications for military education are clear. We must recognize that we stand at the threshold of potentially revolutionary change in educational processes. We must seek to grasp the new technology, not as a piece of hardware to be used an an adjunct to favored teaching methods, but as a powerful tool for reshaping the total learning process. We must grapple with the problems of application, adopting a systems approach to reconfigure the relationships among teacher, student, and machine to yield optimal learning.

Finally, we must prudently discern the capabilities and limitations of new hardware; must not fall victim to fadism, novelty, or desire for prestige; must not invest heavily in new systems until their use is fully understood, personnel are trained, and technicians specializing in instructional support are available; and must continually raise the question of the cost effectiveness of the new systems versus alternate means of accomplishing the training or educational mission.

Dr. McMurrin has described recent advances in educational technology as an off-shoot of the Second Industrial Revolution--the revolution in communications and information processing of the past two decades. Applied to education, this technology has three major implications:

a. It permits individualization of instruction, thereby taking advantage of recent advances in learning theory which stress the crucial significance of individual differences in motivation, aptitudes, and ability. This point should be related to the extraordinary diversity of students in Basic and Advanced Courses.

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[24] To Improve Learning, Report of the President's Commission on Instructional Technology (Washington: GPO, 1970).

b. It bridges the gap between school and workplace (as when TV brings real-life activities into the classroom), thereby reducing the possibility of academic isolation and permitting the school to stay abreast of developments. It also helps quench the insatiable thirst for "relevance" on the part of today's youth. In recent years psychologists and educators have been trying to come to grips with the fact that a great deal of learning takes place outside of school. Technology offers a promise of portraying or simulating real-life environments, of rupturing the confines of the campus and extending its boundaries into home and work-place, of vastly enlarging the potential of work-study programs, and most important of all, of permitting alternate paths to learning. These features can obviously be exploited by our military educational system.

c. It achieves further equality in education by expanding opportunities for learning to persons in geographical areas, age group and social and economic classes whose access to conventional institutions has been limited in the past. Here also is an important implication for military education. Soldiers are frequently stationed in geographical areas where they have limited access to civilian institutions. Since time off for schooling is limited, many individuals must pursue their education on their own time. Technology (for example, educational television) expands their opportunities to do so. Moreover, it makes the possibility of continuing education--lifetime learning with its advantage of avoiding obsolescence of knowledge--a reality. The Army can either encourage civilian institutions to produce courses of value to its people, or establish an educational TV network of its own, or both. The promise of the "university without walls" which is implicit in the application of modern communications technology will almost certainly alleviate the problems of residence requirements and credit transfer which have bedeviled Army personnel for many years. These institutional rigidities will very likely fall by the wayside as the campus is extended to the home.

Leaving aside future prospects for a moment, what are the key dimensions of instructional technology today? The following points may be made:

a. Instructional technology is still in its infancy; we have come but a short distance and have light years to go.

b. Much instructional technology is based on sound learning principles, such as individualization and reinforcement. Yet more research, especially learning research, is required before we can begin to exploit the technology to its full potential.

c. The task of applying technology lags severely behind research and development. Solving the myriad concrete problems involved in designing and packaging a system applicable to specific learning situations will require time, dedication, and effort.

d. Technology radically restructures the teaching-learning equation, reconfiguring the relationship among teacher, student, and machine, and casting new roles for them. In thinking about and introducing instructional technology, the soundest approach is a systems approach that considers the total learning process.

e. Instructional technology will not be accepted by teachers overnight. They must be trained in its use. Resistance to change should be anticipated.

f. Instructional technology frequently requires use of specialized assistants whose mission is instructor support. To be successful, specialized instructional resources must be provided.

g. Apart from pilot projects, instructional technology so far has no particularly impressive achievements to its credit. Pilot projects were discounted by the McMurrin Commission because they have not met the challenge of design of a learning package that could be used successfully throughout the educational system. I agree with this assessment. This does not mean that we should halt our pilot projects. It means we should not be too enamored of interim results. The proof of the pudding is in the final installation and output.

h. Thus far there is little or no credible evidence of greater student achievement or learning through use of instructional technology (pilot projects are an exception). This does not mean, however, that instructional technology does not have potential. As explained by the McMurrin Commission, the technology is in its infancy. In the earliest days of the automobile there were no roads, bridges, maps; the automobile had little to show for itself. This did not mean that technology did not have potential.

In sum, the advances being made in educational technology open totally new and promising avenues for our programs. These techniques offer a potential for individualizing and personalizing our educational effort, with resultant substantial economies and improved learning. Alternatively, it must be recognized that these techniques, if unwidely pursued or misused, will result in waste of money and damage to education. Therefore, their selection and use must be the subject of thorough analysis and careful decision.

2-9. The Undereducated Hump

The undereducated hump is a problem peculiar to the Army and poses issues of urgency and importance. The hump occurred because during the Vietnam buildup there was no call-up of Reserves or mobilization; so the Army accepted a tremendous influx of OCS officers whose higher educational experience did not include a baccalaureate degree. The problem is concentrated primarily in the grade of captain where 46 percent of the officers (52 percent of the Reserves) do not have college degrees.[25] As a typical example, consider the Corps of Engineers. The number of officers with baccalaureates who attended the Engineer Officer Advanced Course fell from 94 percent in FY 65 to 43 percent in FY 71.[26] This impacts not only on the level of instruction of our Advanced Courses today, but upon professional standards, management ability, and ability to retain junior officers who will have in the future educational credentials superior to their leaders. Now, many of these officers, who served their Nation well during Vietnam, want to remain in the Army as commissioned officers. The size of this undereducated hump is currently estimated at between 16 to 20 thousand officers (see Appendix F). However, reduction in the size of the Army should reduce this number to about 9 or 10 thousand. It is especially important to note, despite low academic achievements, that this group contains many competent officers who have proven themselves in combat (many with two or more tours in RVN). Furthermore, they served the Army and the Nation well at a time when many more

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[25]Office of Personnel Operations, Civilian Educational Level, Army Department Officers (January 1971).

[26]Source: U.S. Army Engineer School.

educationally endowed individuals were actively evading service. They retain a high motivation for service now and want to be career officers. The Army has a moral obligation to these men. Investing in their education is both practical and fair.

2-10. Need for Fighting Ability

Last, but most important, is the need for fighting ability. The international situation projected for the seventies and the inherent propensity of man for war[27] establish a continuing need for the Army to be able to fight across the spectrum of conflict. Regardless of the distractions incurred as the Army adapts to other trends and developments, the fundamental purpose of the Army and its educational system is to prepare officers to fight across a wide spectrum of force (from the MP's billyclub to the effective employment of nuclear weapons). Consequently, our educational system must not lose its concentration on the conduct of the highest caliber professional military education at each level. This remains the number one priority for the system. Predictably, it will be difficult to maintain this concentration on education for the fighting role because the educational diversions are many, appealing and interesting. If we permit these diversions to occupy too much of our educational program, we will produce a broadly-informed military dilettante who can do everything but fight.

2-11. Conclusion

In conclusion, the moral and institutional strength of the Army in the seventies will depend in large part upon its response to the challenges posed by increasing social and political ferment, reordering national priorities, cultural changes in our society, continued antimilitarism, and pragmatic determination of national interests abroad. The issues will be complex and the possibility of error large, yet the margin for error will be intolerably small. Smaller in size, the Army must seek greater efficiency in utilizing manpower

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[27] "Any study of man and his past clearly establishes war as a human institution," Hanson Baldwin, "No More Wars," Army, August, 1967, p. 40.

to avoid reduced combat effectiveness. It must carefully evolve solutions to the problems of drugs, race, and internal dissent. To maintain cohesion as a fighting force, it must develop new concepts of authority and techniques of leadership in the face of changing technology and cultural values. Accomplishing these tasks will require creativity of the highest order, found only within a well-educated officer corps. As the source of vital intellectual resources, the officer educational system will bear a heavy responsibility for the strength and viability of the Army in the seventies.

CHAPTER 3

AN OVERVIEW
COMPARISON OF EDUCATIONAL MISSIONS OF SCHOOLS WITH PROBABLE STUDENT ASSIGNMENTS TO DETERMINE EDUCATIONAL GAPS

3-1. Introduction

Since the basic purpose of the Army school system is to "prepare individuals to perform those duties which they may be called upon to carry out in war or in peace,"[1] it is useful to examine the school system in the light of this purpose. A simple technique for accomplishing this is to determine how closely the stated educational missions of our schools relate to the assignments which graduates normally receive. That is, does the educational system prepare officers to perform the duties which they can expect to perform? Such an overview can serve as a gross appraisal of the effectiveness of the educational coverage within our system. However, the results of an appraisal must be used with caution. The Army school system cannot provide an educational panacea--it cannot be all things to all officers. There are many excellent ways to educate officers other than formal resident schooling. To mention a few: on-the-job training, nonresident instruction, locally conducted schools, individual study. The formal educational system should not be expected to do it all.

3-2. Educational Sufficiency

Given the foregoing caveat, table 3-1 on the following page summarizes the comparison between educational mission and preparation of the student for assignment.

3-3. Discussion

It is apparent from table 3-1 that three educational gaps (company level duties, combat support and combat service support staff duties, and high level staff duties) and a general condition (terminal education) do exist.

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[1]Paragraph 2-2, AR 351-1.

Table 3-1. EDUCATIONAL GAPS

School	Scope of Mission	Does scope prepare officers for probable assignments?	Gaps
Basic	First assignment (duties of lieutenant)	OK (-)	Company-level duties
Advanced	Command and staff at battalion through brigade. Emphasis on battalion command	OK (-)	CS and CSS staff duties (terminal education)
C&GSC	Command and staff with Army in the field	?	High-level staff duties (terminal education)
AWC	Command and key staff at major military and departmental headquarters	OK	

a. The gap in company level instruction. This gap exists because the Basic Course correctly concentrates on the first duty assignment of the junior officer, and the Advanced Course correctly concentrates on battalion, brigade, and higher levels. The important company level lies in the middle, and is not covered in depth by either school.

My discussions at the schools developed no consensus on the importance of this gap. Some commandants, schools, and students considered it very important; others thought it of minor significance. Generally speaking, I believe the combat arms schools viewed this gap as considerably more important than did the combat support or

the combat service support schools. There was, however, general agreement that administrative and management burdens on today's company commanders in all branches are very substantial, and that our current educational system doesn't prepare officers to meet them. Company officers must learn these onerous tasks on the job with an accompanying high degree of frustration, wasted motion, and inefficiency. This conclusion is substantiated by past studies, such as the 1963 report Basic Officer Courses, prepared by a CONARC board of officers, and by recent questionnaire surveys of graduates made by the Engineer School and others.

In sum, at least the management and administrative deficiencies which result from this gap should be covered somewhere in our educational program.

b. Preparation of combat support and combat service support officers for staff duties. This gap stems from the fact that the stated mission for the Advanced Courses concentrates on the battalion and the brigade levels.[2] This mission statement is precisely correct for the combat arms. However, for the combat support and combat service support branches, there is a need to concentrate not only on the limited battalion and brigade command opportunities within these branches, but also on the branch-related staff duties which these officers will normally perform at many levels in subsequent assignments. Most CS and CSS assignments for Advanced Course graduates

[2]As cited in Paragraph 2-5b(3), AR 351-1, current mission statement for advanced courses is "to prepare commissioned officers for command and staff duties at battalion through brigade or comparable levels in both divisional and non-divisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch."

are branch-related staff duties and that is where these officers must perform professionally. Yet the requirement for professional education in these duties is not specifically recognized in the Advanced Course mission statement.

Certainly paragraph 2-5b(3) of AR 351-1 points out that "Where such command (battalion or brigade) is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills." But to my knowledge, only one Advanced Course recognizes this in the stated mission.[3] At least two branch schools (Ordnance and Quartermaster) have diversified their Advanced Course curricula to include instruction in branch-related staff duties at higher headquarters, but this is not formally recognized in their mission statements.

The issue is no doubt partly one of semantics, but the phraseology of the Advanced Course mission statement is too vague to provide adequate guidance to school commandants on preparation of combat support and combat service support officers for these duties. It would, therefore, be advisable to amplify the mission statement for the combat support and combat service support branches by explicitly stating this major professional demand in the mission itself, and of course to follow up this recognition by appropriate coverage in the curricula.

c. Preparation of Command and General Staff College graduates for high-level staff duties. In fulfillment of its assigned mission, C&GSC concentrates primarily on the command and operational aspects of the Army in the field. The Army in the field is the "heart" of the Army--the Army's basic reason for being--and a strong measure of concentration on its operations is essential. However, the annual production of 972 C&GSC graduates who are especially expert in field operations and relatively uneducated in other areas appears to be disproportionate in view of the diversity of Army requirements.

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[3]In the Program of Instruction of Instruction of the Finance Officer Advanced Course for FY 71, the mission statement reads, in part: "to provide Finance officers with an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills."

Viewed realistically, essentially 100 percent of the C&GSC graduates who become colonels serve at CONARC or higher levels during their careers. Approximately 80 percent of the graduates who become lieutenant colonels serve at CONARC or higher levels. Approximately one-third of each class will serve at the DA staff or higher staff levels immediately following graduation. Effective service on higher level staffs is an important professional requirement. Yet most graduates, finding themselves in such an assignment for the first time, must fulfill this requirement through on-the-job training. The character and complexities of high-level staff functions can be taught at an educational institution like C&GSC. Its graduates would then be better equipped to perform effectively in the assignments they can logically expect to receive.

It is difficult to arrive at a consensus concerning the significance of this gap. There is considerable agreement, with some important exceptions, that C&GSC overproduces command/G3-oriented students, but less agreement on the requirement for formal education to prepare officers for staff functions of a higher organizational level. In my opinion, the gap is important and the education at C&GSC should be reoriented to cover it. This is discussed in detail in Chapter 6, C&GSC.

d. Terminal education. This is not really a "gap." It is more of a general condition that exists because approximately 50 percent of Advanced Course graduates do not attend C&GSC, and approximately 79 percent of C&GSC graduates do not attend a senior Service college. The Advanced Course schools and the C&GSC mark the last formal level of military schooling for these important segments of our officer corps. Essentially all of the officers who do not progress beyond these schools will continue as career officers and serve from 20 to 30 years, many in positions of considerable responsibility.

This raises the question of whether the education in the Advanced Course and C&GSC provides an adequate foundation for continued effective performance of professional duties, especially in an Army and environment undergoing an educational explosion, where the demand for educated officers is increasing. Some recognition of this condition in the statement of mission, curricula, and instruction at the schools appears to be in order.

3-4. Remedial Actions

Remedial actions to compensate for these gaps and conditions are discussed separately in other parts of this report.

CHAPTER 4

BASIC COURSE

4-1. Characteristics of Basic Course Students

Before considering the Basic Course in any detail, it is illuminating to consider the characteristics of the students themselves. There are a number of discernible qualities in this important student group which should be recognized by the course designers and, in turn, which should condition the Basic Course itself. Significant characteristics of Basic Course students are:

- Diversity
- Sociological revolution
- Cultural shock
- Assured but concerned
- Academic consequence
- Theory of teaching
- Inability to relate instruction to reality

a. Diversity. The extraordinary diversity of Basic Course students is one of the most evident, striking, and educationally significant characteristics. The input to the Basic Course is diverse not just in terms of source of commission (ROTC, OCS, USMA), but in other more important respects such as educational experience, attitude, and military background. Educationally, these students cover the spectrum of disciplines from physical education to nuclear physics and they cover the range of academic competence from summa cum laude to semi-literate. Attitudinally, they range from the patriotic, dedicated junior officer to the active, militant dissident. The military background of ROTC students is primarily dependent upon the nature and content of their ROTC instruction, which varies radically among different colleges.

In short, there is no homogeneity. Although diversity poses a formidable challenge to our educational system, I do not consider it a weakness. It can be a source of strength, if appropriately accommodated in our teaching methods and curricula, and can help develop the kind of imaginative, innovative officer we need.

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b. Sociological revolution. These students are products of--and many have been participants in--the sociological revolution of the last decade. They are no strangers to the issues of drugs, dissent, and racial frictions. Almost all have had considerable exposure to these and other social ills of our times. They share an intense interest in these problems and in what the Army as an organization and they as individuals will do about them.

c. Cultural shock. These students undergo varying degrees of cultural shock as they make the transition from a relatively permissive civilian academic environment to a relatively disciplined military one. Depending upon their past backgrounds and experiences, this cultural shock can be traumatic or light.

d. Assured but concerned. Outwardly, most of these students are self-confident, almost cocky and combative; inwardly, most are concerned about just how well they will handle their jobs. This concern is related primarily to their leadership role, and many admit real misgivings in this area. In large measure, these misgivings stem from recognition of the sociological revolution and its impact on the leadership problems they will confront. As one basic officer said, "It is lots of fun to be a part of a social revolution; but it is pretty scary to command its products, especially if they are your contemporaries."

e. Academic consequence. Most (not all) of these students are accustomed to a highly competitive academic system, where there are substantial rewards for doing well and substantial penalties for doing poorly. They are academically oriented and welcome a high academic challenge with resultant academic consequence. They do not find these in the Basic Course.

f. Theory of teaching. Learning experiences have, in general, been student centered, with relatively few hours of class attendance and a large amount of reading and self-study. These students encounter a radical change in the Basic Course which is predominantly instructor centered, with many contact hours and a large amount of platform presentations. (This point is discussed in depth in Chapter 9, Theory of Teaching.)

g. Inability to relate instruction to reality. The large majority of these students have never served with an active Army unit; so they do not know what life in a unit is like. Consequently, they are unable to determine the relative importance of the different subjects offered; their sense of priorities in learning is practically nil. Factual information comes at them in a flood, so considerable academic frustration results when conscientious students (and there are many) try to assimilate it all.

4-2. Appraisal.

With these basic characteristics in mind, an appraisal of the Basic Course reveals some significant areas for increased emphasis and improvement:

a. Mission. The mission, as stated in paragraph 2-5b(1), AR 351-1, is "to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service." I consider this an excellent statement, but suggest that the student characteristics previously discussed call for strong emphasis on the second part of this statement, "to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service."

b. Shift in emphasis. In the past, when dealing with a more homogeneous group of basic officer students with generally similar outlook and favorable attitudes toward military service, the Basic Course could emphasize the practical problems of the first duty assignment (the first part of the mission) and assume that a sense of personal commitment (the second part of the mission) would already be present or easily induced. Not so any longer. The requirement now is for a balanced effort which takes into account the student characteristics mentioned, and builds on them to produce a junior officer with the sense of dignity and confidence needed for his difficult leadership role.

In sum, the environment of the Basic Course is as much a part of the educational experience of the new officer as the course work itself. It is through professional and social contact and communications with career officers (for example, under the junior officer retention program) that the feeling develops of belonging to an organization with a distinct ethos. The dignity and confidence of the

young officer are largely formed by his manner of integration into the profession. There is little doubt that professionalization is a function of the total environment at the Basic Course, and that this important mission can be accomplished only if the full resources of the school (faculty effort, curriculum hours, and extracurricular time) are devoted to it.

c. Retention of fundamentals. Nothing in the proposed shift of emphasis should alter the fundamental characteristics of a good Basic Course.

(1) It is essentially a training course (acquisition of skills), not an educational one (mastery of concepts and ideas).

(2) It should emphasize hands-on, field-type, real-life instruction in lieu of theoretical classroom treatment.

(3) It should be rugged and demanding, both academically and physically.

4-3. Educational Program--Adjustments and Actions

a. Adjustments for diversity. There is little possibility of making adjustments for this characteristic prior to a student's entry into the Basic Course. Once the course has commenced, adjustments include a strong battery of diagnostic tests to determine strengths and weaknesses, especially focused on weakness in ability to write (literacy) and on technical weakness (mathematics for the engineers).

There is a limited but important field for validation of some students in some subjects, such as USMA graduates in escape and evasion.[1] However, in the Basic Course, emphasis should be more on diagnostics than on validation. Diagnostics should be designed primarily to accommodate to the academic differential; validation to the differential in military background. Just as validation leads to

[1]Validation is discussed in Section II of Chapter 11.

9 different academic programs for different individuals, diagnostics should lead to appropriate compensatory instruction and a greater freedom for students to learn at their own pace. The differential in attitude must be addressed by a variety of means: improved instruction in leadership, junior officer retention programs, and other measures indicated below.

b. Actions concerning the sociological revolution. This subject should be formally recognized in the curriculum and expertly treated by prepared units of instruction that emphasize realistic, fact-of-life, what-to-do situations which the junior leader will probably encounter. The type of treatment initiated by the race relations instructional package at the Infantry School and further developed by the CONARC Leadership Board is the desired action.

c. Actions concerning cultural shock and inability to relate instruction to reality. Here the most significant action is the initiation and execution of a vigorous junior officer retention program,[2] which would include for example:

(1) Early and complete advanced information about the school and its environment to the incoming student.

(2) Adequate orientation time for the officer (and for his wife and family).

(3) Assignment of the highest caliber junior faculty officers as tactical officers, or sponsors, or both.

(4) Arrangement to have quality Advanced Course students sponsor Basic Course students.

(5) Meetings between Basic students and recent graduates from the Basic Course.

(6) Meetings between Basic students, Advanced students, and faculty to discuss problems of mutual interest.

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[2]See Annex A, Good Programs, for examples.

(7) Visiting or performing duty with troop units on post. This opportunity should be given to as many students as possible.

d. Accommodation to the "assured but concerned" characteristic. Primarily this includes improved leadership instruction, but the weight of the other suggested actions in this section will tend to improve this condition.

e. Actions concerning academic consequence.

(1) As an initial step, cut all formal academic instruction to a minimum.

(2) Assure that what academic instruction does remain in the course is tough, demanding, and good. In this respect, always assume that the student has studied his assignment; do not teach to the lowest common denominator; develop realistic examinations, preferably performance examinations, and not simple recall tests, etc.

(3) Develop an effective system for eliminating or decommissioning unfit or unsuitable officers (see chapter 11, Evaluation).

f. Actions concerning theory of teaching. The bulk of instruction in the Basic Course will still be designed for training the Basic student, so it will be instructor centered and practical exercise oriented. Nevertheless, this is the course in which maximum use can be made of programmed instruction, computer-assisted instruction, educational television, and audio-visual teaching to permit individuals to move through the information-gathering courses at their own pace. In addition, small-group, participatory methods of instruction should be used in leadership and similar areas.

4-4. Course Length, Combat Arms

The length of the Basic Course is a perennial issue for the Army school system. Historically, it has varied from a minimum of 5 weeks to a maximum of 18, and a recent effort has been made to increase the current length from 9 weeks to 12 weeks for the combat

arms.[3] I fully support lengthening the course and urge early approval. As substantive support for this position, I can add little to the rationale advanced by CG, CONARC, in his proposal; but the following points may add weight:

a. In my opinion, the poorest place in the school system to save time is in the Basic Course. Certainly, it is essential to train the Basic officer and get him to duty with a unit as rapidly as possible, primarily because of the man-year factor and the boredom factor, but this should not be accomplished at the expense of effective performance of duty. Especially during a period of Army history when this "green" lieutenant stands inescapably at the focal point of new, difficult, and complex leadership problems, he should be professionally prepared for troop duty by his Basic Course. It is my conviction that the revised course recommended by CONARC would be a small price to pay in manpower for the improved performance of junior leaders in our units.

b. Although interservice comparisions can be misleading in the educational field, it is interesting to note that the Basic Course for the Marines is 26 weeks (during the buildup for Vietnam, the Marines reluctantly reduced it to 21 weeks). The mission for the Marine Basic Course is essentially the same as ours; their input is drawn essentially from the same sources (except they have a higher percentage of college graduates). The problems their graduates face are essentially the same problems ours face (except the Army lacks

[3]The Final Report of USAIS Experimental Infantry Officer Basic Course Evaluation, January 1971, indicates that the Experimental Infantry Officer Basic Course was significantly more effective in preparing Infantry lieutenant graduates for their first duty assignments than was the Regular Infantry Officer Basic Course. This fact was evidenced by: a significantly higher level of overall confidence by the experimental class in their ability to perform key tasks required of an Infantry platoon leader in his first duty assignment, and a significantly superior overall performance by the Experimental class on the objective and performance examinations employed in the evaluation.

their homogeneity). They feel that 26 weeks[4] of intensive training are required to convert their input into acceptably competent leaders of men. I know the Army cannot afford the relative luxury of a 26-week course, but the Marine Corps program is impressive support for lengthening ours to a minimum of 12 weeks. 52

4-5. Course Length, Combat Support and Combat Service Support

The recommended increase in the length of the Basic Course for the combat arms does not necessarily require a comparable increase in the length of the course for the CS and CSS branches, primarily because--

a. In many instances, these branches already have a variable course length to meet their MOS requirements. These MOS courses vary in length--for example, from 2 weeks (Atomic Demolition) to 21 weeks (Missile Maintenance). Careful engineering of the Basic Course and MOS-producing courses might avoid the necessity of extending the "core" of these branch Basic Courses to 12 weeks.

b. The principal reason for increasing the length of the combat arms Basic Course is to give the student more opportunity for field exercises where he can conduct real-life, hands-on training. Such an increase may be neither feasible nor necessary for the combat support and combat service support courses.

Under these circumstances, it seems logical to adjust the length of the Basic Course for the combat support and combat service support branches as required, on an individual basis, after detailed consideration by CONARC and the commandant concerned.

4-6. The Company-Level Gap

A fifth level of schooling is not recommended to cover the company-level gap. Although we have had such a level of school in the past, I do not believe it is required now, and even if it were

[4]This 26 weeks is their "basic" Basic Course. After this, officers who are becoming artillerymen or support go to special "MOS-producing" courses of substantial length.

required, I am certain that manpower and cost considerations would not permit it. Rather, I recommend that a package of instruction on company administration and management be prepared, and this package be presented by a variety of instructional means. The package should be intensively systems engineered. Appropriate portions of the package should be prepared by the proponent schools, with CONARC establishing the overall scope and coverage of the course and allocating hours of coverage to each of the sponsor schools. It should be taught by a variety of techniques to include traveling teams such as those currently being used in the MAPTOE effort; schools at major command, installation, and unit level; and orientation should be conducted in all branch schools. I do not recommend incorporation of this package in the Basic Course because the Basic Course student does not have the necessary background to understand it.

4-7. Recommendations

It is recommended that--

a. No change be made in the Basic Course statement of mission,[5] but greater emphasis be placed on accomplishing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") to assist in earlier professionalization of the new officer. (Recommendation 1)

b. The length of the combat arms Basic Course be established as 12 weeks, in consonance with the Basic Course developed by the Infantry School. (Recommendation 2)

c. The length of the Basic Course for the combat support and combat service support branches be variable but not less than 9 weeks, with the length of course for each school determined by CG, CONARC. (Recommendation 3)

[5]As stated in paragraph 2-5b(1) AR 351-1, the current mission of the officer Basic Course is to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service.

d. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, and presented by a variety of instructional means; for example, mobile teams; at major command, installation, and unit schools; and orientation at branch schools. (Recommendation 4)

e. An evaluation system be instituted and executed to support the elimination or de-commissioning of unfit or unsuitable Basic officers. (Recommendation 5)

f. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of Basic officers, especially focused on potential weaknesses in literacy (ability to write, for example) and on technical weaknesses (mathematics for Engineer officers, for example). (Recommendation 6)

4-8. Guidance

It is suggested that--

a. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment. (Guidance 1)

b. The Basic Course be more rugged and demanding, both academically and physically. (Guidance 2)

c. Although the field for validation in the Basic Course is relatively limited, it should be used wherever practical. (Guidance 3)

d. Each school develop and execute a junior officer retention program which recognizes the characteristics of the Basic officer (paragraph 4-1) and capitalizes on existing programs (see Annex A, Good Programs). (Guidance 4)

CHAPTER 5

ADVANCED COURSE

5-1. Introduction

It is especially important that readers of this chapter recognize the high probability of error inherent in any generalizations about Advanced Courses. Within these eighteen courses, a welcome variety of approaches, attitudes, and techniques exist which almost defy categorization. This is a healthy situation which will continue; but it means that any specific comments, guidance, and recommendations about such a heterogenous group can be inaccurate or inappropriate for some schools.

5-2. Characteristics of the Advanced Course Student

Using the same approach as for the preceding discussion of the Basic Course, the salient characteristics of today's Advanced Course student are--

- Diversity
- Narrow but vivid professional experience (Vietnam)
- Intellectually critical, mature, competitive
- Accepts specialization
- Aware of issues
- Career oriented but not career committed
- Concern for Army's role and image and for his place in the Army

a. Diversity. Although Advanced Course students are not quite as diverse as Basic Course students, especially in attitude, an extraordinary spread in academic and military backgrounds continues to exist. Academically, for example, we can find an officer with a 10th grade education in the same classroom with a Rhodes Scholar, both receiving essentially the same educational experience. Although this is admittedly an extreme case, the academic spread is substantial in all Advanced Courses, primarily because of the undereducated hump (Appendix F). The military qualifications of the individual

officers are varied, because they have not had sufficient service to acquire much professional depth. Many, especially the aviators and specialists, have very limited military background.[1]

b. Professional experience. These officers have had narrow but vivid professional experience, almost exclusively from Vietnam. This is the only war they have fought. They may be properly proud of their personal parts in it, but they have been denied the professional satisfaction and uplift enjoyed by officers who served successfully in World War II and Korea.

c. Intellectual attitude. Most of these students are intellectually critical, academically competent, and mature. In these respects, they are older brothers of the Basic Course officers and share many of the same attitudes and perspectives. They are competitors, both academically and professionally, who want challenge and who do not want to be part of mediocre outfits. The desire for advanced degrees is especially strong with this group.

d. Accepts specialization. They recognize that increasing specialization is a fact of professional life. This recognition applies not only to the eleven career specialty fields (atomic energy, aviation, comptroller, logistics, etc.), but also to the military profession at large. They support the development of multiple paths to career satisfaction and are prepared to follow them.

e. Aware of issues. They are products of the TV age and have been exposed to most problems. Their understanding and scholarship are not yet as deep as their awarenesses. They expect Army schools to address contemporary issues; they are highly skeptical of the "school solution" and the narrow view.

f. Career orientation. The Advanced Course student is career oriented, but he is not necessarily career committed. He is aware of his options, and he should not be taken for granted.

g. Army's role. These students are intensely concerned with the Army's role and image and with their own places in the Army.

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[1]This factor may become less significant as the length of service prior to attendance increases from the present average of about 5 years.

5-3. Educational Program

With these characteristics in mind, the broad outlines of an educational program can be determined. This program should be composed essentially of a core of professional military subjects and a broad family of military and nonmilitary electives.[2] It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study, that could be meshed with the Office of Personnel Operations bootstrap and degree completion programs so that the student can pursue either a baccalaureate or advanced degree.

5-4. Educational Techniques

a. Diversification. Educational techniques should be diversified by greater use of validation and diagnostic testing; personalizing and individualizing the academic program in line with the students' aptitudes, interests, and experiences; and by moving from instructor-centered to participatory methods of instruction. (See Chapter 9, Theory of Teaching and Chapter 11, Evaluation, for expanded treatment of this important area.)

b. Competition. In order to enhance the value of the Advanced Course in the eyes of the student, we must do away with the notion that it is a ticket to be punched and a free ride for all. This requires both tougher OPO prescreening so that not all officers attend, and stiffer in-house evaluations of students to eliminate those who fail to measure up.

c. Career satisfaction. A special objective of the Advanced Course should be to assure that the student has a full, rewarding, and "happy" year. This calls for a balanced program, with special emphasis on academic effort, and a good mixture of athletic, recreational, social, and family activities. The Advanced Course offers the Army the best opportunity it will have to develop each

[2]This important recommendation was repeated several times in the report of the Haines Board. See Report of the DA Board to Review Army Officer Schools, Vol I, paragraphs 97-99, p. 14.

student into a dedicated, competent professional. In the past we have frequently missed this opportunity. As a matter of priority, we should adjust programs and, more importantly, attitudes and approaches toward this objective. The Army could profitably capitalize on Air Force experience in conducting its squadron officer school which has an admirable program for this purpose (see Annex A - Good Programs).

5-5. Expansion of Mission--All Schools

a. The mission statement is "to prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch" (paragraph 2-5b(3), AR 351-1).

b. To deal with the condition of terminal education, the mission statement should be expanded for all schools by adding words comparable to the following: "To provide a foundation for continuing education and further professional development." The alterations in curriculum that this addition might involve include the following:

(1) Incorporate the excellent, highly regarded Strategy and Strategic Studies Program now in the C&GSC curriculum into the Advanced Course curriculum.

(2) Incorporate a few (not less than one nor more than five) orientation-type problems in the curriculum. These should consciously go beyond the scope of the course and would require the student to think ahead and consider military problems which are not routine. For example, the large scale logistics planning problem conducted at the Ordnance School involving a move of major logistics support from Okinawa to Guam; possible use of the Armed Forces Staff College problem "North Flank", use of some CGSC-developed problems.

(3) Develop approximately 10 percent of the course into a comprehensive and interesting guest lecture program.

(4) Stress the study and utilization of military history (see Section II, Chapter 13).

(5) Develop a strong family of military and nonmilitary electives.

(6) Develop seminars on current issues.

5-6. Expansion of Mission--Combat Support and Combat Service Support Schools

The mission of combat support and combat service support schools should be expanded to include preparation of students for performing branch-related staff duties at major headquarters. This expansion would be a realistic recognition of professional demands upon these officers. Coverage involved under this mission enlargement includes the following possibilities:

a. Study of management problems associated with principal branch functional areas. This should involve going beyond teaching branch functions themselves to the problems of managing and integrating functions at higher organizational levels. As a general rule, there would be a shift in perspective from support of the Army in the field to such topics as wholesale logistics and management of intelligence resources.

b. Roles of higher headquarters, position of the staff officer within the organization, and typical duties of the branch functional expert on the staff.

c. Information processing, modes of analysis, and problem solving techniques relevant to performance of branch functions in higher headquarters.

d. Study of branch-related staff functions in military assistance activities, such as international military logistics, and allied force development.

e. Study of branch-related staff problems posed in different conflict environments; for example, signal support in limited war versus signal support in counterinsurgency.

The Ordnance and Quartermaster Schools have adjusted their curricula to include instruction in branch-related staff duties at major headquarters. Table 5-1, which is based on information supplied by The Ordnance School, indicates the magnitude of the curriculum changes which resulted from expanding the scope. Appendix G provides a detailed break-out of the number of hours of instruction above brigade level conducted by The Quartermaster School.

Table 5-1. IMPACT OF SCOPE EXPANSION ON ADVANCED COURSE CURRICULUM U.S. ARMY ORDNANCE SCHOOL

Subject Area	Curriculum Hours before Expansion of Scope	Curriculum Hours after Expansion of Scope
Research, Development, and Procurement	Minor coverage	100
Supply/Maintenance Management	86	177
Financial Management	25	44
Automatic Data Processing	21	54
Operations Research/ Systems Analysis	Minor coverage	44
Personnel Management	9	42

5-7. Course Length

The Advanced Courses presently vary in length from 25 weeks for the Adjutant General School to 39 weeks for the Field Artillery and Signal Schools. (This ignores the fact that the course length for the WAC's is 24 1/2 weeks and the length for the Medical Field Service Advanced Course is 23 weeks and 4 days.) The length of the Advanced Course should remain variable, for there is much more to be taught in some Advanced Courses than at others. However, the incorporation of a concurrent civilian educational program as recommended in paragraph 5-3 would tend to increase the length of most courses to a full academic year. For discussion of this question see Chapter 8, Civilian Education.

5-8. Recommendations

It is recommended that:

a. The current mission statement[3] be revised to--

(1) Include a statement comparable to "and to provide a foundation for continuing education and further professional development."

(2) Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers for performing branch-related staff duties at major headquarters." (Recommendation 7)

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[3]As stated in AR 351-1, the current mission of the officer Advanced Course is to prepare officers for command and staff duties at battalion through Brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organizations and operations to provide branch perspective and to orient students in activities pertinent to their branch.

As a result, the mission statement would be: "To prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level and to provide a foundation for continuing education and further professional development. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. Combat support and combat service support branch schools will include instruction designed specifically to prepare officers to perform branch-related staff duties at major headquarters. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch."

b. Office of Personnel Operations establish standards and institute procedures for tougher prescreening of officers prior to attending the Advanced Course, to weed out unfit and unmotivated officers. (Recommendation 8)

c. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers. (Recommendation 9)

d. Validation and diagnostic testing be used extensively in the Advanced Course to adjust to the diversity of the students. (Recommendation 10)

5-9. Guidance

It is suggested that:

a. The Advanced Course educational program be composed of a core of professional military subjects, and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study, that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue either a baccalaureate or advanced degree. (Guidance 5)

b. An explicit objective of the Advanced Course be to provide the student (and his family) a full, rewarding, and happy year to enhance his career satisfaction and develop his professionalism. (Guidance 6)

c. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests, and experiences; the student be allowed greater scope for self-directed and self-paced learning. (Guidance 7)

d. The programs and techniques indicated in paragraph 5-5 be adopted, where pertinent, in dealing with the condition of terminal education. (Guidance 8)

e. The coverage indicated in paragraph 5-6 be adopted, where applicable, in expanding the scope of the curricula of the CS and CSS schools. (Guidance 9)

f. The academic program should cogently address contemporary issues. It should be of a quality that reflects the interests and maturity of the students. (Guidance 10)

CHAPTER 6

COMMAND AND GENERAL STAFF COLLEGE

6-1. Introduction.

This chapter addresses a variety of subjects concerning C&GSC (some in considerable depth); yet the direct relationship between these subjects may be remote. For this reason, the chapter is divided into the following sections:

Section I - Pivotal Role of C&GSC
Section II - Criteria for C&GSC to Accomplish Role
Section III - Discussion of First Criterion
Section IV - Discussion of Second Criterion
Section V - Discussion of Third Criterion
Section VI - Discussion of Fourth Criterion
Section VII - Alternative Educational Programs
Section VIII - Recommended Educational Program
Section IX - Education of Midlevel Logisticians
Section X - Housing
Section XI - Summary of Recommendations and Guidance

Section I. PIVOTAL ROLE

6-2. C&GSC has traditionally occupied a pivotal role in the Army school system. It now enjoys a preeminent reputation among the military schools of the free world. This reputation has developed primarily because Leavenworth has proven itself--it has consistently produced students who are thorough professionals. The Leavenworth diploma has become a hallmark of military excellence. In the future, C&GSC should continue to perform this pivotal role and an explicit objective of our educational program should be the enhancement of C&GSC status and reputation.

Section II. CRITERIA

6-3. In examining the question of how C&GSC can best accomplish its pivotal role for the seventies, it is useful to set forth certain criteria which, if satisfied, will establish a C&GSC educational program that is equal to the challenge. These criteria can be specified with varying degrees of precision, and the rationale in support of or in opposition to them can be developed in great detail. However, for the purpose of this review, I intend only to advance certain broad standards which are applicable to any consideration of how C&GSC can best meet its future responsibilities. These views, which are unavoidably subjective, are derived in large measure from the environmental forecast in Chapter 2, from my discussions of this matter with many officers, and from my deeply held belief in and respect for C&GSC. In this context, it seems that at least four criteria should be satisfied:

- C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching.

- C&GSC should support actions to improve the status of military scholarship and enhance the military art.

- C&GSC should support programs for degree completion and for acquisition of advanced degrees.

- C&GSC should conduct courses of instruction which exploit to the advantage of the Army and the students the wide diversity of backgrounds, talents and interests of the students.

Section III. DISCUSSION OF FIRST CRITERION

6-4. Professional Military Education

The most important of the foregoing criteria is that C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching. C&GSC currently seeks to satisfy this criterion through the conduct of one 38-week annual course for 972 U.S. Army students. The curriculum for this course is essentially identical for all students,

although an excellent family of electives is available, comprising 8 percent of the total academic hours, and a promising concurrent degree program has recently been initiated. Professional military education is concentrated primarily in the G3/Operational subjects taught by the Department of Division Operations, Larger Unit Operations, and much of the Department of Command. This curriculum is eminently correct considering the current mission of the resident course[1], and it adequately meets the Army's requirement for officers educated in the command/operations functions associated with the Army in the field. There are no more important functions in the Army so the emphasis on them at C&GSC is well-founded. However, I do not believe that the current course adequately meets the Army's need for professionally-educated officers in other important skills. The general area of skills in which the C&GSC curriculum is most deficient is that of preparation for high-level staff duty.

6-5. Problem Areas

As pointed out in Chapters 2 and 3, essentially all of the C&GSC graduates who eventually attain colonel's grade serve on a high-level staff (CONARC, DA, or higher); 80 percent of the C&GSC graduates who attain the grade of lieutenant colonel serve on comparable staffs; and approximately one-third of each graduating class goes directly to such assignments; yet C&GSC is the last formal military education received by approximately 80 percent of these officers. There is a substantial body of professional knowledge in the staff functional areas which ought to

[1]As stated in AR 351-1, the current mission of the Command and General Staff Officer Course is "to prepare selected officers for duty as commanders and as principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command; to provide these officers with an understanding of the functions of the Army General Staff and of Major Army, joint, and combined commands; and to develop their intellectual depth and analytical ability." Note that this is the mission of the resident course only; C&GSC has a broader overall mission, and the resident course is but one function at the College.

be imparted to these officers during this phase of their education. In this context, it is important to note that the problems of the Army in recent years have not stemmed from deficiencies in the conduct of operations; in fact, the performance of the G3/operational function has been exemplary. Rather, our major problems and difficulties have been in other staff fields such as personnel, logistics, intelligence, and public information. These problems today are so complex and acute that they demand the concerted application of a variety of staff and specialized skills. Moreover, in an era when the function of military power is both to deter and to wage war, sound conduct of these important functions in peacetime assumes greater significance. These factors weigh against continuing the centrality of the G3/operations functions in the Leavenworth curriculum. The proportional mix of instruction does not properly reflect our diverse requirements nor the need to strengthen staff competence in the functional areas where our greatest problems lie. Based on the foregoing, I believe C&GSC should reorient its curriculum to include more education in the principal staff functions; but this issue is very important and deserves fuller exploration. It is directly addressed in Section VII (Alternative Educational Programs); but, as a preliminary, I will first define what I believe should be included in the revised program of functional staff education.

6-6. Educational Coverage of Staff Functions

a. In general terms, the revised coverage should include the traditional staff functions of personnel, intelligence, operations, logistics, and force development. Initially, no particular courses should be devoted exclusively to the 11 recognized career specialist fields (although the relationship between some staff functional courses and some specialist fields would be direct, e.g., logistics). The major focus of instruction should be on Army forces, and it should encompass these major functions:

- Raising Army forces
- Training Army forces
- Organizing Army forces
- Equipping Army forces

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- Transporting Army forces
- Employing Army forces
- Maintaining Army forces
- Administering Army forces
- Communicating between Army forces
- Commanding Army forces

The subjects to be covered within each staff area, from among those listed above, can be developed only by an intensive and expert appraisal, but would probably follow the breakout of responsibilities performed by current DA organizations.

b. Thus, each of the five staff functionalization courses will address the areas of special interest to them; but a substantial portion of the five months (not less than one or more than two months) should be devoted to the General Staff as a whole. The aim should be to create expertise in a staff functional area while providing a working knowledge of how all staff agencies interact. With this balance of academic treatment between the general staff as a whole and a general staff function, we should produce professionally integrated staff officers. Integration of staff functions, not their separation, should be the goal.

c. The goal of this instruction should be professional education in the broadest sense; it should not be solely "to teach the students how to operate in the Pentagon". The students should be required to think conceptually about the major staff functions listed above, and also to translate these concepts into manageable staff actions. The educational approach should parallel that of the Army War College, but the effort should be tightly focused on the effective performance of the indicated staff functions.

d. The course length for this instruction should be four to five months (after a "core" curriculum of approximately the same length covering the Army in the field). Students would be selected to take one of the five staff functional courses by OPO, with their preferences honored where feasible.

Section IV. DISCUSSION OF SECOND CRITERION

6-7. The second criterion to be satisfied is that C&GSC should support actions to improve the status of military scholarship and enhance the military art. This standard is directly related to the attainment of degree-granting authority for C&GSC (MMAS). The rationale and support for this program has been adequately documented over the years; it needs no repetition here. C&GSC support for this program is a matter of record. Vigorous action before Congress appears to be the essential element in obtaining approval of the MMAS; this action should be forthcoming.

6-8. Two further points are pertinent:

a. Recognition of MMAS Program

Since only a very small portion of the officer corps has been exposed to this relatively new MMAS program, it has not yet attained Army-wide recognition, and its status and importance is fuzzy in the minds of most observers. In fact, it is probable that many officers believe that the MMAS is an insignificant degree, that it does not measure up to civilian standards of academic demand, and that the MMAS will never be accorded appropriate academic status because it is just a sop to the military, reluctantly granted by civilian academicians. From my limited appraisal, it appears that this view of the MMAS program is both widespread and grossly in error. Perhaps the best proof of the overall caliber and validity of the MMAS is the fact that a large number of civilian evaluators (who at best are initially neutral toward MMAS) have examined the program in great depth and have certified it as fully meeting their standards. On a more personal basis, I have contacted a number of C&GSC graduates who have completed the MMAS program and who also have acquired other master's degrees in civilian institutions. One-hundred percent of these officers say that MMAS is a fine program which should be continued and supported; 80 percent say that the academic demand for MMAS exceeded the academic demand for their civilian advanced degree. Although this may not be a totally convincing argument in favor of MMAS, it does indicate that we have a high-caliber, high-potential program which deserves backing.

b. Advantages of MMAS Program

A special advantage stemming from formal accreditation and

ensuing execution of the MMAS program would be the in-house boost it could give to our military scholarship effort. Most uniformed personnel are painfully aware of the common complaint or assertion that the military no longer produces thinkers about those subjects of vital concern to the military and the nation (international strategy, military strategy, the military role in domestic affairs, military tactics, even military weaponry). These important fields have been preempted by civilians, and the officers simply do the pick-and-shovel work. Recognizing that there are many reasons for this condition beyond the control of uniformed officers, it must be admitted that the uniformed officer has not been totally effective in an intellectual sense in recent years. The MMAS could be a small but useful effort to redress this balance and thereby inject new vigor and views into an intellectual arena often dominated by nonprofessionals.

Section V. DISCUSSION OF THIRD CRITERION

6-9. The third criterion is that C&GSC should fully support programs for degree completion and for acquisition of advanced degrees. These programs, adequately supported by the excellent consortium of respected universities in the area[2], will provide an ideal outlet and challenge to the intellectual capabilities of even the best academic performers; put the Army in tune with educational trends nationwide; establish a low profile program which should not be subject to GAO interest or challenge; and give the Army a large group of mature officers who have been highly educated across a broad spectrum of academic disciplines. The existing C&GSC cooperative degree program is an excellent start in this direction; continued impetus should make it more attractive and productive. (See Chapter 10 for expanded rationale on this point.)

Section VI. DISCUSSION OF FOURTH CRITERION

6-10. The fourth criterion is that C&GSC should conduct courses of instruction which more fully exploit and take into account the wide

[2]This includes, at least, The University of Kansas, Kansas State University, and The University of Missouri (KC).

diversity of backgrounds, talents, and interests of the students. This diversity is a fundamental fact of Army educational life today. Properly exploited, it can be a real strength. Conversely, if it is not recognized, considerable academic frustration can ensue with the result that the Army loses the chance to capitalize on a valuable academic asset. Hence, C&GSC should move to personalize and individualize its educational program to a substantially greater degree than is currently achieved. The principal direction should be towards offering courses tailored to the needs of individual students or groups of students, but a major spin-off benefit would accrue from the incorporation of diverse student experience in the overall educational program.

Section VII. ANALYSIS OF ALTERNATIVE EDUCATIONAL PROGRAMS

6-11. Alternate Programs

With the foregoing criteria in mind, it is possible to suggest alternative educational programs for C&GSC. There are a multitude of alternatives, but the principal issues can be surfaced by a consideration of the following three:

Program A--Status Quo

Program B--Eliminate existing 10-month course; substitute two 4 to 5 month "core curriculum" courses annually

Program C--Eliminate existing 10-month course; substitute a 10-month course which consists of a 4 to 5 month "core curriculum", and a 4 to 5 month staff functionalization course annually

6-12. How Alternate Programs Meet the Four Criteria

Table 6-1 indicates a rough appraisal of how well each alternative program meets the four stated criteria. Programs are ranked either 1, 2, or 3 based on the degree to which they meet individual criteria, with 1 being "best" and 3 being "worst". When two programs are equally effective, total is split. This chart is a somewhat arbitrary and definitely incomplete appraisal; for there are many factors which bear on these alternatives. Some of these are indicated in the following paragraphs which briefly display the advantages and disadvantages of Programs B and C not brought out by the chart.

TABLE 6-1

Program	First Criterion Support need for professionally educated officers	Second Criterion Advance Military Scholarship (MMAS)	Third Criterion Support degree completion	Fourth Criterion Exploit diversity of students
Program A Status Quo	2 1/2	1 1/2	1 1/2	2
Program B Two short courses	2 1/2	3	3	3
Program C Core curriculum Staff functionalization	1	1 1/2	1 1/2	1

6-13. Advantages/disadvantages of Program B

The advantages/disadvantages of Program B (two 4-5 months "core curriculum" annually) are cited below:

a. Advantages

(1) Can double output of C&GSC graduates, or

(2) Can reduce student input to availability of housing and still produce more C&GSC graduates than at present.

(3) Reduces time of individual officer in school, or

(4) By giving "Leavenworth-credit" to officers in half the time, can release officers earlier for other professional schooling (civilian or military).

(5) Avoids repetitive and/or inapplicable instruction in current course.

b. Disadvantages

(1) Does not teach areas of greatest professional weakness (high-level staff functions).

(2) Does not diversify student educational experience or provide for continuing education (especially significant because MMAS and cooperative degree programs cannot be carried out).

(3) Creates personal turbulence for high-caliber officers (and their families) at a period when some stability is especially desirable.

6-14. Advantages/disadvantages of Program C

The advantages/disadvantages of Program C (core curriculum plus staff functionalization) are cited below:

a. Advantages

(1) Prepares officers for probable duties.

(2) Improves performance of high-level staffs.

(3) Addresses areas of greatest professional weakness.

(4) Conforms to increasing specialist requirements.

(5) Improves faculty.

(6) Diversifies student educational experience.

b. Disadvantages

(1) Decreases emphasis on heart of the Army (operations/command of Army in the field).

(2) Poses major administrative/academic management problems in developing and instituting new curricula.

(3) Poses possible jurisdictional issue between DA and CONARC concerning responsibility for staff functional curricula.

(4) Poses assignment issue for OPO and student in selecting individual area of staff functionalization.

(5) Compartmentalizes student body.

6-15. Conclusions

There is no arithmetic or empirical technique for weighing the factors brought out above. On balance, however, I consider that the factors I have outlined strongly support Program C over either of the other two. Between Programs A and B, I believe Program B could do a more efficient job of providing the required military professional education than Program A now does. However, the factors of personnel turbulence, no MMAS, and no cooperative degree weigh heavily against Program B; so Program A is slightly preferred between the two.

Section VIII. RECOMMENDED EDUCATIONAL PROGRAM

6-16. In summary, I consider that the proper role for C&GSC in the seventies is to act as a professional university for the Army. This should not be a one-course, one-curriculum university. Its principal emphasis should be on the conduct of high-caliber military education across the spectrum of professional skills required by the modern Army. To carry out this mission, the course should be structured along the pattern of Program C above. This should be supplemented by vigorous execution of existing electives and cooperative degree programs.

Section IX. EDUCATION OF MIDLEVEL LOGISTICIANS

6-17. Area of the Logistics Generalist

This discussion will address the education of the military logistician, subsequent to completion of his branch advanced course and prior to his attendance at a senior service college, if selected. Thus, it covers the educational area now occupied primarily by C&GSC at Fort Leavenworth and, tangentially, by AFSC at Norfolk. Under existing conditions, the advanced course prepares the junior logistician for duties at battalion, brigade, and division-level staffs; and, if the

recommendations of this review are approved, will prepare him to carry out branch-related staff duties at higher staff levels. At the upper end of the educational spectrum, ICAF and, to a lesser extent, the other senior service schools, treat logistics at the national level and integrate it primarily from a conceptual and strategic standpoint. The area in between can broadly be defined as the area of the logistics generalist. This is the logistician who is educated beyond the branch specialty level; who can consider logistical problems at echelons from division through DA; who knows both wholesale and consumer logistics; and can deal intelligently with problems of the CONUS industrial base.

6-18. Programs Available to the Midlevel Logistician

Formal educational programs currently available to the mid-level logistician include:

a. The regular course at C&GSC, attended by approximately 390 members of the combat support/combat service support branches annually, and the course at the Armed Forces Staff College, attended by approximately 47 combat support/combat service support branch officers annually.

b. Approximately 50 officers who attain master's degrees annually under AERB auspices, whose utilization tours rest in the logistical area.

c. Approximately 4 officers who attend the degree-awarding course in Logistics Management at AFIT, and 10 to 15 CS/CSS officers who attend the degree-awarding course in OR/SA at NPGS, annually.

d. Approximately 76 officers who attend the Logistics Executive Development Course at ALMC annually.

e. In addition to these specific, isolatable programs, there are a vast number of "management courses" conducted by all services (the DOD Catalogue lists 145 of these). These courses are of varying scopes, lengths, and purposes. Many of them assist directly in the education of midlevel logisticians; but it would be difficult trying to determine their cumulative impact.

6-19. Necessity for Logistical Education

A number of major studies (especially the Brown Board) have concluded that the professional demand on the mid-career logistician

is sufficiently complex, difficult and important to require special professional military education. This belief is essentially an article of faith among logisticians. I believe this conclusion is warranted because:

a. There is a definable body of knowledge, theory and practice which pertains directly to the midlevel military logisticians's performance of his professional duties.

b. This body of knowledge, theory and practice is teachable in military colleges to the midlevel officer.

c. Mastery of this body of knowledge, theory and practice is essential to effective functioning of a modern Army.

d. Given the current rate of advance in technology and automation, and the continuing emphasis on management, a program for midlevel education in logistics will become increasingly important to the Army.

6-20. Review of Existing Educational Opportunities

A cursory review of the existing educational opportunities for midlevel logisticians (see paragraph 6-18 above) from the standpoint of volume of trained logisticians indicates that the C&GSC level of education is the key. Other programs, important though they are, simply do not hold sufficient potential for expansion or change. Directly related to the question of logistics instruction at the C&GSC level is the proper utilization of the facilities at ALMC. ALMC is an especially significant factor because it is a splendid facility waiting for a mission. It has a small but excellent faculty which is interested in and capable of expansion into broader logistics educational areas. ALMC enjoys the active sponsorship of USAMC; and USAMC is distinctly interested in improving midlevel logistics education. ALMC has both the capability and motivation to play a larger role in logistics education.

6-21. Alternative Uses of C&GSC/ALMC Capabilities

There are five alternative utilizations of the C&GSC/ALMC capabilities for midlevel logistical education. These are:

a. Case 1--Continue existing program, with C&GSC conducting a common course for all students (without any logistics staff functionalization) and with ALMC continuing to conduct its Logistics Executive Development Course for approximately 38 students for a duration of approximately 19 weeks.

b. Case 2--C&GSC reorient its curriculum to include a 4 to 5 month core curriculum for all students followed by a 4 to 5 month staff functionalization course covering specific staff functions, to include logistics. Such a program would turn out approximately 150-250 midlevel logisticians annually.[3] ALMC to continue existing Logistics Executive Development Course as in Case 1.

c. Case 3--C&GSC would reorient its course of instruction as described in Case 2. ALMC would reorient its course to provide a core curriculum comparable to C&GSC and then conduct specialized logistics instruction (in essence, this would constitute the establishment of a C&GSC-LOG at ALMC). Such a program would produce approximately 200 logistics-trained graduates annually.[4]

d. Case 4--C&GSC would conduct reoriented course as in Case 3. ALMC would take graduates of core curriculum at C&GSC(LV) and give them a follow-on Logistics Executive Development Course or comparable instruction in logistics. (ALMC would not attempt to conduct initial core curriculum as in Case 3.) Such a program would produce approximately 150-250 logistics-trained graduates annually.[3]

e. Case 5--C&GSC would conduct reoriented course as in Case 2. ALMC would conduct a separate course of not less than one calendar year in advanced logistics management with the objective of eventually obtaining degree-granting authority and awarding Masters of Logistics Management comparable to Air Force Institute of Technology. This program would produce approximately 150-250 C&GSC logistics-trained graduates annually[3], plus the output of MLM's from ALMC (number unknown).

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[3]This range of figures has been internally developed by this review--it is an estimate of the number of C&GSC attendees in FY 73 (972) who would opt for or be directed into the logistics functional area.

[4]This figure is an unofficial estimate of the capacity of ALMC for this course. It has no official status and is a gross comparative only.

6-22. Advantages and Disadvantages

The advantages/disadvantages for each case are briefly indicated below.

a. Case 1--Status Quo

Advantages

- Assures that midlevel logisticians have full understanding of command and operations of the Army in the field (heart of the Army).

- No division between the logisticians and the rest of the Army.

- No new costs or personnel management difficulties incurred.

- Avoids the jurisdictional issue of control of ALMC (CONARC or USAMC).

Disadvantages

- Doesn't solve the problem

- Doesn't fully utilize ALMC facilities.

- Doesn't ameliorate housing problem at C&GSC.

b. Case 2--C&GSC (Move to Staff Functionalization Instruction), ALMC Continue Existing Curriculum

Advantages

- Contributes to solution of problem by producing approximately 150-250 well-educated, professional logisticians at C&GSC.

- Concentrates instruction in core curriculum at C&GSC (Fort Leavenworth).

- Avoids the jurisdictional issue of control of ALMC (CONARC or USAMC).

- Probably lower faculty requirement than for Case 3 (where ALMC also conducts core curriculum instruction).

Disadvantages

- Doesn't fully utilize ALMC facilities or faculty.

- Possibility of duplication and overlap between the functional logistics instruction at C&GSC (Fort Leavenworth) and the Logistics Executive Development Course conducted at ALMC.

- The ALMC course may be used for the second-class logistical citizen.

- It doesn't ameliorate the housing problem at C&GSC.

c. Case 3--C&GSC (Staff Functionalization Instruction with the Exception of Logistics Instruction); ALMC Becomes C&GSC (LOG) and Conducts Core Curriculum Instruction and Logistics Staff Functionalization Instruction

Advantages

- Contributes to solution of problem by producing around 200 midlevel logisticians.

- Enhances the morale of the combat service support and combat support branches.

- Optimizes the use of ALMC facilities and faculty.

- Ameliorates C&GSC housing situation.

Disadvantages

- Divides C&GSC instruction in core curriculum.

- More costly in combat arms faculty.

- Raises the jurisdictional issue.

- Could contribute to potential divisiveness (logisticians versus the rest of the Army) and a desire to proliferate specialist C&GSC-level schools (why not C&GSC-PERS and C&GSC-INTELLIGENCE, etc).

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d. Case 4--C&GSC (Conducts Staff Functionalization Instruction with Exception of Logistics); ALMC (Conducts Logistics Functionalization Instruction, but not the Core Curriculum)--Logistics Students Transfer to ALMC after Completing Core Curriculum at C&GSC

Advantages

- Contributes to solution of problem by producing approximately 150-250 midlevel trained logisticians.

- Concentrates instruction in core curriculum.

- Minimum faculty requirements for combat arms officers.

- Avoids the jurisdictional problem.

- Minimizes the potential for future divisiveness within the Army.

Disadvantages

- Calls for a double PCS for logistics students, thereby incurring heavy costs in personnel turbulence, and family separations.

- Doesn't make maximum use of ALMC facilities on year-round basis.

- Probably won't ameliorate C&GSC housing problem.

- Denies an opportunity to logistical students to acquire a concurrent master's degree (MMAS or master's in a civilian discipline).

e. Case 5--C&GSC (Conducts Staff Functionalization Course as in Case 2); ALMC (Concentrates Full Resources on Logistics Management Instruction; Obtains Degree-Granting Authority for Master's of Logistics Management)

Advantages

- Contributes to solution of problem by producing approximately 150-250 well-educated field grade logisticians at C&GSC and in addition, producing an unestimated number of MLM's at ALMC (if degree-granting authority is obtained).

- Concentrates C&GSC-level instruction at C&GSC.

- Avoids jurisdictional issue.

- Lower faculty requirement for combat arms officers than Case 3.

- Minimizes the potential for future divisiveness within the Army.

Disadvantages

- Is probably an overkill of the logistics educational problem.

- Places logistics in a highly-favored position whereby they have their cake (C&GSC) and eat it too (Master's of Logistics Management granted at ALMC).

- Doesn't make maximum use of ALMC.

- Doesn't ameliorate the housing situation at C&GSC.

- Doesn't offer short term solution, because it will be difficult and time-consuming to obtain degree-granting authority for ALMC. (My guess is that about five years of concentrated effort will be required for this.)

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6-23. Recommendations

a. Based on the foregoing analysis, I recommend the solution advanced in Case 3, i.e., C&GSC conduct a staff functionalization course with the exception of logistics; ALMC become a C&GSC(LOG), and conduct a core curriculum plus logistics staff functionalization. instruction.

b. In carrying out this recommendation, a basic objective should be to avoid any hint of creating two camps in the Army--the logisticians and the rest of the Army. For this reason, the following criteria should govern:

(1) The core curriculum conducted at the C&GSC(LOG) should be identical with the core curriculum covered at G&GSC (Fort Leavenworth).

(2) The core curriculum should be instructed primarily by combat arms officers.

(3) There should be a liberal allocation of combat arms officers to C&GSC(LOG); not less than 10 percent, not more than 30 percent of the students should be combat arms.

(4) There should be balanced representation of arms and service on the C&GSC(LOG) faculty. For example, if the commandant is a combat support or combat service support officer, then the assistant commandant should be combat arms.

(5) Students to attend C&GSC(LOG) should be selected by the identical process as students selected to attend C&GSC(LV), and they should all be on the same list and selected at the same time.

c. If these criteria are followed, I consider that the establishment of C&GSC(LOG) at Fort Lee, using ALMC facilities and faculty as a base, would distinctly improve the educational effort of the Army and would be an advantage to the Army at large, not just to the logisticians.

Section X. HOUSING AT C&GSC

6-24. Housing Shortage

The housing issue has been a critical one at C&GSC ever since the decision was made to drop the associate course and expand the regular course to its current size. A housing program is underway which will do much to alleviate the existing situation. Statistics on this program are at Appendix H. The basic considerations concerning this housing problem are adequately documented in numerous studies and recommendations; they require no review here. However, two points do seem pertinent:

a. Insofar as possible, we should try to make the year at Fort Leavenworth a happy, memorable, and satisfying year to the student and to his family. Adequate housing is an essential component of this effort. Carried to its logical conclusion, this effort could mean tailoring the student input to Fort Leavenworth according to the availability of adequate housing. Personally, I think it would be a mistake to have the housing tail wag the educational dog. The question to be answered here is not, "Is a Leavenworth student happier and better satisfied in good housing than in poor housing?" The question to be answered is, "Is an officer happier and better satisfied as a Leavenworth student in poor housing than not as a Leavenworth student at all?" Although no questionnaire results exist on this to my knowledge, I am certain that candidates for Leavenworth would overwhelmingly elect to attend this school in inadequate housing rather than not go at all.

b. A related point concerns the subject of leased housing. There is an understandable and commendable desire to concentrate all students on the post. Certainly, this is preferable to living in leased housing, provided the post housing is adequate. Here the real question seems to me to be, "Is it better to live off post in adequate leased housing, or on post in inadequate housing?" Although no questionnaire results exist that are known to me, my guess is that a number of students would prefer to live in adequate leased housing off post rather than on post in inadequate housing. One additional small point in this regard. Proponents of having all students live on post point out the evident advantage from association with fellow students. This is real. I suggest the same closeness of association can be obtained by concentrating the leased housing. With a student body the size of the student body at Fort Leavenworth, the close association desired is usually formed around a single block of houses or a single small housing area anyhow. Providing that housing is leased by block, the occupants of leased housing are likely to have almost as close an association with fellow students as the occupants of on-post housing.

c. The basic purpose of the preceding paragraphs is not to downgrade the importance of getting adequate housing at C&GSC as a matter of urgency. Rather, the purpose is to assure that we recognize the substantial progress made, especially in the leased housing area, in recent years and do not over-react at this time by reducing the input to C&GSC solely because of the housing situation.

Section XI. Recommendations and Guidance

6-25. Recommendations

The following actions are recommended concerning C&GSC:

a. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs:

(1) to prepare each officer to function effectively in a high-level staff area.

(2) to provide a foundation for continuing education and intellectual development.[5] (Recommendation 11)

The resultant mission would read:

to prepare selected officers for duty as commanders and principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command, to provide these officers with an understanding of the functions of the Army General Staff and of major Army, joint, and combined commands, to prepare each officer to function effectively in a high-level staff area, and to provide a foundation for continuing education and intellectual development.

b. Pursuant to adoption of the revision recommended in (1) above, change the curriculum at C&GSC to--

(1) Establish a core curriculum of approximately 5 months duration which would be designed to teach every Fort Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course.

(2) Institute staff functionalization courses of approximately 5 months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course. (Recommendation 12)

c. Diversify educational methods by moving to student-centered techniques for a substantial majority of the instruction and by full utilization of proven innovations in educational technology. (Support for this recommendation is advanced in chapter 9--Theory of Teaching.) (Recommendation 13)

d. Expand electives program and degree completion program. (Recommendation 14)

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[5] Support for this recommendation is advanced in Chapter 4--Roles and Missions of Schools and Gaps in Their Coverage.

e. DA and DOD obtain congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved. (Recommendation 15)

f. Establish a C&GSC(LOG) at ALMC. If established, staff functional instruction in logistics (paragraph b above) would be transferred to C&GSC(LOG), consonant with student capacity at ALMC. (Recommendation 16)

6-26. Guidance

It is suggested that:

a. The basic objective be the establishment of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community. (Guidance 11)

b. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly-regarded Strategic Studies program; and increased use of military history. (Guidance 12)

c. The points raised about housing at C&GSC (Section X) be given appropriate weight in decisions on this subject. (Guidance 13)

CHAPTER 7

ARMY WAR COLLEGE

7-1. Faculty and Students

a. My review of this college indicates that generally it is in excellent shape. The faculty is high caliber (73 percent possess master's degrees); and an aggressive, comprehensive faculty recruitment program is underway.[1] The student body is well selected, highly motivated, and generally satisfied with their educational experience at the school. An interesting indicator of the trend in intellectual attainment of the student body during the past decade is the fact that the current student body has 55 percent master's degrees; 10 years ago it was 26 percent (an increase of approximately 110 percent). Of equal significance is the trend in skills within the master's area. There has been an increase of approximately 40 percent in advanced degrees in the technological area; an increase of slightly over 100 percent in the humanities and social sciences; and an increase of about 360 percent in the management, ADP, communications skills, etc, areas. Statistical trends towards an increase in the overall total of master's degrees can be expected to continue for the next decade. It is probable that, within this period, approximately 75 percent of the student body will attain master's degrees, the preponderance of these in the management area.

b. As noted above, the educational attainments of the faculty and students are impressive; but the breadth, intelligence, maturity and objectivity which these officers consistently display is, in my opinion, even more significant.

7-2. Curriculum

a. The curriculum appears to be expertly designed and well conducted; it is the result of an indepth, highly professional study which was recently approved by DA.[2] Two points should be made

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[1]One promising avenue for continued improvement of the AWC faculty is the three-tiered system discussed in chapter 10, para 10-8.

[2]U. S. Army War College, 1971 Study of Mission and Curriculum, 16 November 1970.

concerning the curriculum. First, looking ahead, it will be necessary to continually reshape the curriculum, particularly in the management sciences area, to conform to the increasing level of educational attainments of the student body. This applies especially to the level at which instruction is cast. When student academic backgrounds place them at a higher level of the educational spectrum than heretofore, the curriculum should pick them up at this higher level and carry them forward. We cannot simply repeat instruction appropriate to earlier classes, for the obvious reason that tomorrow's students, as a group, will be better qualified academically than today's and capable of undertaking more advanced work. The second point recognizes that there is a body of professional opinion which holds that the Army War College curriculum should be oriented more toward specific Army concerns and less toward the national strategy and foreign policy themes which comprise its current focus. This view holds that there are professional military subjects more appropriate for inclusion in the AWC curriculum: higher echelon command procedures; principles of force development in various environments under various constraints; tactical theory in alternative combat and technological environments; integration of firepower, maneuver, and logistic functions, alternative managerial and organizational frameworks for raising, equipping, training and deploying Army forces--rather than addressing subjects at the approximate level of the existing National War College curriculum. [3]

b. While this argument has considerable force, my own belief is that the recently revised War College curriculum is very sound for today's needs. Further, without being tendentious about the point, a reorientation of the C&GSC curriculum along the staff functionalization lines recommended in the previous chapter should engender a thorough consideration of these important issues at the C&GSC level. As a final point, I would add the obvious caution that nothing obsolesces faster than an issues-oriented curriculum, so the AWC curriculum should be continually updated by wide-ranging curriculum reviews which deal with the premises and fundamentals

[3] This view is strongly expressed by Edward L. Katzenbach, Jr. in "The Demotion of Professionalism at the War Colleges." United States Naval Institute Proceedings, March 1965, pp. 34-41.

of a War College education and not with marginal adjustments which are both unproductive and superfluous at this echelon. In my opinion, the recent review did an excellent job of addressing these premises and fundamentals; it can serve as a model for future efforts.

7-3. Chairs and Graduate Program

There are two important programs underway at AWC which are promising, but have not yet achieved their full potential. These are the cooperative graduate degree program (which has recently been reinstituted) and the Faculty Chairs Program. Both of these high-potential efforts require continued emphasis and strong support, not only within the College itself, but from the Department of the Army. This requirement is clearly recognized by the Commandant, his faculty, and Department of the Army; it can be anticipated that these programs will mature steadily and become solid assets at the College.

7-4. Creative Resources

a. The co-location of an excellent, mature faculty with an excellent, mature student body constitutes the Army's best single reservoir of senior officer talent. The use of this concentration of talent to the best advantage of the Army and the defense effort makes sense; and there are a number of approaches towards such utilization. One approach which has some advocates is to use the student body to solve specific problems which are of direct interest to major staff agencies in DA. In my opinion, any such action would damage the War College educational experience a great deal more than it would assist DA staff actions; and I think it would be genuinely regrettable if the War College ever became the handmaiden of, or substitute for, the DA staff (even though this is what Elihu Root had in mind when he directed its establishment).[3]

b. As an alternative, this concentration of talent can be directed towards the consideration of long-term, major issues of fundamental importance to the Army as a whole. For example, the War College has conducted landmark studies of two such issues,

[3]George S. Pappas, Prudens Futuri - The U.S. Army War College, 1901-1967, (Walsworth Publishing Company, 1967) pp. 1-2.

professionalism and leadership, in the last 18 months. The results in both cases can accurately be called impressive. These War College efforts have assisted all elements of the Army to think through these two important issues, and I believe the quality of the War College end product could not be duplicated by any other agency in the Army.

c. The Army should, therefore, continue to use the creative resources of the War College faculty and students to focus on problems of Army-wide importance, as in the professionalism and leadership studies. Tasks should be assigned only by the Chief of Staff, the Vice Chief, or the DCSPER, and in no sense should the school become a catch-all for DA staff problems.

7-5. Leadership Role

As an adjunct to the foregoing, the AWC should remain in the forefront of efforts to cope with Army leadership problems posed by the sociological revolution of our times by having the Commandant act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee would consist of representatives of USAWC, USMA, and such CONARC schools as CG, CONARC believes appropriate. The committee would meet at the call of the Chairman, perhaps semi-annually as a routine after the organizational phase. Working members of the committee would be 05/06 level officers.

7-6. Nonresident Instruction Course

a. One of the most impressive activities at AWC is the nonresident course, instituted in 1968. Two hundred students begin the 2-year course annually (100 active duty and 100 Reserve/National Guard). Students volunteer to attend and selection is by DA. The course is primarily nonresident, but two resident phases of 2 weeks duration each are conducted; one at midcourse, the other at the end of the course, with each student attending two such resident sessions before graduation. The course is expertly designed and imposes a real academic demand on the students (noncompletion rate is about 39 percent). All personnel associated with this course regard it very highly; the students have a real respect for its intellectual demand. It is a distinct asset to our educational program at the senior service

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level, and it deserves continued emphasis and support.

b. Under current policy, a graduate of the nonresident course receives career management credit for attendance at a senior service college, and is considered to have achieved the equivalent of a resident course for assignment purposes. However, his DA Form 66 carries the indicator AWC (nonresident). This connotes a small but important degree of second class citizenship. Although this issue is minor, I believe the graduate of the nonresident course has received at least as much educational benefit as the graduate of the resident course. No distinction should be made between them, and, specifically, the indicator of nonresident graduation should be eliminated. In advancing this recommendation, I clearly restrict it to graduates of the AWC nonresident course. As a general policy, nonresident status should not be equated to resident status, as DA Pam 600-3 states.

7-7. Recommendation

It is recommended that identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses. (Recommendation 17)

7-8. Guidance.

It is suggested that:

a. The current system for utilization of AWC creative resources be continued. (Guidance 14)

b. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate. (Guidance 15)

c. The Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs. (Guidance 16)

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CHAPTER 8

CIVILIAN EDUCATION

Section I. INTRODUCTION

8-1. Overview

The Army currently conducts an extensive civilian educational effort involving a number of programs in two major fields: undergraduate education (baccalaureate degree) and postgraduate education (advanced degree).

a. The undergraduate programs include the following:

(1) Officer undergraduate degree program

Young, career-oriented officers are provided an opportunity to complete baccalaureate degree requirements while serving on active duty. Those selected may attend an accredited college or university for up to two years while drawing full pay and allowances. Costs of tuition, texts, and supplies are borne by DA. Normally, officers will not be placed in school until they complete combat duty, company command, and the branch Advanced Course. The degree pursued must be generally related to duties the officer will normally perform in his branch.

(2) Degree completion program

The degree completion or "bootstrap" program is part of the general educational development program of the Army. The degree program is designed to enable military personnel to satisfy degree requirements for a baccalaureate or advanced degree at accredited civilian educational institutions. Participants are enrolled in a college or university on a full-time basis and must be able to obtain a baccalaureate or advanced degree in 24 months. First consideration for attendance is given applicants requiring the shortest period of resident study. Presently, applicants requiring one year or less to complete their degree are being selected for this program. Lengthening of this period to 18 months has been proposed for FY 73.

Individuals receive full pay and allowances while attending school and are responsible for bearing all educational costs incident to this schooling; however, veterans benefits may be used to defray expenses. 96

(3) Tuition assistance program

The Army pays 75 percent per semester hour or equivalent of the tuition for military personnel attending accredited civilian educational institutions during off-duty hours. If an officer acquires sufficient credits in this manner, he may become eligible for the degree completion program or officer undergraduate degree program.

b. At the graduate level, the Army currently conducts the following programs:

(1) Advanced Degree Program

This program has been the mainstay of the Army's efforts for acquisition of advanced degrees. Under this program, the Army Educational Requirements Board meets annually to validate positions that require incumbents with advanced degrees. Selected officers attend civilian educational institutions for a period of up to 24 months to obtain either a master's degree or a doctorate. The officer receives full pay and allowances while attending school and tuition costs are borne by DA. Upon completion of schooling, officers receive a utilization assignment which makes use of their newly acquired skills. The explicit objective of the program is to train and maintain an adequate number of officers to fill the Army's continuing requirements in the graduate fields. The advanced civilian education thus provided is justified as "essential training in areas not covered by military training facilities or to augment training."

(2) Advanced degree program for ROTC instructor duty

Officers desiring assignments as ROTC instructors may volunteer for this duty in three states of their choice. Officers having master's degrees will, if selected, be assigned to ROTC duty as an instructor for 3 years. Officers who do not have master's degrees at the time of selection will be permitted to attend advanced civil schooling for up to 2 years. Direct schooling costs are borne by the officer; however, if he is eligible, VA benefits will likely cover most of the costs. Upon graduation, the officer will be assigned a 2-year tour of

ROTC duty, normally at the school where he received the advanced degree.

(3) Cooperative degree programs

Officers participating in a cooperative degree program earn credit toward a master's degree while in residence at AWC, C&GSC, or branch school, and become eligible to apply for further schooling following graduation in order to complete degree requirements at the cooperating university or other institution under the provisions of the degree completion program. Typically, the military educational institution negotiates agreements with cooperating civilian institutions to offer programs leading to an advanced degree, and courses are conducted for resident credit at either the military school or civilian campus within the framework of the military school's curriculum.

(4) Degree completion program

Same as paragraph a(2) above.

(5) Tuition assistance program

Same as paragraph a(3) above.

(6) Scholarships, fellowships, and grants

This program permits military personnel to accept scholarships, fellowships, or grants to further their education or to work on a project of value to the United States. The education or training received by the Army member must be designed to qualify him to satisfy a requirement or potential requirement of the Army.

8-2. New Factors Affecting the Civilian Educational Effort

I think it can be stated that, from both a policy and performance level, the Army has established civilian educational programs which have adequately supported its requirements to date. However, as indicated in the discussion on environment in chapter 2, there are at least two major factors--the undereducated hump and educational explosion--which pose new problems for the Army's civilian educational program; therefore some substantial adjustments may be in order.

Section II. UNDERGRADUATE EDUCATION

8-3. The Undereducated Hump

a. The undereducated hump is a special issue for the Army's civilian educational program, not only because of its size and urgency, but also because of complex personnel management, career development, and morale considerations. Any analysis of the undereducated hump must recognize that it is infeasible to define precisely the size of this contingent in our officer corps, because the arithmetical number included in the group is completely dependent upon when the appraiser starts and stops counting officers without baccalaureate degrees; what overall size of career force he contemplates, and so on. However, a solid ballpark figure for the size of this group at present includes approximately 20,000 officers. This number is expected to be cut roughly in half by normal and policy-generated attrition related to reduction in size of the Army. These figures are derived from the computations given in Appendix F.

b. Aside from the numbers involved, it is important to recognize the composition of this group of officers. The bulk of them were commissioned during the accelerated OCS program for the Vietnamese build-up; most have served in Vietnam at least once (many several tours) and are now Voluntary Indefinites. This group is large and diverse; it ranges in efficiency and potential from inadequate to outstanding. Generally, however, it can be stated that each officer has served his Nation well (or at least to the limits of his ability) at a time of national need when many individuals who had higher educational qualifications were actively avoiding service. From the standpoint of loyalty, down the Army owes them a lot. And even if the Army did not owe them a lot, it would be distinctly in the Army's best interests to retain the high caliber portion of this group because of their dedication and proven efficiency.

c. Thus, it is essential to assure that every deserving officer in this group has an opportunity to acquire a baccalaureate degree. In carrying out such a program, it is unfortunately impossible to delineate any single policy or set of procedures that will accomplish the desired objective. Some of these officers lack only a very few credit hours toward a baccalaureate degree; others have essentially none. The policy that will work for one group will rarely work for the other. This situation poses special problems for OPO and other

personnel agencies because it requires a highly specific appraisal of each officer and a determination of what educational experience combined with a professional assignment will best serve his own needs and the Army's.

d. In summary, I consider the problem of providing an opportunity to obtain a baccalaureate degree for the undereducated hump to be the most urgent, time-dependent issue confronting the officer educational system. It is also one of the most complex and difficult. At least two factors indicate this--

(1) There is an endemic shortage of captains in the Army; yet almost all of the undereducated hump are captains. To give this group of deserving officers their educational opportunities, they must be taken from the "mainstream" for periods of not less than two years; thereby severely complicating the shortage problem.

(2) Any program to provide these educational opportunities will place a special strain on personnel management because as previously indicated, highly personalized and individual treatment is required for each case. There is no simple solution for all. Specifically, since most young officers do not have sufficient knowledge of the educational opportunities available to them, an educational counseling program is sorely needed to advise them of the programs of study and the assignments that will enable them to achieve their educational aspirations.

However, I believe the Army has a moral commitment to these officers who certainly have met their commitment to the Army and the Nation. The manner in which we fill this commitment to these officers will have a lasting and indelible effects on the "Army image." It is estimated that current programs will educate to the baccalaureate level 75 to 80 percent of the undereducated hump by 1980 (Appendix F). These programs should be expanded to provide an opportunity for a minimum of 90 percent of the hump to obtain a baccalaureate degree prior to the time they are considered for C&GSC. In view of the current policy-generated attrition now underway, those officers who remain in the career force should be the finest material and certainly deserving of this educational opportunity.

8-4. Recommendations

It is recommended that the Army not only continue its existing baccalaureate degree program, but expand it substantially along the following lines:

a. All deserving Army career officers, both Regular and Reserve, who do not possess a baccalaureate degree, be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less. (Recommendation 18)

b. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of the College Level Examination Program (CLEP) and off-duty study under the tuition assistance program. (Recommendation 19)

c. Officers within the purview of recommendations a and b be afforded the opportunity to attain their degrees not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC. (Recommendation 20)

d. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities to achieve his educational aspirations. (Recommendation 21)

e. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts. (Recommendation 22)

Section III. GRADUATE EDUCATION

8-5. Introduction

The issue of an advanced civilian educational program to meet the Army's needs in the next decade is less pressing, but even more important in the long run, than the undergraduate programs discussed above. The factors noted in the analysis of the educational explosion (paragraph 2-8, chapter 2) outline the magnitude and nature of the situation and raise significant questions of policy and procedure for our educational system.

8-6. Current Programs

The following table indicates the programs that are already underway and their annual production. (See Appendix I for a brief discussion of each program.)

Table 8-1. CIVILIAN ADVANCED DEGREE PROGRAMS

Type	Army Regulation	Production
Advanced degree program (AERB)	621-1	825 (FY 71 and 72 programmed input)
Advanced degree program for ROTC instructor duty (APRID)	621-5	100 (estimated FY 73 output) 300 (estimated FY 75 output)
Cooperative degree program	621-5	63 (FY 72 output for C&GSC) 55 (FY 72 output for AWC)
Degree completion program	621-5	325 (FY 71 output)
Scholarships, fellowships, and grants	621-7	15 to 20 annually
TOTAL		1400/1600 annually

8-7. Advantages and Disadvantages of Advanced Civilian Education

To begin with, it is helpful to examine the advantages and disadvantages without reference to specific programs.

a. Advantages

(1) Contributes to more efficient command/management.

(2) Improves retention of high-quality officers (paragraph 2-8, chapter 2).

(3) Increases the Army's intellectual and technological stockpile.

(4) Avoids educational obsolescence (paragraph 2-6, chapter 2).

(5) Improves the Army's prestige among the civilian sector.

(6) Helps to keep the Army abreast of attitudes and developments in academia.

(7) Responds to national trends (paragraph 2-8, chapter 2).

b. Disadvantages

Why not advanced degrees? Some of the weaknesses and disadvantages include--

(1) Costs in manpower and money

Manpower costs are the most significant because the Army must forego the services of the officer while he is attending school. Average FY 71 and 72 participation in validated subprograms was approximately 3,120 exclusive of enlisted and AMEDD input. Average participation in the General Educational Development (GED) subprogram was approximately 4,000 full-time students and up to 200,000 part-time students (participants in the off-duty tuition assistance program). Thus, an average of about 7,200 officer man-years are invested in the civil schooling program.[1] This figure is itself a misleading minimum because it includes only the spaces credited to the student account by ACSFOR; it does not include the substantial number of participants in off-duty education.

Total MPA/OMA costs for all validated positions and GED civilian education programs were projected at $86 million in FY 72, and will probably remain at approximately this level through

[1] Department of the Army, Deputy Chief of Staff for Personnel, Army Civil Schooling Program Milestone-Three Briefing, approved by the Chief of Staff in May 1971, p. 3.

FY 79 to attain a goal of 17,500 officers (20 percent of all career officers) with graduate degrees.[2] Roughly 85 percent of these costs are MPA funds, so the marginal money cost[3] of the civil schooling program (the cost of tuition and related expenses) is about 10 to 12 million dollars.

(2) Split professional interest

Civil schooling causes an officer to divide his interests between professional military education and advanced civilian education. Pushed to extremes, this could be detrimental. Nevertheless, the weight of the evidence is that civil schooling complements professional military education and better enables an officer to perform his duties.[4]

(3) Sheepskin sweepstakes

There is always a danger that acquiring an advanced degree can become a ticket-punching exercise and thus detract from professionalism. However, we cannot blame the officer corps for following the promotion lists; the fact is that in recent selections to general officer, an officer without a master's degree has been the

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[2] Department of the Army, Deputy Chief of Staff for Personnel, Army Civil Schooling Program Milestone-Three Briefing, approved by the Chief of Staff in May 1971, p. 3.

[3] Marginal money costs are the extra financial costs incurred as a result of the program. Pay and allowances are not included since these would be paid in any event.

[4] See Colonel William H. Tomlinson, "The Army's Graduate Civil Schooling Program in the Engineering and Physical Science Fields: A Critical Evaluation," (Carlisle, Pa. : U.S. Army War College, 8 April 1966), Thesis No. 66187; results of Naval War College questionnaire discussed in paragraph 8-8 of this chapter; and Appendix J.

exception rather than the rule.[5]

(4) Political vulnerability.

The civil schooling program has been subject to recurrent challenge by members of Congress and the GAO over the years. Recently, principal issues raised were the worth of advanced degrees to the Army and the allegedly low rate of re-utilization of school-trained officers.[6]

(5) Administrative demand

Proper conduct of a major civil schooling program entails considerable administrative effort. This includes screening records, selecting attendees, maintaining liaison with civilian institutions on matters such as admission requirements and transfer of credit, contracting for services, and monitoring student progress.

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[5]According to the General Officer Branch, DCSPER, 62 out of 80 selectees on the 1971 promotion list had a doctoral, master's, or professional degree. The problem here is one of inculcating a professional attitude toward graduate education and disparaging the career-ticket approach. In Colonel Tomlinson's study, 37 percent of respondents indicated the most compelling factor affecting the decision to apply for civil schooling was the desire to raise one's general cultural and educational level; 27 percent cited career specialization in the professional area most related to the officer's field of study as the most compelling factor; 25 percent listed desire for broadened knowledge in a particular field, as well as improved capability generally in his branch and a broadened career in the armed service. This study applied to classes who entered civil schooling in the late forties and early fifties; it indicates that at one time a healthy attitude did exist. The erosion of this attitude described in the War College Study will simply have to be countered by steps to enhance professionalism within the officer corps.

[6]U.S. Comptroller General Report to the Congress, Improvements Needed in Determining Graduate Education Requirements for Military Career Positions, 28 August 1970.

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8-8. Value of Advanced Degrees to the Army

The advantages/disadvantages cited above do not directly address the fundamental question of the cost-effectiveness of an Army investment in advanced civilian education.

a. Graduate school is distinctly advantageous to the Army in those situations where the education results in certification of competence and, as a practical matter, this certification is a prerequisite for certain kinds of work. There are two reasons for this. First, professional knowledge and skill, for example, an officer with an advanced degree in aeronautical engineering will make a greater contribution toward design of a good aircraft than if he did not have such a degree. Second, certification by a university gains the officer academic access to the company of professionals in his field, and he is therefore better able to communicate with the professional community in carrying out his assigned duties. (These conditions normally pertain to graduate schooling under the aegis of the AERB.)

b. Outside the area of academic preparation for specific jobs, the issues become much less clear cut. Logical questions arise such as, Will an officer who has an advanced degree in political science or sociology be a better brigade commander than he would be if he didn't have it? Stated more challengingly, as advanced by Mr. Roger Kelly, ASD (M&RA), "Would he be a worse brigade commander than he would be if he didn't have the advanced education?" Certainly there is no

conclusive statistical proof on either side of this question.[7] Each individual derives his own answer based on his own subjective sense of the enormously complex relationships between demonstrated performance on the job and educational achievement.

c. The Army is not alone in confronting the question of what this sort of education is worth, for this is an issue as old as education itself. It is an especially timely one for this Nation. Without trying to address it deeply here, a few thoughts are pertinent. To my knowledge, no one has yet been able to put a price tag on education or determine its cost effectiveness. I cite Robert Hutchins' broad appraisal that--

> Learning, or education, cannot be defended as a means to anything beyond itself. It has no predictable effect on the prosperity of states or individuals. We cannot say whether the United States is rich and powerful because of its educational system or in spite of it. As for the developing nations,

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[7] Ivar Berg, Education and Jobs: The Great Training Robbery, (New York: Praeger, 1970).

In his remarks delivered at the 54th Annual Meeting, American Council on Education, October 7, 1971, the author compared performance in relation to education level. He said, "I considered thousands of jobs at all levels of the occupational structure, from piece workers in Mississippi textile operations to management's best scientists and engineers in the heavy electrical equipment manufacturing industry. I found education and performance to be either uncorrelated or negatively correlated."

While data from the armed forces was used by Professor Berg in his study, none pertained to officer performance. It would have been interesting to look at performance in view of the high rate of selection of advanced degree holders for promotion to general officer.

For discussion of the methodological issues involved in attributing differences between graduates and nongraduates to the effects of education, see Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in Universal Higher Education Costs and Benefits, American Council on Education (Washington: 1971), pp. 44-47.

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> we know that as countries develop, their educational systems and expenditures expand. We do not know whether this expansion is a cause or a result of economic development.[8]

From my limited experience, this passage accurately sums up the problem. More specifically, I raised this question of determining the cost effectiveness of education with a large number of people across the educational spectrum. I have found nobody who claimed to have a defensible statistical answer.[9] Neither educational philosophers nor hard-nosed developers of managerial skills (GE and Caterpillar for example) can put a price tag on the end product.

d. Since there is no cost effectiveness answer to the advantages of advanced civilian education, we must depend mainly on subjective and individual appraisals. The only compilation of subjective views known to me results from the study recently completed by the Naval War College, which surveyed graduates who have attained advanced degrees on a cooperative basis with The George Washington University while attending the Naval War College. The Naval War College has conducted such an advanced degree program (leading to a master's degree in political science) for 10 years. They are the only War College which has a sufficient statistical base to arrive at indicative conclusions at this time. The results of the questionnaire used in the survey indicate a resounding endorsement of this advanced educational effort. Specifically, 81 percent of the officers who had attained a master's degree on this cooperative basis felt the degree enabled them to more effectively perform their professional duties. Of those who completed the program, 99 percent felt that the program complemented

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[8] Robert M. Hutchins, "Toward A Learning Society--The Institutional Illusion," The Center Magazine, Vol IV, No. 4, July-August 1971, pp. 43, 45.

[9] See views contained in Western Interstate Commission for Higher Education, Outputs of Higher Education: Their Identification, Measurement, and Evaluation, papers from a seminar held at Washington, D.C. May 3-5, 1970, by the Western Interstate Commission for Higher Education in cooperation with the American Council on Education and The Center for Research and Development in Higher Education at Berkeley (Boulder, Colorado, July 1970).

the Naval War College curriculum and recommended participation in the program for future students. Aside from this questionnaire, there is a vast amount of scholarly discussion on this issue. Some typical comments, with my views thereon, are given in Appendix K.

e. In my opinion, the principal reason why the Army should conduct an extensive, well-integrated advanced civilian educational program is wrapped up by the simple question, "What are the consequences to the Army of not conducting such a program?" I think that, in just two areas alone, the consequences would be so severe that we really have little alternative. These areas are first, the disappointment and loss of motivation experienced by our junior officers, who are highly conscious of the value of education; and second, the likelihood that the Army would fall behind the educational power curve of the nation at large.

8-9. How Advanced Degrees?

a. In considering the "how" of advanced degrees, I do not believe the requirements/utilization approach centered in the Army Educational Requirements Board (excellent though it is for its purpose) can be expanded sufficiently to meet the Army's needs in the decade ahead. To attempt to do so would stretch the current regulation which governs this process beyond its purpose and simply invite criticism from GAO.

b. Hence, the pragmatic approach would be to diversify the routes an officer can follow to an advanced degree. Primarily, this requires an expansion of our non-fully funded civilian education efforts, specifically, the degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC, and AWC. In addition, opportunities should be provided to faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (This would certainly enhance the desirability of a faculty assignment.)

c. As a final important route to an advanced degree, OPO should as a matter of policy, in the many situations where the needs of the individual and the Army coincide, assign career officers to duties where they have an opportunity to continue their advanced civilian education and acquire advanced degrees. This is especially significant with respect to assignment subsequent to attendance at service school

where the individual was able to work toward, but not complete, an advanced degree.

8-10. NPGS and AFIT

The Navy Postgraduate School and Air Force Institute of Technology are both degree-granting institutions, and as such can make a modest but continuing contribution to the Army's advanced degree efforts in the seventies. I have visited both of these schools, and found them to be splendid institutions of high academic repute. Officials of both schools expressed a desire for greater Army participation in both the student body and faculty. The Army should not neglect the significant educational opportunity represented by these sister Service schools. Given the rapidity of technological change, they can become an important source of educational programs which can be tailored to service needs in newly emergent fields when programs at civilian institutions do not suffice. The Army should explore the possibilities for making greater use of these two fine institutions, and we should evidence our support of their efforts through limited faculty participation.

8-11. Recommendations

a. That non-fully funded civilian educational programs: degree completion, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC, and AWC be expanded as the principal means of acquiring advanced degrees in the next decade. (Recommendation 23)

b. That opportunities be provided for faculty members at Service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, to include an allowance for faculty to continue educational and professional development. (See Chapter 13, Areas of Special Interest). (Recommendation 24)

c. That DA adopt the policy that, when the needs of the Service and the desires of the individual can be reconciled, officers be assigned to duties which will enable them to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree. (Recommendation 25)

d. That DA implement the proposed 18 month degree completion program at the earliest practicable date, with provision for extension to 24 months in individual cases. (Recommendation 26) //C

e. The Army should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools. (Recommendation 27)

CHAPTER 9

THEORY OF TEACHING

Section I. INTRODUCTION

9-1. Teaching and Learning

This chapter will address the important subject of how we teach, and what is more elusive but equally important, how the student learns.

a. Viewed simply, there are at least four major components of any educational system: what is taught (curriculum), how it is taught (theory of teaching), who is teaching (faculty), and who is being taught (students).

b. It is fair to say that the principal focus of the Army educational system has been on what is taught, with the other components receiving less attention. Any observer, for instance, will note the thousands of faculty hours spent annually in determining relatively minor revisions to the curricula and to units of instruction, in comparison to the very small amount of time spent in determining, analyzing, and improving our instructional methodology.

c. I personally consider this effort disproportional and feel that a redressal of it will substantially improve our system. Further, any reviewer will be favorably impressed by the lack of stagnation in our curricula--they do change with the time and sometimes ahead of it. On the other hand, any observer of a Basic, Advanced, or C&GSC class today sees few fundamental changes from the methods of instruction used 20 years ago. Training aids and instructional techniques have been excellently modernized, and there have been some positive advances in the application of programmed texts, diagnostics, validation, and electives, but the basic system remains the same. These methods of instruction are not necessarily wrong or inappropriate, but it is apparent that the Army educational system has not diversified its instructional techniques or taken adequate advantage of the many opportunities to improve its pedagogy.

9-2. How We Teach

How we teach actually involves the two human factors in the educational system (the teacher and the student). In addition, a third factor is becoming important: the machine. The word "machine" is a single-word designator for the entire family of impressive technological advances made in teaching (such as programmed texts, educational TV, audio-visual techniques, and computer-assisted instruction). The first two factors have existed since the educational process began. The third factor is in a stage of dynamic change and its effects can radically restructure the teacher-student relationship. For clarity, this discussion will first address the relationship between the teacher and the student; it then will consider the role of the machine.

Section II. INSTRUCTOR-CENTERED AND STUDENT-CENTERED TEACHING

9-3. Continuum of Teaching Methods

a. An almost infinite variety of teaching methods exist, and it is the basic task of the teacher to pick the method or combination of methods which best suit a particular educational purpose. The teacher is the mediator between the curriculum and the student, so the techniques or methods he employs are decisive in determining how much learning the student actually accomplishes. The availability of this useful continuum of methods for the modern educator means that instruction can be made timely, pertinent, and motivating if techniques are selected which meet the educational goals. Without becoming too technical about it, this continuum ranges from methods that synthesize and dispense knowledge (instructor-centered) to those that energize and motivate the student to acquire knowledge (student-centered).[1]

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[1]For a comparison of the two systems, see Michael D. Marien, Alternative Futures for Learning: An Annotated Bibliography of Trends, Forecasts, and Proposals (Syracuse, N.Y.: Educational Policy Research Center, Syracuse University Research Corporation, 1971), p. X. Also of value is Joseph Axelrod, "Teaching Styles in the Humanities" in William H. Morris (ed), Effective College Teaching (Washington: American Council on Education, 1970).

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b. It is evident that no single technique will be best for all situations. The interplay between techniques, not concentration on any one method, will determine how well we teach our students. In the following discussion, the two techniques will be treated almost as a dichotomy, but in actual application, they should be integrated (along with machines) to fit the educational goals. The distinction between the two techniques is illustrated in Table 9-1 on the following page.

9-4. Strengths of Instructor-Centered Method

a. The bulk of the educational effort at the Basic, Advanced, and C&GSC level is conducted by the instructor-centered method. There are many sound reasons for concentrating on the instructor-centered technique; it has at least the following substantial strengths:

(1) Creates homogeneous graduates

(2) Develops retention and feed-back

(3) Is well understood/recognized

(4) Can use inexperienced instructors

(5) Withstands turbulence and is capable of expansion

(6) Is statistically manageable

(7) Is best for some subjects

b. Further, without being too abstruse about it, there are solid psychological reasons for the existence of an instructor-centered theory in military education. The military system, which is a disciplined one, is built fundamentally on the relationship between a superior and a subordinate. This is the essential characteristic of any military system and it must remain so. Thus, the instructor-centered technique is a logical derivative of the superior-subordinate relationship and is soundly based in our military ethos. Although it has not unilaterally determined the shape of the military educational system, the superior-subordinate relationship has been an important conditioning factor and is a strong buttress for the current system of instruction.

Table 9-1. CHARACTERISTICS OF INSTRUCTOR-CENTERED AND STUDENT-CENTERED TEACHING IN THE ARMY EDUCATIONAL SYSTEM

Instructor-Centered Instruction
Closely controlled
Lesson-plan directed
Instructor-centered, but little flexibility for instructor
Instructor's role is to transmit knowledge
Same pace of instruction for entire group
Measured by contact hours
Practical exercise oriented--
Sequential requirements
Platform-controlled
Exam-motivated
Aimed at lowest common denominator of students

Student-Centered Instruction
Less control
Student bears responsibility for learning
Flexibility for instructor
Learning-objective directed
Instructor's role is to facilitate learning
Learning is self-paced to greater extent
Contact hours reduced
Practical-exercise oriented--
Requirements solved through individual and group study in or out of class
Individual and group solution discussed in class
Peer-group motivated
Aimed at highest level of effort

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9-5. Strengths of Student-Centered Method

a. Alternatively, the student-centered theory of teaching has the following substantial strengths:

(1) Challenges students

(2) Develops problemsolving ability and communicative skills

(3) Imposes no ceiling on personal endeavor

(4) Permits lower contact hours for instructor

(5) Is best for most subjects

b. Aside from these strengths, the following broader considerations argue for use of the student-centered technique:

(1) The student-centered technique can better accommodate to the diversity factor, which is probably the dominant characteristic of our student body today. It facilitates treatment of the student as an individual rather than of the student body as a mass.

(2) This system can better accommodate to the diversity of Army requirements for specific instruction. It permits accurate tailoring of curricula and educational programs to meet these requirements.

(3) It is especially effective for those substantial elements of our curricula which are devoted to "education," as opposed to "training." Thus, adoption of the student-centered technique, where appropriate, lends strength and diversity to our system and supports our broad educational objectives.

(4) The rapid obsolescence of knowledge due to technological change places a premium on developing problemsolving ability, conceptual thinking, and innovation rather than imparting factual knowledge and skills which quickly become obsolete. The student-centered technique facilitates development of these attributes.

(5) It capitalizes on the advances made in civilian educational practices during recent years, and more closely conforms to the civilian educational experiences of students today. It is also in line with the trend in civilian education toward student-centered techniques.[2]

(6) Properly utilized, it can reduce the instructor's workload (especially contact hours) and can permit the limited capabilities of today's faculties to be directed toward briefer, more concentrated, and more profitable classroom periods.

(7) It provides an effective educational answer to the existing high level of student dissatisfaction with their educational experiences, especially with respect to providing a sufficient educational challenge. The student in student-centered learning environment can rarely say that his educational experience lacks challenge, because the degree of challenge and the measure of his living up to it are primarily his responsibility.

9-6. Requirement for Diversification

a. The preceding analysis indicates that a diversification of the theory of teaching in the Army educational system is in order, and that diversification should be in the direction of a substantial increase in the amount of student-centered instruction conducted within the system. (See Appendix L for an expanded discussion of the rationale for greater use of student-centered instruction.)

b. In accomplishing this diversification, the relative proportion of instructor-centered and student-centered education will obviously vary with the level of the school and its educational mission. As broad parameters, the Basic Course should remain predominantly instructor centered, with about 75 percent instructor centered and 25 percent student centered. The Advanced Course should be approximately 50-50. C&GSC should be predominantly student centered, with approximately 80 percent student centered and 20 percent instructor centered.

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[2]Marien, Alternative Futures for Learning, pp. IX-XII. See also Appendix L.

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9-7. How to Diversify

a. The move to student-centered learning will not be easy for most schools because it calls for substantial changes in long established techniques and procedures.[3] However, these schools will not be breaking new educational ground. Other schools have been employing the student-centered system with marked efficiency and success for many years. They have acquired a tremendous background of experience and competence which they can pass on to the less experienced institution.[4]

b. This review will not recommend specific instructional techniques to enhance student-centered learning, because those can best be developed by each school in the light of its own evaluation of educational objectives. However, existing experience and research indicate that the small-group discussion method, built around a small class, is often an applicable method. The "small-group discussion" as used in this report includes role playing, committee problem solving, case studies, and a variety of other techniques compatible with a small-class environment.[5] HUMRRO has produced an

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[3]See Appendix M for an itemization of some important implications of diversification of instructional methods.

[4]These schools include the Service academies, the senior Service schools, the Naval Command and Staff School, the Air Command and Staff School, the Armed Forces Staff College, and the Squadron Officers School. Also, two of the best applications of this theory that I observed were at the Joint Services Staff College of the United Kingdom and the Joint Staff School of the Canadian Armed Forces.

[5]For a discussion of the basic techniques, see Joseph A. Olmstead, Theory and State-of-the-Art of Small-Group Methods of Instruction, Technical Report 70-3 (Alexandria, VA: Human Resources Research Organization, March 1970). On page 8 Olmstead states: "Although some methods may also involve students in other activities (role-playing, games, etc.) discussion at some point is almost inevitably a critical part of the instructional procedure." He also defines "small group" as a collectivity of not more than 20 individuals.

For further discussion of techniques appropriate to small-group instruction, see Department of Social Sciences, USMA, Teaching in the Department of Social Sciences (West Point, 1967).

excellent study of small-group instructional techniques and their applicability to military instruction.[6] The study shows that such techniques are well grounded in the theory of teaching and makes a convincing case for their superiority over conventional instructional methods. Small-group instructional techniques provide stronger learning motivation, more active participation in learning, more positive shaping of attitudes conducive to innovation and inquiry, greater opportunity to test one's views against those of others, and better development of problemsolving abilities and communicative skills.[7] A further advantage is that high-level subject matter competence on the part of the instructor may not always be required, especially if discussion is tied in with other means for presenting information, such as lectures and TV.[8] Thus relatively inexperienced instructors who are well grounded in discussion techniques may be utilized.

c. Perhaps the most promising direction for student-centered instruction is the use of personalized and individualized instructional techniques made possible through mechanizing instruction (use of programmed texts, audio-visual machines, educational television, and computer-assisted instruction.) This is discussed in the next section.

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[6]Olmstead, Theory and State-of-the-Art. The study was the product of research conducted under work unit INGROUP. This work unit is described in T. O. Jacobs, "Overview and Summary of Work Units OC LEADER, CAMCOM, FORCE, and INGROUP," in HUMRRO Research on Officer Training, Professional Paper 24-70 (Alexandria, VA: Human Resources Research Organization, September 1970), pp. 22-23. The final product of INGROUP is an instructor's manual of small-group discussion which will be published in the near future.

[7]Olmstead, Theory and State-of-the-Art. For expanded discussion of the rationale for small-group instructional methods, see Appendix L. However, the HUMRRO document itself is the best single source and deserves careful study.

[8]Stanford C. Ericksen, "Earning and Learning by the Hour," in William H. Morris (ed), Effective College Teaching (Washington: American Council on Education, 1970), p. 23.

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Section III. MECHANIZATION OF INSTRUCTION

9-8. Criteria for Mechanization

a. An often heard axiom among educators is that no teaching technique is better than a highly qualified instructor standing on a platform and teaching the subject that he knows best. In my opinion, this statement no longer holds true for some learning. Modern technology, as encompassed by the overall categorization "mechanization of instruction," has added totally new dimensions to our educational capability. So, for some subjects in some situations, mechanized instruction is better than either instructor-centered instruction or student-centered instruction of the small-group discussion type.

b. This discussion will not attempt to analyze the total spectrum of subjects tuaght in our school system and to indicate those which are particularly appropriate for mechanization. But it may be helpful to set forth the general criteria which should indicate subjects that are logical targets for mechanization. The following characteristics are suggested:[9]

(1) Constancy of subject matter--when the same material is given over and over to large numbers of people.

(2) Training rather than education--because in training the goals are more specific and easier to identify.

(3) Considerable amount of drill, practice, and repetition--where the instructor is acting like a machine anyway.

(4) Sequencing of instruction known or can be learned--when the instructional process is clearcut.

(5) Learning systems skills--when an individual is fitted into a single system and his job can be defined and prerequisite skills and knowledge identified.

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[9]Source: HUMRRO, Dr. Smith and Mr. Lavisky.

c. In application, these criteria might seem to relegate mechanized instruction to a small role in our educational program where it covers relatively clear-cut, fact-dispensing instruction. This is not necessarily so because, properly employed, mechanized instruction can treat subjects of real depth and complexity and impose severe academic challenges to the students--all without benefit of live instructors. For example, it can be used effectively for instruction of computer programmers and for instruction in field artillery gunnery. Neither of these subjects are academically simple, and both put considerable demand on the student.

9-9. Basic Approach to Mechanization.

Recognizing the advantages of mechanized instruction, the question is: What should the Army do about it? I consider this one of the principal questions facing the educational system. It is comparable in importance to faculty improvement and to increasing student-centered learning. My instinctive belief is that the proper application of mechanized instructional techniques has the greatest single potential for improving our officer educational system, especially as it applies to students today. In terms of its potential, we are at about the model-T stage in utilization. Conversely, I am sure that unless we carefully think through the problems and potential of mechanization, we can waste substantial sums of money and actually damage our educational process. In sum, the question of when? where? and how? we are to apply mechanized instruction is no job for the amateur or casual observer.

9-10. Voice of Experience

Lest I be accused of over optimism about the potential of mechanization, I should note that I have discussed this subject with a number of experienced faculty members and educational advisors who have spoken with the "voice of experience." This voice has some very sound advice to give. Summarized, the guidance is:

a. At any given time, the development of hardware is a couple of generations ahead of the development of software. Therefore, concentrate on good software and especially on the development of an in-house capability to produce it.

b. Even if the software is excellent, it will not be used by an instructor unless it is directly related to his subject matter. Thus,

1/ a shotgun effort to "apply modern techniques" is useless--it must be directed precisely toward specific units in the curricula if it is to pay off.

c. Unless you are a real professional, you tend to be a captive of the last salesman you talked to; so the fanciest instructional gadgets merely gather dust after the salesman has left.

9-11. Directions for the Future

a. For the future, CONARC should continue the development of a comprehensive phased program for introducing mechanization into the Army educational program. In this regard, I am well aware that CONARC is already at work on such projects and that, in many instances, they are ahead of the power curve. I feel, however, that the potential of mechanization is so great that it should receive a higher priority in staff consideration and faculty effort than it now obtains. It is an area where all officers in the educational effort (from senior individuals at DA and CONARC to the junior instructor) should work together to come up with positive and innovative guidelines for mechanization.

b. At least initially, the concentration should be on developing a systems approach that relates hardware, software, learning objectives, instructor, and student into a new learning system rather than grafting the use of machines onto traditional instructional methods.

c. In the technical area, the emphasis should be on the low-cost, high-payoff mechanization techniques such as programmed texts and audio-visual capabilities, rather than on high-cost techniques such as educational TV and computer-assisted instruction. This does not mean that the Army should abandon the CAI and ETV efforts, for they have high potential. However, CAI should remain in the development phase until we can come up with a total learning system that not only works in prototype, but is capable of being successfully applied within the constraints of manpower and expertise that the school system must live with. I believe the judgment made by a team headed by Dr. Meredith P. Crawford, President of HUMRRO, at a conference held at CONARC in February 1970, is still valid and offers the best guidance for the future:

> The state of the art of computer-administered instruction is not at a stage which warrants freezing the design through major investments in specific hardware or software systems. The computer is valuable as an instructional tool only to the extent that it is properly embedded in an effective total instructional system....[10]

d. Similarly, there is hardly a school in the system that does not have an extensive TV network. However, the average use of videotape machines is still quite low, even when expressed as a percentage of the DA standard.[11] Under these circumstances, it seems that a reevaluation of the application of TV in the Army officer educational system is in order. Substantial sums should not be expended on transition to color TV capability for officer education without full evaluation of alternative uses of these funds. The foregoing somewhat critical comments about the use of ETV in officer education are made without recognizing that the ETV capability may have very useful applications outside the officer educational fields on the posts where it is installed. I have seen it only in terms of its use for officer education. Further, as a specific exception, the use of color TV at the Medical Field Service School is a most impressive educational effort. Color TV is "made to order" for graphic and accurate portrayal of the details of medical operations, but MFSS also uses color TV for subjects other than the medical, so the potential for its effective application in other schools certainly exists.

9-12. Organizational Matters

The preceding discussion indicates that the issues involved in the theory of teaching and in how we teach are many and complex.

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[10] J. Daniel Lyons, "Technology of Training: Project Impact," in HUMRRO Research in Training Technology, Professional Paper 21-70 (Alex., VA: Human Resources Research Org., June 1970), pp. 13-14.

[11] In a partial survey of school Quarterly Reviews and Analysis for the 1st quarter, FY 71, the highest utilization as a percent of the DA standard was 46 percent. The relatively low rate of utilization of TV and audio-visual devices generally was confirmed in an interview with the Chief, Audio-Visual Division, Electronics Directorate, Office of Assistant Chief of Staff for Communications-Electronics, DA, 22 October 1971.

The tasks before us are major. The complexity and continuing nature of modernizing our instructional methods and the fact that this is a function common to all schools argue for the assumption of an expanded role by CONARC and perhaps for the creation of an organizational entity in CONARC to address these problems. These organizational matters are considered in chapter 12, Organization.

Section IV. RECOMMENDATIONS AND GUIDANCE

9-13. Recommendations

It is recommended that--

a. The following general policies be adopted with respect to the theory of teaching employed in our Service schools:

(1) The instructor-centered theory of teaching be employed only when essential.

(2) Student-centered teaching be employed for all other professional military education. (Recommendation 28)

b. CONARC develop and implement a comprehensive phased program for introducing mechanized instructional methods into the Army education effort. (Recommendation 29)

9-14. Guidance

It is suggested that--

a. The Basic Course should achieve a balance of approximately 75 percent instructor-centered teaching, 25 percent student-centered teaching. (Guidance 17)

b. The Advanced Courses should be approximately a 50-50 balance between instructor-centered teaching and student-centered teaching. (Guidance 18)

c. The C&GSC should achieve approximately 80 percent student-centered teaching, 20 percent instructor-centered teaching. (Guidance 19)

d. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanisation would provide greater benefit to the officer educational program. (Guidance 20)

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CHAPTER 10

FACULTY

10-1. Importance

Over the long term, any school is only as good as its faculty.

10-2. Army War College

At AWC, the faculty picture is bright. The academic accomplishments of the faculty are impressive; 73 percent of them have master's degrees and, under existing programs, this percentage will probably rise. Faculty recruitment is well thought out, with officers possessing special qualifications being requisitioned, and furnished, to meet specific faculty vacancies. Faculty utilization appears to be excellent. Faculty members are given opportunities to stay current in their academic areas of interest, and the development of individual expertise is encouraged. The faculty is well-balanced from a standpoint of seniority and maturity; there is no effort to flood the faculty with "young comers" On the other hand, the faculty is not stagnant or a retirement haven. Faculty morale seems excellent and I understand that high quality officers are volunteering for faculty assignments in greater numbers than openings are occurring. All in all, it is a solid situation which augurs well for the future status of the faculty and the college.

10-3. C&GSC and Branch Schools

Unfortunately, the same favorable situation does not exist at C&GSC and the branch schools. This condition is demonstrable both statistically and subjectively; no useful purpose would be served by itemizing the proof here. However, it should be noted that an especially difficult problem confronts the branch schools. On the whole, the positions for colonels and lieutenant colonels are filled by competent, high-caliber officers; so there is substantial strength at the higher echelons of these faculties. This strength has been the bulwark of these schools in recent years, and it continues so today. However, at critical captain/major echelon, which is where the platform work is done and where the teaching is

actually carried out, these faculties are weak. This important echelon is undereducated in both civilian and military attainments; underexperienced in terms of seniority and military background; suffers severe grade imbalances wherein the fill of captains and majors is approximately 50 percent and this discrepancy is made up by lieutenants with less than 2 years of service; and is operating under conditions of extreme personnel turbulence with tenures averaging from 11 months to 19 months for captains. The deficiencies at C&GSC and branch schools are further compounded by the fact that the quality of officer assigned to the CDC agencies at most of the schools is as weak as the faculty, or weaker. Thus, both the officers developing the doctrine and the officers teaching the doctrine are, on the whole, not at the quality level desired.

a. Reasons for unfavorable conditions at CS&GSC and branch schools. The reasons for this condition are many; at least two deserve mention. The proximate cause is the competing priorities for the Vietnam buildup; this understandably and necessarily drew down on the faculties. However, of much greater long term importance is the gradual erosion which has occurred in the prestige and status of the faculty assignment. For a number of years after WWII, an assignment to the branch school or C&GSC faculty was a personal and professional plum, and such an assignment ranked either second or third in many officers' priorities (with command duty always first). However, over the years, the importance and attractiveness of the faculty assignment has been downgraded, primarily by the appeal of high-level staff duty; and very few high-caliber officers today strive for a faculty assignment. While fully recognizing the requirement for competency on high-level staff, I believe the current trend should be reversed and a much more equitable balance of quality should be established between staffs and schools.

b. Favorable aspects of faculty at CS&GSC and branch schools. First, despite their general lack of academic credentials, these faculties are doing a tremendous job under difficult conditions. On the whole, they are dedicated, energetic, able and interested. They deserve great credit for the job they have done and they should receive every encouragement to continue their fine efforts. The point is simply that the injection of a higher quality instructor would result in the job being done better, and the job is important enough to merit this. Second, CONARC and

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OPO have been working together during recent months to upgrade the caliber of officer being assigned to the faculties, and this program is already bearing favorable results. For example, CONARC has recently authorized the schools to requisition directly for faculty members; so the quality officers assigned to the faculties by OPO are not lost in the pipeline before they report for faculty duty. These and other ongoing actions will help, but much remains to be done to upgrade faculty quality.

10-4. Quality Objectives

What is required is a balanced, comprehensive, long-term program to improve faculty quality. It will help little to have a one-time crash effort and then return to old assignment policies. Rather, DA, CONARC, and the school commandants, working together, should establish tough but attainable quality goals for the faculties; and then move towards these goals in a rapid but orderly fashion. To this end, suggested faculty quality objectives for combat arms schools are at Appendix N, faculty quality objectives for combat support and combat service support schools are at Appendix O, and faculty quality objectives for C&GSC are at Appendix P. These can serve as interim objectives pending any final staffing of these criteria which may be required at CONARC and DA. Attainment of these quality objectives is, in my opinion, the most important single action which could be taken to improve our educational system.

10-5. Diversification of Faculty Sources.

a. There are, however, many other actions which can be taken to improve faculty performance. One of the most important of these is diversification of faculty sources. Under current conditions, we depend almost exclusively upon commissioned officers for the conduct of our classroom instruction. (This statement does not hold for many technical service schools where civilians are used to great advantage, e.g. 51 percent of the faculty at Fort Monmouth is civilian.) This general dependence on the commissioned officer ignores the fact that there are many categories of personnel who can share the faculty load.

(1) Specifically, senior noncommissioned officers and warrant officers are often superb instructors within their

specialties. It is patently better to have a confident, mature and able NCO or warrant officer conducting a class than a green, inexperienced second lieutenant, when the subject matter rests within the purview of the NCO or WO. Qualified civilians, allied officers, and officers from the other services are assigned to almost all of our faculties; their increased use on the platform could reduce somewhat the workload on the current Army commissioned faculty member and probably result in better instruction.

(2) WAC's, who are the best-educated group in the Army and include many former teachers, could make an important contribution to our schools and should be utilized to a far greater extent than at present.

(3) For the advanced courses in particular, a vigorous expansion of the guest lecturer program is in order. This program lends variety, depth, and expertise to the instruction and, again, relieves the resident faculty of the workload of preparing instruction in areas where they are not expert.

(4) Lastly, we should diversify our faculty sources by intelligent, but aggressive, employment of qualified students as instructors. The schools are now receiving students who are academically equivalent to the best faculty member in many areas (for example, management, ADP, and the communication skills). This supplementary source should be fully developed and used.

b. Diversification of the faculty along the lines indicated above will create some administrative problems and some loss of control of precisely what is taught may occur. Further, this diversification cannot be applied uniformly by all schools. It will probably be more difficult to achieve in the combat arms than in the combat support and combat service support schools. Nevertheless, diversification, if vigorously pursued, should relieve the faculties of somewhere between 5 percent and 30 percent of their workload and thereby permit the existing faculty competence to be better utilized.

c. Another teaching resource too rarely utilized under current circumstances is the senior faculty member (lieutenant colonel, colonel, and general). It is rare indeed that these

29 officers appear before the student body and conduct instruction; yet there are many subjects in the curricula which demand their expertise, maturity, and military background for the best student learning. Especially the controversial, difficult, and complex subjects should be presented by these senior faculty members. It makes no sense to have an inexperienced captain who recently graduated from the advanced course try to explain U.S. national policy concerning counterinsurgency to a hostile basic course class when you have a number of Army War College graduates on the faculty. One realistic point must be made about senior officers on the platform - the fact that an officer is senior does not automatically make him a top flight instructor. It is worse to have an inadequate senior officer instructing than to have an inadequate junior officer instructing; so the policy of having senior officers conduct platform instruction should be carried out with this factor in mind.

10-6. In-House Programs of Faculty Enhancement.

a. Within their own capabilitites, schools can do much to improve the teaching results obtained from their current faculties by an in-house program of faculty enhancement. As a first and fundamental step, instructor training courses should be designed to create a technically competent, assured and well-based instructor when he hits the platform. These instructor training courses currently vary widely in length and quality. In some cases, they are excellent; in others, the effort seems to be to reduce the course to an absolute minimum length in order to get the instructor on the platform in a hurry. In my opinion, this is equivalent to the effort to get the basic officer to duty in a hurry. Both sacrifice quality for speed; and I think both are wrong. It might be highly desirable to have a single instructor training course comparable to the 5-week course run by the U.S. Air Force at the Air University; but this is infeasible for the Army. Under CONARC guidance, instructor training courses should be established at all schools which capitalize on the best ideas from the Air Force course and from the many fine existing ones in the Army.

b. Subsequent to graduation from the instructor training course, there should be a family of personal and professional incentives for the officer to improve as an instructor. A good example of these is the Faculty Improvement Program developed at the Ordnance School. Another positive incentive can be

opportunity for advanced civilian education concurrent with assignment as a faculty member. For a substantial proportion of the faculty, individual programs can be developed for continuing education and the acquisition of advanced degrees. Such a program cannot be formalized in as specific a manner as is now being carried out for ROTC instructors, but the purpose shold be the same. Additionally, there are a number of significant possibilities for in-house action which may not be applicable at all schools, but may be useful for some. These include such programs as the development and use of the "Faculty Expert", the use of the instructor team, conduct of faculty workshops, and providing an opportunity to conduct individual research or special studies. A special goal, particularly important to the junior faculty, is to provide adequate opportunity for innovation in instruction and to welcome their participation in curriculum development.

10-7. Personnel Turbulence

A special problem confronting faculties at this time is personnel turbulence, with the average tour length for a captain varying from approximately 11 to 19 months. In the opinion of most commandants, this factor is even more significant than the issue of quality; and they would appreciate stabilized tours more than any other single improvement. Certainly, stabilization should be an immediate aim for the personnel managers. Taking the long view, however, I hope that the concentration will be on quality of instructor input with a reasonable degree of stability therefore. In the instructional field, there is no substitute for quality, and a faculty which is stabilized at a mediocre level has no potential for rising above that ceiling.

10-8. Duration of Faculty Assignments

a. Aside from the pressing and hopefully transitory issue of turbulence, the duration of faculty assignments deserves special attention in terms of obtaining maximum benefit from mid grade and senior faculty members. Under current policies, most of these important assignments are for a 3 year period, and a higher degree of stability is achieved for these officers than for juniors. However, I believe we can attain a better overall balance for our faculties and better capitalize on faculty quality by adopting a three-tiered approach to faculty assignments.

(1) The first tier would include those officers who will experience the "normal" 3 year tour. This will encompass the large preponderance of the faculty.

(2) There are, however, a number of faculty members who demonstrate special aptitudes and interests in education and can make continuing and exceptional contributions to the school. They are recognized by students, peers, and superiors as being particularly qualified and able. Also, in most instances, the officer realizes he is a fine faculty member, likes the educational environment, and is willing to remain in it for longer than a normal tour. In these not infrequent cases, we should extend the officer's tour and welcome his services. When applied with discrimination and care, such a policy leads to the creation of a second tier in the faculty which provides the highest degree of continuity and expertise. Over time, it could provide the type of educational leadership and experience which USMA and other service academies gain from their associate professors. As a matter of interest, the Air University has been quietly applying such a policy of unofficial tenure in their military schools and AFIT for a number of years. They consider it to be a most valuable tool of faculty development. However, they emphasize that individuals must be selected for continuing faculty assignments with greatest care and discrimination. This status should be accorded only to talented and dedicated military educators who possess the requisite academic qualification; it should not be given to those whose primary desire is to homestead or assure a retirement haven.

(3) At the other extreme, there appears to be a limited but highly profitable use for short tour faculty member, if he provides special backgrounds for capabilities or insights for the school. This type of officer will be an exceptionally competent lieutenant colonel or colonel who is generally regarded as a "comer", whose services are in high demand by a number of agencies, and whose retention for the normal 3 year tour of faculty duty is most unlikely. Since many agencies tend to insist on a "guaranteed" long tour, the schools can often obtain the assignment of such an officer for a lesser period and use his talents to real advantage. This use normally involves making him the faculty expert in his particular field, in having him conduct special reviews or research into elements of the curriculum,

etc. Admittedly, there is no set of policy guidelines which can be developed to establish this third tier of the faculty and at best, it will encompass a very small number of officers, each recruited for the faculty on an ad hoc basis. Also, this third tier has more pertinence to the faculties at C&GSC and AWC (and the Army input to faculties at NWC, ICAF, and AFSC) than to the branch schools. Nevertheless, it can be a most important component of these faculties.

b. In operation, the tree-tiered approach can bring real depth, vitality, balance and competence to our faculties. The first and third tiers provide new-blood annually, an influx of new ideas, special expertise, and operational experience. The second tier provides continuity, maturity, educational expertise and status. Note also that the second tier, over time, can create a nucleus of military thinkers who have the requisite scholarship, intellect, expertise and academic credentials to take their places with the best of civilian academicians in considering problems of defense interest. This nucleus can be of tremendous service to the defense effort in such a role.

10-9. Recommendations

It is recommended that --

a. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School. (Recommendation 30)

b. Pending development of DA-approval quality objectives for the staffs and faculties of the schools in recommendation 10-9a, OPO use the objectives contained in Appendixes N, O, and P as interim quality objectives. (Recommendation 31)

c. C&GSC and branch faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WACs, civilians, allied officers, officers from other services and qualified students. (Recommendation 32)

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d. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects. (Recommendation 33)

e. A family of personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members. (Recommendation 34)

f. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in Chapter 8, Civilian Education.) (Recommendation 35)

10-10. Guidance

It is suggested that --

a. DA and OPO concentrate on upgrading the quality of faculty input, while concurrently improving the stability of faculty assignment. (Guidance 21)

b. Under CONARC guidance, instructor-training courses which capitalize on the best ideas from the 5 week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC. (Guidance 22)

c. The guest lecturer programs in branch advanced courses be expanded. (Guidance 23)

d. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as--

(1) Designating "faculty experts" for specific subject areas and supporting the faculty expert through library procurement and attendance at learned society meetings.

(2) Using instructor teams to conduct instruction where expert knowledge in more than one area is involved.

(3) Conducting faculty workshops on such matters as instructional technology, new developments in learning theory, etc.

(4) Providing opportunity for individual research.

(5) Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).

(6) Welcoming participation in curriculum development (applies in particular to junior staff members). (Guidance 24)

e. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to duration of faculty assignments, and adopt this approach where feasible. (Guidance 25)

f. As a corollary (to "e" above), DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field. (Guidance 26)

CHAPTER 11

EVALUATION

Evaluation[1] is one of the most sensitive and complex problems facing the Army school system. This treatment of the problem is divided as follows: general discussion, whole-man evaluation, and evaluation of courses of instruction.

Section I. GENERAL DISCUSSION

11-1 Advantages of Evaluation.

There is almost total unanimity among staffs, faculties, and students that our educational effort should incorporate a strong program for evaluation of students, but there is almost no consensus on what the program should be. Evaluation is worthwhile because:

a. It tells the students how well they are doing.

b. It tells the faculty how well the students are doing.

c. It motivates students and is a strong factor leading to student satisfaction.

d. It reinforces learning and enhances the quality of the school.

e. It strengthens, and adds depth to, personnel management procedures.

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[1]As used in this section, "evaluation" includes the whole family of techniques and procedures which can be employed in an academic environment to appraise a student. Thus, "evaluation" includes, and is larger than, "academic examinations," although there is a tendency to consider these two terms as synonymous. In this regard, it is interesting to note that the one "evaluation" program in our system which is generally regarded as the best for its purposes (at the Army War College) includes no formal "examinations" whatsoever.

f. It provides an indicator of, and a possible basis for elimination of, the low performer.

11-2. Disadvantages of Evaluation.

Evaluation suffers the following liabilities:

a. A good evaluation system is very difficult to design and introduce, and is very costly in quality manpower.

b. A poor evaluation system may demand the same administrative effort and faculty time. In addition, it may be a deterrent to effective learning, may stifle independent thinking, may cause unproductive student activity, may be a continuous source of student discontent, and may lead to some very unfair personnel actions.[2]

c. Examinations cast teacher and students as adversaries rather than collaborators in learning, and contribute to academic rigidity.[3]

11-3. Variables Affecting The System.

Given the essentiality of an evaluation system--and I believe such a system to be essential despite the foregoing liabilities--it is apparent there is no single evaluation system that will best fit the entire Army school system, from basic course through senior service school. The following variables shape each evaluation system:

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[2]For a summary of the relevant research supporting these criticisms, see Jonathan R. Warren, Current Grading Practices, Research Report No. 3, American Association for Higher Education, (Washington: January 15, 1971). See also "Grades and Grading" in Teaching Learning Issues, No. 2, University of Tennessee Learning Research Center, Fall 1966.

[3]Warren, op cit. See also Stuart Miller, Measure, Number, and Weight: A Polemical Statement of the College Grading Problem.(Ann Arbor, Michigan: 1967); and Ohmer Milton, "What it is . . . I measure I do not know", Educational Record 49: pp. 160-65, Spring 1968.

a. Age and professional maturity of students.

b. Age and professional maturity of faculty.

c. Faculty/student relationship, e.g., is the learning environment student-centered as at the Army War College or instructor-centered as in the basic course.

d. Faculty/student ratio.

e. Size of class, e.g., 180 U.S. Army students at AWC compared to 972 U.S. Army students at C&GSC.

f. Length of course.

g. Amount of machine or computer backup to assist in processing reports.

h. The purpose of the evaluation system is most important, e.g., is it to determine the "most excellent" from a group of excellent officers as at AWC or is it to determine not only the "most excellent" officer, but also the distinctly inadequate officer, as in the basic and advanced course.

11-4. Academic Examinations.

a. A basic issue confronting the evaluation program is just what qualities it should attempt to measure. Since our schools are essentially educational institutions, an academic evaluation is clearly in order. For this purpose, all schools in the system except the Army War College conduct formal examinations.[4] These are normally objective-type examinations, although some are expertly constructed to cover extremely complex problems. (There is a recent, and most promising, move towards performance-type, hands-on examinations at some schools.) This use of the objective-type

[4]This formal examination program averages about 20 hours for the basic course, about 44 hours for the advanced courses, and about 19 hours at C&GSC.

examination, with a forced-choice answer, as opposed to the essay examination, is considered necessary in view of the number of students and the extremely heavy faculty load, both in time and expertise, required to grade an essay-type examination. Since the examinations are objective-type, forced-choice, they tend, understandably, to concentrate on questions for which there is a demonstrably right answer and a demonstrably wrong answer. This puts emphasis on factual recall and tests factual knowledge, rather than the student's ability to handle concepts, think independently, or innovate.

b. The use of the forced-choice objective test does permit a precise academic grade and a precise academic ranking which in turn permits designation of the distinguished graduate, the four honor graduates, and the top 20 percent of the class, in accordance with CONARC regulations; but there is a large question as to whether such rankings are significant as measures of overall potential, or stimulate the type of learning required in the face of rapid technological change.[5]

11-5. Significance of Academic Examinations.

a. According to all experts with whom I have discussed this question, and examination of the available research, there is no statistically significant correlation between an officer's performance

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[5] "Coupled with the notion that the motivation to earn a grade produces weak educational results is the charge that the type of learning it encourages is not particularly relevant. Traditionally, education has stressed the assimilation of an established body of information and students were graded accordingly. But, it is argued, 'factual' information is now rapidly outdated; the more important instructional objective is helping students learn how to learn, a goal which is difficult to measure with objective tests and conventional grades." Stanford C. Ericksen, "Earning and Learning by the Hour", in William H. Morris (ed), Effective College Teaching (Washington, American Council on Education, 1970), p. 30.

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on academic tests and his subsequent performance of duty.[6] This same lack of correlation, or inability to identify a significant correlation, exists at all levels from West Point to senior service college. This does not necessarily mean that our examinations are invalid and it certainly does not mean that we should abandon examinations; it merely raises a basic question as to what we are trying to measure with examinations and what we are trying to do with the results. It certainly raises a further question as to the significance of the relative rank of the graduates under existing examination programs and regulations. In this regard, a special probelm inherent in any examination system is that too much may be demanded from it.

b. Because of the high degree of inflation which has occurred in operational efficiency reports, personnel managers are actively searching for discriminators which can be used to separate one

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[6] Daniel J. Tobin and Robert H. Marcrum, Leadership Evaluation. USMA Office of Military Psychology and Leadership, West Point, 1967. This reference summarizes 18 studies. H. E. Brogden, Richard N. Gaylor, Eva Russel, An Exploration Study of the Relationship of West Point Class Standing and Achievement with Rank of General Officer, TAGO Personnel Research Section Report 843 (Washington, 3 June 1950). James L. Howerton, West Point Generals of the War-Time Army: Their Performance While Cadets at the United States Military Academy, unpublished master's thesis (George Washington University School of Education, April 1945). USABESRL, School Measures as Indicators of Later Officer Performance--Summary of Research Findings (Washington, 1971). This reference summarizes 18 studies. Bernard Rimland, The Relationship of Athletic Ability, Sports Knowledge, and Physical Proficiency to Officer Performance and Career Motivation, Bureau of Naval Personnel Technical Bulletin 61-12, (Washington, August 1961). William H. Helme, Research to Predict Cadet and Officer Performance , USABESRL Research Study 69-10, (Washington, May 1969). Forty-six studies relating college grades and adult achievement in several career fields are reviewed in Donald P. Hoyt, The Relationship Between College Grades and Adult Achievement, ACT Research Report No. 7 (Iowa City: American College Testing Program, Sep 1965). Hoyt concluded: "Present evidence strongly suggests that college grades bear little or no relationship to any measures of adult achievement."

"water-walker" from another "water-walker." In these circumstances, it is natural, but I think a grave error, for personnel managers to place undue weight on academic evaluations at professional military schools. This stretches the academic evaluation system far beyond its capabilities or its purpose. It should be scrupulously avoided. 140

11-6. Alternatives.

a. An alternative to the current emphasis on forced-choice, objective-type examination as the principal evaluation instrument is a move to the "whole-man" type of evaluation. Such an evaluation, when fully developed, employs a battery of separate evaluation instruments, each highly professional in itself and each integrated with others to develop a comprehensive, valid, and reliable appraisal of an individual.[7] There is little question that the whole-man evaluation system is an excellent one which would be highly desirable for the Army educational effort. However, there is a question as to the feasibility of its adoption across the board in our educational system.

b. The sheer problem of designing a suitable evaluation instrument poses a major challenge. Once designed, its use demands heavy inputs of faculty time at all echelons and the management/administration requirements are severe. However, I believe these

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[7] Perhaps the outstanding example of the whole-man evaluation system is found in the Aptitude for the Service system developed at the U.S. Military Academy. The best description of this system, which is based on peer and tactical officer ratings, is contained in a 1967 study by the Office of Military Psychology and Leadership, USMA. See Major Daniel J. Tobin and Major Robert H. Marcrum, Leadership Evaluation (USMA, Office of Military Psychology and Leadership, West Point, December 1967). The "whole-man" approach is described in this document as follows: "The tactical officer employs what is known as the 'whole-man' approach by considering the cadet's total record at the Academy, not merely his aptitude and supplemental leadership evaluation data. Other pertinent information includes his academic and physical education achievements, participation in extra-curricular activities and information obtained through counseling sessions and personal observation." Tobin and Marcrum, op cit, p. 10.

difficulties can eventually be surmounted and substantially greater use can be made of "whole-man" evaluation at Army service schools. We should move to decrease our current heavy dependence on the forced-choice objective test as the principal discriminator. A number of alternative techniques exist; including diagnostic tests, validation tests, academic tests, and independent subjective appraisals such as peer and supervisor ratings. Each of these has some utility, and our system should be flexible enough to capitalize wisely on each of them.

Section II. WHOLE-MAN EVALUATION

11-7. Desired System.

As an objective, the evaluation system for appraising students at our professional military courses should include the following components:

a. A battery of diagnostic tests

b. A battery of validation tests

c. A battery of academic tests/evaluation instruments which measure academic achievement

c. A battery of independent appraisals, largely subjective in nature, which reflect the performance of students in those important areas not covered by academic tests

As previously noted, the relative emphasis on, and relation between each of these components will vary radically at different schools.

11-8. Diagnostic tests.

We should initiate evaluation at the basic, advanced, and C&GSC levels with a battery of diagnostic tests designed primarily to isolate the academic weaknesses of the individual. These tests should be directed at the general areas of ability to read and write, and also at areas of specific academic competence demanded for the course (e.g., mathematics for engineers). Diagnostic tests are the best,

albeit only partial, answer to the problem of glaring inadequacies in academic background and competence which occur in our diverse student groups. It is essential that these diagnostic tests be followed up by remedial, and required, instruction in the deficient areas.[8] Although this remedial instruction may necessarily be very brief, as in the basic course, it performs the valuable function of alerting the student to his academic weaknesses and pointing the way to future improvement through individual study. On balance, diagnostic tests are of greatest importance at the basic course level, but the brevity of the course prevents full capitalization on them. They are probably of greatest overall utility at the advanced course levels, and of decreased but still considerable significance in measuring the more experienced student at C&GSC.

11-9. Validation tests.

The great strengths of a validation system are that it recognizes past student academic and professional accomplishments, it avoids repetitive and unnecessary instruction, it individualizes and personalizes our instruction, and it rewards the high achiever for past accomplishments without penalizing the low achiever. There are, however, deep seated problems and some very complex academic obstacles to establishing good validation programs.

a. One deep seated problem is essentially psychological in nature: the Army school system has operated on the basis of treating all students identically for so long that it is almost a psychological wrench to break the "lockstep".

b. Another problem is that a validation examination can be made so difficult or so dependent upon the school's version of a

[8] "Instructors generally pay much more attention to the level of student achievement at the end of the course than they do to the student's standing at the beginning . . . It generally can be assumed that for a typical class the bottom 25 percent of the students start out handicapped by inadequate information, skill, knowledge, and the like. These students should be identified, and if conditions permit, a remedial or tutorial section or other opportunities should be provided for them." Erickson, op cit, p. 35.

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subject that no one can validate that particular portion of the course, if the faculty chooses to write such an examination.

c. A third problem is that the student must perceive a distinct advantage in validating a particular portion of the course. Two factors influence this perception.

(1) First, some students who are fully capable of validating portions of a course do not choose to do so now because they think they can make a higher grade by taking the regular curriculum, and thereby stand higher in the overall academic rankings. Even in situations where the validating student is automatically given the highest grade of any nonvalidated student, some students still prefer not to validate on the self-confident, albeit selfish, belief that they can outscore the best nonvalidated student anyhow on the regular curricula.

(2) The second aspect is that the validated student should be given an attractive series of academic options for use during the course time he has validated. These options could take many forms, but the one form they should not take is make-work. Possible options include conduct of a special study or individual research effort, acting as assistant instructor in the validated area if the validated student has instructor potential, time to examine a subject of totally personal interest either in the military educational area or at a civilian educational institution, or he could even be permitted to play golf or spend some time with his family. (See Appendix Q for additional discussion of validation.)

11-10. Academic Evaluation.

In addition to improved diagnostic and validation programs, an academic evaluation program of the highest caliber should be developed. This program should incorporate a variety of tests, to include "pop" quizzes to determine accomplishment of study assignments and fact retention; a few forced-choice objective tests of the formal, scheduled variety; a few essay-type examinations; and possibly an end-of-course comprehensive examination, oral or written. Other evaluation instruments, such as term papers and research reports, may also be included in the academic evaluation

program.[9] Balance between these types of tests and the weights given to each should be determined by the Commandant concerned. Assuming that the purpose of some of these tests is simply to convey information to the student concerning his progress, it is not necessary that all tests be graded. One technique which might be especially appropriate for our advanced courses is to place portions of the curriculum on a pass-fail basis. See Appendix R for discussion. Regardless of the evaluation method used, it should be tailored to the type of educational objective sought in the course, for example, recall, original thought, or analytical treatment of data.

11-11. Subjective Evaluations.

a. This component is the most difficult to structure and use, yet it is the essential ingredient needed to balance the primarily academic instruments. The depth and scope of this subjective appraisal must be carefully tailored at each school. A system which works well at a small, closely knit school cannot be transferred in toto to a large, disparate school. The evaluation system currently employed at the Army War College (see Annex A, Good Programs) could well serve as a model, but it is not attainable by all schools.

b. An especially controversial element of any subjective evaluation system is peer ratings. Strong, almost emotional, views are normally advanced in favor or in opposition to them and a variety of statistical and subjective support can be advanced either pro or con. My personal view is that peer ratings could be a useful and important element of the officer evaluation system in educational programs provided the ratings are carefully developed and use valid, professional techniques. Some considerations pertinent to use of peer ratings in the military educational system are outlined in Appendix S.

c. The design and employment of a subjective evaluation system is not an easy task. The question of peer ratings alone stands as an indicator of the magnitude of problems and emotions which can be encountered. This is an area where the operators (the Commandants, staffs, and faculties) should work closely with the professionals

[9] An authoritative reference is Robert L. Thorndike (ed), Educational Measurement (Washington, American Council on Education, 1971).

(educational advisors, behavioral scientists, and statisticians) to design the best systems for our schools. For this purpose, the Army already has major resources in its fine corps of educational advisors and in BESRL and HUMRRO. The operators and the professionals, under CONARC guidance, should be charged with the early development of these subjective evaluation systems.

Section III. EVALUATION OF COURSES OF INSTRUCTION

11-12. Methods of Evaluating the Course of Instruction.

a. A totally different aspect of evaluation from that discussed above concerns the evaluation of the course of instruction[10], i.e. not "how well are the students doing?" but "how well is the school doing?" Most schools conduct extensive programs to determine how well they are doing. These programs may include such components as:

(1) Annual formal review by senior school officials.

(2) Input from boards of visitors.

(3) Postinstruction reviews of each unit by the faculty.

(4) Determination of student reaction by questionnaire.

(5) Determination of user reaction by questionnaire.

(6) Actions under Phase VII (Quality Control) of the systems engineering process.

(7) Actions resulting from visits and inspections by senior officers.

b. Most schools adopt a highly receptive attitude toward the

[10] The term "course of instruction" includes curriculum organization, instructional methods and support, faculty performance, extracurricular activities; in sum, the entire educational process.

product of these evaluations, and many important improvements stem from them.

11-13. Junior Faculty and Student Evaluation.

One area which should be more aggressively pursued is the acquisition and use of the views of the junior faculty and student. These are the two groups who actually work with and know best the curricula. Although they may not have the advantage of the "long view" and the perspective which more senior officers should possess, they certainly have the advantage of knowing precisely what goes on in the classroom. Furthermore, they have a highly personal and professional interest in getting the maximum out of their military education, because they are the people who must apply what they have learned. Thus, these evaluations have a unique validity and if properly utilized they can make a tremendous contribution.[11]

11-14. Obtaining Junior Faculty and Student Views.

Student views can be obtained by a variety of techniques and procedures. An immediate, short-term reaction to each day's instruction can be obtained by an IBM punchcard type of evaluation, as employed at ICAF and AFSC (see Annex A, Good Programs). This type of computer-assisted evaluation can easily be extended to whole units or blocks of instruction, if desired. Of probably greater benefit are the written subjective appraisals, obtained from selected students, concerning specific units or blocks; and the end-of-course subjective evaluations, which can be especially helpful. Student study groups, such as mentioned in footnote 11, should be established only when a major review of the course is desired; but the use of small student study groups on a less ambitious, ad hoc basis can provide interesting and useful input for the solution of lesser issues. The views of the

[11] As an example, one major school selected a student group to conduct an indepth study of the course of instruction, and gave this group the last month of the course for this effort. The resulting study was both farreaching and impressive. Every substantive recommendation was accepted by the faculty board, over 90 percent of the detailed recommendations were approved, and a distinctly better course of instruction was evolved.

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junior faculty are especially important in isolating the "good" units of instruction and the "poor" units of instruction, in suggesting pragmatic educational innovations (see Annex A, Good Programs), and in reflecting the day-to-day status of the all-important student/faculty interface. In summary, a more vigorous effort to obtain the views of the junior faculty and students, and to capitalize on them, should result in distinct improvements in our educational programs.[12]

Section IV. RECOMMENDATIONS AND GUIDANCE

11-15. Recommendations.

It is recommended that--

a. The student evaluation programs at our schools[13] be comprised of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals. (Recommendation 36)

b. The relative role and importance now given to academic tests be de-emphasized. (Recommendation 37)

c. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased. (Recommendation 38)

d. Operators (Commandants, staffs, and faculties) work with professionals (educational advisors, HUMRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels. (Recommendation 39)

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[12] Student evaluation of instruction has received considerable attention from civilian educators in recent years. See Kenneth E. Eble, The Recognition and Evaluation of Teaching (Washington: American Association of University Professors, 1970); and Gerald Whitlock, Evaluating Instruction: Learning/Perceptions, Teaching-Learning Issues No. 16 (Knoxville: University of Tennessee Learning Research Center, Spring 1971).

[13] These recommendations pertain only to the branch schools and C&GSC. No change is recommended in the current evaluation program at the Army War College.

e. The subjective evaluation programs include the use of peer ratings, at least on a trial basis. (Recommendation 40)

11-16. Guidance.

Schools establish programs to develop and incorporate the views of the junior faculties and students in order to improve the evaluation of curricula. (Guidance 27)

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CHAPTER 12

ORGANIZATION

Section I. COMMAND AND CONTROL

12-1. The Subject of command and control is important because the relationships that exist between Department of the Army, Continental Army Command, Combat Developments Command, and the schools themselves have a fundamental impact on how effectively the schools do their job. Also, there have been some recent studies which have recommended far-reaching changes in the existing organizational relationships, especially with respect to the command and control of the schools as currently vested in CONARC.

12-2. I have made no effort to conduct an original or in-depth study of command and control issues, primarily because all facets of the problems have been developed by earlier studies. In this situation, I first familiarized myself with the rationale for the recommended changes. I then conducted very pragmatic discussions of the organizational situation with many commandants and with senior personnel at all levels.

12-3. This appraisal indicated almost total support for the existing command and organizational relationships and conversely, almost total opposition to any major change in them. General satisfaction with the existing situation pertained at essentially all levels and with all ranks of personnel that I interviewed. Under these circumstances, I conclude that there should be no basic change in these organizational relationships. Admittedly, the existing system is not perfect, but in the opinion of the experienced officers operating it and living under it, it is the best that we have had and better than any of the alternatives proposed. Especially when one considers the essentiality of establishing tough priorities in attacking the important problems that confront our educational system, there is no logic in attempting basic changes in the command and control structure at this time.

Section II. ROLE OF CONARC

12-4. Within the existing organization, the role of CONARC is dominant, and as indicated above, it should remain so. CONARC has long and correctly been the key agency in such fields as management and supervision of resources, review of curricula, interface between the schools and the Department of the Army, and modernization of facilities and methods. Looking toward the future, there are new and promising areas where CONARC can play an even more important role in helping the school system to meet its novel challenges.

12-5. An inescapable characteristic of the educational future is the demand for change and the rapid pace of it. A literally overwhelming melange of literature, ideas, hardware, software, salesmen, hucksters, theorists, professional associations, etc. now operate for change in the educational field. Some of these are superb, others are actually dangerous. It is patently beyond the competence of even the best of academic staffs at any single school to stay abreast of this tidal wave of information, ideas, and projects. Here then is a fruitful field for CONARC. In gross terms, CONARC should act as the clearinghouse for educational ideas and progress. Specific suggested tasks are indicated in paragraph 7 below.

12-6. As indicated in the preceding chapters, there are many complex issues confronting our educational system, and it appears that some of the most important are endemic--all schools under CONARC are seized with these problems to some degree. As examples, I would cite evaluation, the theory of teaching, and the application of machines. In view of the (complexity and continuing) nature of these problems and the fact that they pertain to all schools, there would be merit in formally concentrating their addressal (or decisions as to how they will be addressed) at CONARC.

In performing this role, CONARC would conduct, or direct the conduct of, the necessary studies and would provide decisions and guidance on major educational issues that are beyond the purview and competence of individual schools. This role does not require total centralization at CONARC, for the views of the schools would always be obtained; and there are a multitude of other issues, some of considerable importance, where CONARC need not enter the solution effort. It simply recognizes that there are some educational issues that are bigger than any school, and the corporate competence of the Army's educational system should be directed at their solution.

12-7. To assist in this effort, we also need to concentrate at least a part of our substantial expertise in the educational area and to provide ready input of that expertise to the decision-makers at CONARC, for these problems are so complex that they routinely demand such inputs. This suggests the establishment of a CONARC Center for Research in Education and Instructional Methods, with the following broad functions:

a. Survey of literature in the field of learning and teaching and digest of relevant material for dissemination to all Army schools. A suggested listing of educational research institutions with whom CONARC should remain in contact is contained in Appendixes T, U, and V.

b. Application of research findings in the field of learning and teaching to develop improved instructional methods.

c. Evaluation of mechanized instructional systems and development of software and guidelines for their application.

d. Evaluation of latest developments in instructional technology.

e. Specification and evaluation of alternative instructional strategies.

f. Studies and tests with a view to applying the knowledge gained from the foregoing actions throughout the Army school system.

g. Acting as professional consultant to all Army schools in the field of learning and teaching, and stimulating interest in improved learning and instructional methods.

Such a center would not require elaborate staffing. Certainly, at the outset it should be limited to a handful of talented people and, if possible, the first director should be a noted civilian educator or scholar who is broadly familiar with research in the field of learning and teaching. Quality of personnel assigned is the paramount consideration. In this regard, HUMRRO and BESRL could make a contribution.

In advancing these recommendations, I am aware that CONARC is already active in some of these areas; but it seems certain that increased activity will be necessary in the future. I also recognize that the execution of these functions requires a lot of competent staff officers who will not be available in the numbers required. In that case, I can only urge that priority be given to the new role and that lesser effort be directed to the more routine and traditional staff activities.

Section III. JURISDICTIONAL ISSUES

12-8. It is imperative that CONARC continue to carry out its dominant role in the command and control of our educational system. However, this review has advanced at least two major recommendations which, if approved, will actively involve other major headquarters in the educational program. These recommendations concern expansion of the mission of the CS and CSS advanced courses into higher levels of logistics instructions (including AMC), and expansion of the mission of C&GSC into the conduct of concentrated instruction in staff functions.

As a minimum, these recommendations will require a new involvement of AMC and the major DA staff agencies in developing and conducting courses of instruction. This may be considered by some as an encroachment on, or dilution of, CONARC's role. This should not, and need not, be the case. On a daily and continuing basis, CONARC, AMC, and DA coordinate staff actions which are much more sensitive and complex than the contents and conduct of a program of instruction, so these recommendations should pose no insoluble problem.

CONARC should retain its command and control of the schools and the courses of instruction. Further, for those portions of the courses which are of direct interest to AMC and the DA staff agencies, CONARC should obtain the recommended curriculum input from these agencies and coordinate with them in establishing the courses. This jurisdictional relationship should assure that the instruction has the highest degree of pertinence, timeliness, and realism.

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As for the AWC, DCSPER should continue to control the college. This arrangement provides for the maximum freedom of the commandant of the AWC to develop a curriculum in consonance with its mission, to establish the wide-ranging contacts essential to present this curriculum, and to maintain his position as an objective observer and analyst of the many difficult problems which will continue to face the Army in the years ahead.

Section IV. STAFF MONITORSHIP OF THE SCHOOLS

12-9. To do the most effective job in today's competition for resources and talent, each school needs a strong staff sponsor and a clear voice in the decision-making councils. On the whole, the existing level of staff monitorship and support is fine. For examples, AWC receives excellent backing from DCSPER; the JAG, Chief of Chaplains, and Surgeon General take personal interest in their respective schools; and CONARC, in conjunction with OPO career branches, provides a high level of support for C&GSC and the branch schools.

However, two small schools do not yet benefit from the interest and support that a staff sponsor can provide. These are the Institute for Military Assistance at Fort Bragg and the Combat Surveillance and Electronic Warfare School at Fort Huachuca. Although these schools are small, the functions they teach are certainly two of the most important, if not the most important, to the success of the Army in the seventies. In this light, it would be wise to assure that each of these schools receives special attention and support; if anything, the importance of their missions merits an even more positive and direct call on resources than the other schools. The specific actions to provide the needed support for these schools are many and diverse. As an essential, the first requirements are an awareness of the current situation and an agreement at higher echelons to give a special measure of sponsorship to these two schools.

Section V. MANNING OF CONARC AND DA AGENCIES

12-10. One change that involves the manning of the DA and CONARC staff organization would call for assignment of officers who have had previous experience on the faculties of our Service schools to those staff agencies at DA and CONARC (primarily Director of Individual Traning), which are directly related to the officer educational system. A review of the records of the officers currently assigned to DCSPER-DIT and to CONARC-DCSIT indicate that, of the total of 133 officers assigned to these elements, 32 percent have had previous experience as faculty members or staff officers at the schools whose activities they are now controlling and monitoring. (All 42 of those with prior Service school experience are at CONARC; none are at DA.)

It would seem that, with the large backlog of qualified ex-faculty members who are available for these attractive, high-level staff positions it should be possible to assign part of these experienced officers to these jobs. I do not advocate that all of the positions in the staff agencies be filled by former faculty members, because this would probably lead to an undesirable degree of narrowness and professional tunnel vision in these agencies. However, a reasonable objective of not less than 50 percent of these positions to be filled by former faculty members seems both desirable and feasible. The special advantages of such an assignment would rest in the continuity which it should lend to the control and monitorship of our educational programs, and in the immediate familiarity and professional expertise which these experienced faculty officers would bring to the staff-related jobs.

Section VI. *ORGANIZATION FOR CIVILIAN EDUCATION*

12-11. This review has given me an opportunity to observe, at least shallowly, the organizations that our sister Services have developed for their educational systems. As expected, these organizational structures vary widely according to the traditions, philosophies, and requirements of the individual Services; and I feel that there are few areas where the Army can profit by adopting their practices.

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However, in one organizational field, there is a program that is highly impressive and my be adaptable, in part, to Army needs. This is the Air Force program for the management of their civilian education effort, developed by the Directorate for Civilian Institutions at AFIT, Wright-Patterson Air Force Base. A summary of this program is in Annex A, Good Programs. Recognizing that there may be substantial, and perhaps insurmountable, impediments to adopting this program for the Army, it nevertheless deserves intensive examination to determine what aspects, if any, can be adopted to our advantage.

Section VII. RECOMMENDATIONS AND GUIDANCE

12-12. Recommendations

It is recommended that - -

a. No change be made in the basic organizational relationships which now exist between DA, CONARC, and CDC for conducting our officer educational program. (Recommendation 41)

b. CONARC should, in carrying out its dominant role--

(1) Address major educational issues which are beyond the scope or purview of individual schools.

(2) Establish a CONARC Center for Research in Education and Instructional Methods. (Recommendation 42)

c. When agencies other than CONARC have a direct interest in a course of instruction--AMC in the recommended CS and CSS advanced courses, DA staff agencies and AMC in the recommended staff functionalization at C&GSC--CONARC retain command and control and coordinate actively with the other agencies in developing the curricula. (Recommendation 43)

d. OPO initiate a program to assign officers with previous faculty experience to HQ, DA and CONARC staff positions related to officer education, with an objective of approximately 50 percent of these positions to be filled by these officers. (Recommendation 44)

e. Senior officers and staffs direct special attention to the Institute for Military Assistance at Fort Bragg, N.C., and the Combat Surveillance/Electronic Warfare School at Fort Huachuca, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors. (Recommendation 45)

12-13. Guidance

It is suggested that DA should evaluate the system developed by the Air Force for the management of their civilian educational program to determine what aspects, if any, the Army can adopt to its advantage. (Guidance 28)

CHAPTER 13

AREAS OF SPECIAL INTEREST

Section I. LEADERSHIP

13-1. CONARC Leadership Board

While this review was in progress, a CONARC Leadership Board was established to examine the subject of leadership in the Army. This Board, under chairmanship of BG H. A. Emerson, conducted its important study on a priority basis and submitted its report, entitled Leadership for Professionals, on 30 July 1971.

13-2. Views on the Board Report

In my opinion, the CONARC Leadership Board turned in a hard hitting, highly professional appraisal which deserves the support of all elements of the Army. Based upon my own review (which concentrated on the leadership area because it was the area of weakness most often raised by students and faculty) I find no facets of the problem which were not treated adequately by the CONARC Leadership Board. It is especially significant that the CONARC Board placed heavy responsibilities upon the Army school system for improving our instruction and capabilities in leadership. I think this is where a large measure of the responsibility ought to rest; for the schools are the institutions where this subject can best be taught. In summary, I fully support these pertinent recommendations of the CONARC Leadership Board, and recommend their early execution. (Recommendation 46). To avoid cross-referencing, the pertinent findings and recommendations of the CONARC Leadership Board are at Appendix W. Related guidance concerning the role of the AWC in this leadership area is repeated below.[1]

[1]This guidance is first found in Chapter 7, paragraph 7-8b.

13-3. Guidance

It is suggested that Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate.

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Section II. STUDY OF HISTORY

13-4. Committee Report on Army Need for the Study of Military History

During the period January-March 1971, a Department of the Army Ad Hoc Committee was constituted to submit a report on the Army Need for the Study of Military History. The committee report, under the chairmanship of Colonel Thomas E. Griess, Chairman, Department of History, USMA, was submitted in May 1971. I enthusiastically support the report and its recommendations. I consider it to be a landmark effort and one which deserves full support in carrying out its recommendations. To avoid cross-referencing, the pertinent recommendations of the Ad Hoc Committee Report are repeated in Appendix X.

13-5. Comments on Committee Recommendations

Aside from my general endorsement, I have only two comments directly pertinent to the recommendations of this Ad Hoc Committee.

a. First, concerning the recommendation contained in paragraph 2a(4) of Appendix X "historical examples be used whenever possible in instruction at all schools", I support both the letter and the spirit of this recommendation; but I feel that some specific objective for the extent of this usage should be established. In my opinion, after the basic tactical and/or strategic principles have been developed in an artificial situation (normally by a single problem), the objective should be that not less than 40 percent of other problems in the curriculum dealing with these same principles should be historically based.

59 b. The second point concerns recommendations contained in paragraph 2a(5) and 2b(6) of Appendix X.

> "a minimum of two spaces be validated for graduate level work in history for each school conducting an advanced course. These spaces should be filled by officers possessing at least MA degrees who should teach military history electives and advise the faculty on military history in general, and
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> "a minimum of three positions at C&GSC be validated immediately for advanced degrees in history and that they be filled by officers who possess at least a MA degree in history. They should be tenured for a minimum of four years. As military history offerings develop and consideration is given to more required instruction in military history, and experience is gained on the amount of assistance available from civilians, additional spaces may be required."

The purpose of these recommendations is to first establish a solid nucleus of historically expert officers on the faculties of the Advanced Courses and C&GSC, and then to build on this nucleus and expand to the proper utilization of history throughout the course. This is certainly the way in which historical objectives should be attained, for it is essential to establish the nucleus of historical expertise before we try to establish a full-blown historical program. I urge that we move as expeditiously as possible to establish this nucleus, but that we not wait until it is complete before we begin to build on it. It seems to me that the profits which the students can derive from an increased utilization of history are so great that we can afford to introduce a less than perfect, less than totally mature program with tremendous benefit to the students and to our overall educational effort.

13-6. Use of Military History

On the overall subject of the use of military history, some additional points are pertinent. First, I believe the inadequate exploitation of historical data is the biggest single weakness in our curricula. We have fought three major wars in the last 30 years (excluding the Dominican Republic) and these wars were the most accurately and comprehensively documented actions in military

history; yet we have failed to fully utilize this resource in developing our instructional curricula. The net result is that many instructors spend countless hours conjuring up artificial situations and writing artificial problems when the lessons they want to teach could be taught realistically and demonstrably by vivid, useful historical examples. If for no other reason than conservation of faculty time, it would be wise to capitalize on the historical resources now available.

13-7. Advantages of Use of Military History

The advantages of an increased use of military history are many, and they are well documented in the Ad Hoc Committee's Report. Only one additional factor deserves mention. There is little doubt that we are in a period of national confusion and rootlessness, particularly among our youth. In a distressing number of cases, this rootlessness takes the form of a refusal on the part of many "students" to study history. On the contrary, they actively avoid historical studies and state that they intend to reorder the future without any "historical bias". In this situation it is especially important that the officer corps, which in the last analysis is charged with maintaining the security of our country, acquire a firm historical perspective and a deep awareness of the historical significance, not only of our military operations, but also of our nation. This perspective and knowledge can be most helpful to our officers during the years ahead.

13-8. Value of History

A special value of properly utilized history is the identification of mistakes and errors in both strategic and tactical areas. In this regard, a consistent student comment about curriculum content is that the operational "problems" presented are generally euphoric in nature--the US Army always wins with relative ease. Students today are at least realistic, if not cynical, and they know the real world is not the way the artificial problems portray it. Certainly a strong element of every curriculum should be historical studies which frankly analyze unsuccessful American military efforts. This should not be a "head hunting expedition" but it should involve an objective discussion of what we did, what went wrong, and why. This would assist greatly in improving the credibility for our instruction.

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13-9. Recommendations

It is recommended that the pertinent recommendations of the Department of Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented. (Recommendation 47)

13-10. Guidance

It is suggested that--

a. Specific objectives be established for the extent of historical example usage, e.g., once basic principles have been developed not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented. (Guidance 29)

b. The Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the advanced and C&GSC courses. (Guidance 30)

c. A portion of the historical studies in our curricula be analyses of unsuccessful US operations. (Guidance 31)

Section III. INTERBRANCH AND INTERSERVICE EDUCATION

13-11. Mutual Respect and Confidence

a. Based on my discussions and observations, one of the most favorable legacies of the US military experience in Vietnam is the genuine respect, understanding, and confidence which has been established between the branches of the Army, and between the Army and the other services. This attitude of mutual respect is not derived from the classroom, rather it results from thousands of Army officers observing and working with each other and with officers of their sister services during the conduct of this most complex and difficult war. Regardless of civilian opinion concerning the US military performance, the vast majority of US professional officers of all branches and services realize that, as individuals, they performed as professionals should; and this realization has contributed to the common bond between them.

b. Although no statistical proof exists or could be produced, I believe the strength and degree of this mutual confidence is substantially higher than it was at the conclusion of other wars. For example, the combat arms officer today has a much higher opinion of his logistical counterpart than he held after World War II and Korea (and vice versa); and the performance of the Air Force close support role in Vietnam has gained for that service a degree of professional respect which it did not previously have.

13-12. Preservation of Mutual Respect

Now, with the winding down of the Vietnam War, the Army and the other services will tend to concentrate on their own problems; and we stand to lose much of this vital intangible. Any reasonable actions we can take to preserve this mutual respect will serve our defense effort well because, once lost, it will be costly to regain. The educational system offers the best hope of maintaining this hard won attitude because it can offer a meeting ground for officers of all branches and military services, and provide an environment where branch and interservice attitudes and achievements can be surfaced, analyzed, and explained.

13-13. Requirement to Maintain Respect and Confidence

Hence, the educational system should assume, as a special challenge, the requirement to maintain and enhance this existing high level of respect and confidence. The aim of this program should be education, not training. It should avoid details of organization and procedures (which are in a constant state of flux) and concentrate on what the branches or services can do (and have done) for each other. It is especially helpful if this education goes beyond the matter of how the branch or service operates to why it operates as it does. This can lead to a mutual understanding of traditions, attitudes, philosophies, and problems which is of much greater importance over the long term than an understanding of current organization and procedures. While recognizing that the classroom can never substitute for combat, there are some specific educational programs which can be especially effective for this purpose:

a. Use guest lecturers who are effective exponents of their own branches and services to explain the roles, philosophies, and

3 attitudes which characterize their branch or service. (These lecturers need not be senior officers.)

b. Conduct units of instruction specifically designed to create confidence. For this, historical examples are best, e.g., Air Force and Navy close support of specified ground units in Vietnam, the creation of the logistical base while fighting, etc.

c. Conduct units of instruction which are designed to familiarize officers with the problems of other branches and services e.g., require combat arms officers to solve abbreviated versions of CS/CSS problems, and vice versa.

d. Exploit resident faculty members and students from other branches and services, and give them an adequate forum.

e. Continue current policy of assigning only high quality US Army officers as students and faculty at interbranch and interservice schools.

f. Take advantage of all opportunities to expand Army representation at interservice schools and branch representation at interbranch schools.

13-14. Objections to Interservice and Interbranch Education

One additional point should be made concerning interservice and interbranch education. The standard objection is that it preempts time from the rest of the curriculum and dilutes the hard core of branch or service instruction. This objection has some validity, but not much.

a. First, it may sometimes be difficult to strike the correct curriculum balance between branch/service parochialism and military dilettantism; but the necessity for increased emphasis on interbranch and interservice education in the seventies is unchallengable.

b. Second, there is no instructional area which is less dependent on quantity (total allocation of hours) or more dependent on quality (the caliber of the instruction). A very brief amount of curriculum time can suffice, provided it is good. Also, these subjects lend themselves easily to gap-filler scheduling and are natural

candidates for the "lecture of opportunity", the evening presentation, to include wives attendance, if unclassified. They always provide a welcome interlude and change of pace; even the finest curricula need this occasionally. In my opinion, these factors argue conclusively for interbranch and interservice education.

13-15. Guidance

It is suggested that the Army educational system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in paragraph 13-13 be taken to accomplish this. (Guidance 32)

Section IV. REGULATION

13-16. AR 351-1

During this review, I made no detailed analysis of the adequacy and timeliness of the family of regulations governing the educational system, but there appeared to be general satisfaction in this area and specifically with AR 351-1 (formerly AR 350-5) which has served as an excellent regulatory base since its development by the Haines Board. Certainly no basic revision of that regulation is required, although some changes will be in order to reflect the recommended expansion of the advanced course missions, the reorientation of C&GSC and the continuing education mission.

13-17. Addition to AR 351-1

One area of our educational effort for the seventies which deserves regulatory recognition is the increase which we should achieve in the overall scope of the officer educational program. The Haines Board initiated this expansion in scope by its introduction of electives, by its initial recognition of the advanced civilian educational requirement, by its introduction of diagnostic and validation tests, etc. The desirable momentum which resulted from these far sighted programs should be continued and even increased in the future; otherwise we fail to meet the legitimate educational goals of the Army and its officers, and we fall behind the pace of educational

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progress. To reflect this requirement for continued momentum and increased scope, we should add a paragraph in AR 351-1 to include the following:

"2-3 Scope.[2] In accomplishing this mission, Army branch schools and colleges will develop and execute educational programs which include the following elements:

a. A core curriculum of professional military subjects designed to accomplish the pertinent educational mission. This component will receive priority in resources and support.

b. A variety of additional educational programs which complement the core curriculum and broaden the educational experience of the student. Such educational programs should include--

(1) A family of military electives.

(2) A family of nonmilitary electives.

(3) A concurrent civilian educational program which provides opportunities for acquisition of baccalaureate and graduate degrees where feasible.

c. These elements will be integrated into courses of instruction which focus on professional military education as the primary task, while providing a varied educational program which presents intellectual challenge and is adapted to the broad requirements and interests of the students and the Army."

Section V. STAFFING GUIDE

13-18. Instructional Personnel Allowances

Criteria for determining total instructional personnel requirements for all Army schools except C&GSC and AWC are

[2]This paragraph will best be in context if it is inserted between the current paragraph 2-2 Mission and paragraph 2-3 Functions.

contained in Appendix B, DA Pam 616-558, Staffing Guide for US Army Service Schools, 20 December 1967. In the course of this review three conditions were surfaced that will impact upon, and in all probability will require revision of, the factors which form the basis for computation of instructional personnel requirements as prescribed by the Staffing Guide. These conditions are:

a. The considerable increase in instructor workload associated with preparation of doctrine and literature, resulting from the relatively more rapid obsolescence of current doctrine and the consequent need to speed up the production cycle. (This is an aspect of the rapid obsolescence of knowledge as a result of technological advance, described in Chapter 2, Environment.)

b. The need for a substantial increase in student-centered instruction, as recommended in Chapter 9, Theory of Teaching.

c. The need to provide additional time for faculty continuing education and professional development, as described in Chapter 10 - Faculty and recommended in Chapter 8, Civilian Education.

13-19. Doctrine and Literature

Faculty duties for which manpower allowances are authorized by the Staffing Guide are listed in the table in Appendix Y. It will be noted that preparation of doctrine and literature is included in the "research and analysis" category of duties, for which a supplemental allowance factor over and above the allowance for preparation and presentation of instruction is prescribed. It is the adequacy of this supplemental allowance factor, which ranges from .3 to .8 depending upon the department and school, that is called into question by the condition of accelerating obsolescence of doctrine and the concomittant need to speedup the doctrinal production cycle. Consequently, DA should review these factors to determine whether their readjustment is required. This review should take into consideration the actual faculty workload data accumulated by CONARC and the schools in conjunction with annual manpower surveys.

13-20. Student-Centered Learning

The move to greater student-centered learning as discussed in Chapter 9 will impact upon computation of manpower requirements.

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The formula for this computation prescribed by the Staffing Guide is:

Total platform man-hours required = Hours of instruction
x Frequency per year
x Sections per class
x Groups per section

Student-centered learning will impact upon this computation of platform man-hour requirements in the following ways:

a. Hours of instruction. The Staffing Guide recognizes hours of instruction in both POI course and authorized non-POI instruction. Non-POI instruction includes review, additional instruction requested by students, special instruction to ROTC, etc. Student-centered learning requires increased emphasis on diagnostic tests to determine student weaknesses and remedial instruction to correct those weaknesses. It may also involve more frequent instructor-student conferences, essentially tutorial in nature, that are properly considered in the realm of instruction rather than counseling. Such student-centered instructional techniques as these, when introduced into the school system, will tend to increase the number of non-POI hours for which instructional manpower is required. At the same time, however, if the number of POI contact hours is reduced as anticipated in this review (Chapter 9 - Theory of Teaching), the number of formal POI hours of instruction can be expected to decline. At this time it is impossible to state quantitatively whether the expected increase in non-POI hours of instruction will be offset by the expected decline in POI hours of instruction.

b. Size of teaching unit. The factor "groups per section" in the platform man-hour requirements formula will tend to increase as classes are subdivided into smaller sections to permit small-group instructional techniques which are essential to student-centered instruction.

c. Accommodation for hours of instruction and size of teaching unit. The two factors cited in a and b above can probably be accomodated by the existing formula for computation of instructional personnel requirements, so revision of the Staffing Guide formula is not required based on the impact of these factors.

13-21. Faculty Continuing Education and Professional Development

The table at Appendix Y, which summarizes the duties for which manpower allowances for instructional personnel are authorized by the Staffing Guide, indicates that no allowance is currently made for the continuing education and professional development of the faculty. Such activities as background reading, research, professional writing, and taking courses leading to a baccalaureate or advanced degree are certainly carried on by the faculty assigned to all of our schools. At present, essentially all such activities must be accomplished during off-duty hours at the expense of the time an officer can spend with his family. This split interest is not only a burden on the officer's wife, whose opinion is increasingly recognized as a vital retention factor, but also, since the faculty member's time is limited, imposes a constraint limiting his willingness and ability to invest in professional development.

a. Teaching load of civilian college faculty. In this connection, it is interesting to compare the teaching loads of the faculty at our service schools. The teaching load is relevant because it influences the amount of the faculty member's time available for professional development. The American Association of University Professors, in its "Statement on Faculty Workload", adopted in October 1969, states:

> "The following maximum workload limits are necessary for any institution of higher education seriously intending to achieve and sustain an adequately high level of faculty effectiveness in teaching and scholarship:
>
> For undergraduate instruction, a teaching load of twelve hours per week . . . . For instruction partly or entirely at the graduate level, a teaching load of nine hours per week."

The AAUP in the same statement not only recommends the foregoing as the maximum workload, but recommends the following preferred workload:

> "For undergraduate instruction, a teaching load of nine hours per week.

For instruction partly or entirely at the graduate level, a teaching load of six hours per week."

In qualifying the foregoing, the AAUP states:

"It must be recognized that achievement of nine- or six-hour teaching loads may not be possible at present for many institutions. The Association believes, nevertheless, that the nine - or six-hour loads achieved by our leading colleges and universities, in some instances many years ago, provide as a reliable guide as may be found for teaching loads in any institution intending to achieve and maintain excellence in faculty performance."

Information on actual faculty workload in civilian universities and 4 year colleges, based on an extensive survey conducted by the Bureau of the Census for the US Office of Education in 1963 (the last time such a survey was conducted), is provided in the table in Appendix Z. These data indicate that 88 percent of college and university faculty classified as "instructors" had an actual teaching load of 15 credit hours (approximately 15 hours per week) or less. More recent data for all faculty in all civilian higher educational institutions in 1969, contained in Appendix A[1], indicates that all but 22.5 percent had teaching loads of 12 hours per week or less (in universities all but 12 percent had such a teaching load).

b. Teaching load of service school faculty. Comparable standards for the service school faculty may be derived from the platform capability factors contained in the Staffing Guide. These platform capability factors range from 700 platform man-hours per year for an instructor in the Command and Staff Department of a branch school, to 1,550 man-hours per year in the Basic Communications Department of the Southeastern Signal School. The rationale for this spread is well supported in the Staffing Guide, which states:[3]

"More time is required to prepare for those courses dealing with broad organizational, doctrinal, and conceptual subjects where there is a constant

[3]Staffing Guide, p. B-3.

development of new ideas and practices, than is required for subjects relating to the application of facts and figures taught under precise and continuing rules of form and procedures."

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This computes to a standard teaching load for service school faculty of roughly 14-20 hours per week. Thus, the lower range of expected service school faculty workload is in the vicinity of the upper limit of the teaching load of close to 90 percent of comparable "instructor" personnel in civilian colleges and universities, and is above the 12 hours per week for undergraduate level courses and 9 hours per week for graduate level courses recommended by the AAUP as the maximum teaching load for maintenance of a high level of faculty effectiveness.

c. Need for improvement of qualification in school faculty. In sum, instructors (not assistant professors or higher ranks) in civilian colleges and universities are on the whole much better off in terms of time for professional development than their service school confreres. Yet, as was pointed out in Chapter 10, Faculty, the educational and professional qualifications of our service school faculties are at an overall level which requires improvement. Also in Chapter 10, a program for upgrading faculty qualifications was recommended. This included a program for continuing education of faculty members, including opportunity to obtain a baccalaureate or advanced degree, and a program for faculty professional development. If those programs are to work in practice, they should be supported manpower-wise. The hours for such programs cannot be expected to come wholly from the officers off-duty time. Consequently, a supplemental allowance for faculty continuing education and professional development is required and should be authorized.

13-22. Recommendations

It is recommended that--

a. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, Staffing Guide for Army Service Schools, in view of the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed up the doctrine production cycle. (Recommendation 48)

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b. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools. (Recommendation 49)

Section VI. ACADEMIC FACILITIES

13-23. Review of Status of Academic Facilities

Adequate academic facilities are an essential ingredient of a modern effective educational program. My review of the status of these facilities at our schools indicates that, with three important exceptions, the facilities are generally adequate to support such a program. This is not to say that the facilities are all that one would want at all schools; but, in the vast majority of cases, they are excellent, they will in no way impede progress in our educational program, and they are backed by well-developed plans for the future.

13-24. Exceptions to Adequate Academic Facilities

The three exceptions are facilities for the MP School at Fort Gordon, Georgia; for the Military Intelligence School and the Combat Surveillance and Electronic Warfare School (considered as one facility) at Fort Huachuca, Arizona; and for the US Army Security Agency Training Center and School at Fort Devens, Massachusetts. These facilities are so poor that the caliber of the education the students receive does suffer therefrom. In my opinion, priority support should be given for building programs to provide adequate academic facilities for these three schools. This allocation of priority should not be of a passive nature; it should involve a positive and unremitting effort until approval and funds are obtained for construction of the academic buildings. I also noted that the Infantry School has excellent 200-man classrooms, but they are extremely difficult to subdivide for use in instructing smaller classes. This factor poses real instructional difficulties for this important school.

13-25. Importance of Family Housing

Aside from academic facilities, the matter of family housing is of fundamental importance to the morale and attitude of the students. The statistics are well known and available to all; the situation is

equally clear; and there is no requirement for an exploration of it in this review. Suffice it to say that family housing, as always, remains a fundamental factor among the considerations which lead to or detract from job satisfaction and career motivation. 172

13-26. Recommendations

It is recommended that priority support be given to construction programs to improve the academic facilities of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and the Combat Surveillance and Electronic Warfare School at Fort Huachuca, Arizona; and the US Army Security Agency Training Center and School at Fort Devens, Massachusetts. (Recommendation 50)

Section VII. EDUCATIONAL INNOVATIONS IN SOCIETY AT LARGE OF VALUE TO THE ARMY

13-27. Toward a Learning Society

a. Educators are engaged in a vigorous reassessment of postsecondary education in America. Though this reassessment has been ongoing for some time, it has accelerated in recent years and many of the new ideas have begun to influence civilian practice. Some of the principal themes of this reassessment are:

(1) Rapid technological progress has created a compelling social need for continuing education, and in response we are rapidly on our way to becoming what Robert Hutchins has called a "learning society".

(2) The concept of education should be broadened by recognizing that a good deal of learning takes place outside of school, i.e., through work, travel, radio and TV, etc.

(3) Modern communications, especially TV, should be exploited to bring education into the home.

(4) The paths to an education should be diversified and broadened to accomodate the needs of the mass of adult Americans and not solely the needs of the young.[4]

b. In sum, the concept of education as the monopoly of the campus, with its associated degree and residence requirements, is breaking down and the concept of multiple paths to an education is rapidly becoming the norm.

c. The themes in a above have led to active consideration by educators of a variety of educational forms that would better meet society's needs. Some of these forms have already come into existence; others are still in the talking stage. They include--

(1) Proposals for an "open university", a degree-granting institution with no admission requirements, whose principal medium would be TV.

(2) Various forms of "credit by examination" which would assess and award credit for learning no matter how acquired, either through existing institutions or state or national examining agencies.

(3) College or university "external degree" programs which reduce or eliminate residence requirements.

d. The upshot of the innovative tendencies in c above is that the seventies will be a decade of expanding promise for the Army. It will provide additional avenues for satisfying the educational aspirations of our people. It has potential for reducing our most significant educational costs--the length of time an individual must be away from the job to acquire a degree. However, we should recognize

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[4] These themes are forcefully stated in Carnegie Commission for Higher Education, Less Time, More Options (New York: McGraw Hill, 1971); and Report on Higher Education by a Task Force appointed by the Secretary of Health, Education and Welfare (Newman Report) (Washingon: GPO, 1971).

that these tendencies are pushing against some strongly conservative forces in American education. The Army can help speed up the rate of progress by actively supporting educational innovations in society that would be beneficial for our people. Some of the most significant developments deserving our support are discussed in the following paragraphs.

13-28. The Open University

a. The purpose of the Open University is continuing education of adults. While "Open University" is a catch-all term that can take on a variety of forms, its principal ingredients include encouragement of learning in a variety of settings, such as work-study programs, field investigations, and internships; award of credit by examination; use of a wide range of instructional media such as radio, TV, programmed instruction, and audio-visual devices; and award of a degree at the baccalaureate or higher level. According to Lawrence E. Dennis, Director of the Massachusetts State College System, the Open University would be a public interest institution, open to anyone over 15 who wished to learn. There would be no other entrance requirement. The university would be organized by regional confederations of junior colleges, colleges and universities, working through the medium of public broadcasting. Courses would be planned and taught by faculty of these institutions in cooperation with public television stations. The regional confederations would eventually be linked together into a national Open University.[5]

b. A US version of the Open University is under development, using grants from the Ford Foundation and the US Office of Education; but the most highly developed form of the Open University is that instituted by the United Kingdom in 1969. It may be viewed as a model of what an Open University may become as a result of a full-fledged national commitment to continuing education. The University was chartered by the United Kingdom government as an autonomous body authorized to award its own degrees. It seeks to use radio,

[5]Lawrence E. Dennis, "The Other End of 'Sesame Street'," Abstracts from the 26th National Conference on Higher Education, (Washington, American Association for Higher Education, 1971), pp. 60-61.

25 television, specially written correspondence material, audio-visual aids, residential summer schools, and local study centers in a fully integrated way to bring university teaching to its students. Two-hundred fifty local study centers are equipped with radio and TV and provide access to computer terminals, space for private study, and counseling and tutorial services. There are no academic qualifications for entry, and students may select their own courses and change their field of concentration at will. There are five foundation courses in arts, social sciences, mathematics, science, and technology; and second-level courses (which include education), as well as "post-experience" courses to help people keep pace with changes in modern technology. Students are sent packages of material to study and assignments to complete. These are integrated with weekly programs on BBC radio and TV. During the summer months, each student must attend one week summer school for each foundation course.[6] The University awards a Bachelor of Arts degree with or without honors. As the program is aimed at the working adult, persons are not normally allowed to register for more than two courses per academic year. At this pace, the minimum time required to obtain a degree is three years.

c. From the foregoing description it is clear that the Open University concept holds promise for increasing the educational opportunities available to military personnel. Its further expansion and development beyond the single experiment now ongoing in this country should be actively encouraged by the Army and DOD.

13-29. Examining Universities

a. The Newman Report has proposed that resources for education now provided to the community as a package (formal instruction, reading, libraries, examinations, degrees, etc) be provided instead as separate services so that individuals and groups can find their own way to an education.[7] As a result, the Report proposed establishment of Regional Examining Universities, which would administer proficiency examinations through which individuals

[6]The Open University, Prospectus 1972.

[7]Report on Higher Education, p. 69.

could receive credit for skills and knowledge acquired in a variety of ways, and would also grant college degrees.[8] 176

b. The Carnegie Commission for Higher Education has urged that the Educational Testing Service (ETS) and the American College Testing Program (ACT) give more of their attention to achievement testing as the basis for certificates that will take the place of degrees. The Commission has stated, as an achievable goal, that by 1980 tests be fully developed and accepted in lieu of formal course work and in lieu of college credit.[9] The advantages of such arrangements for military personnel, whose learning experiences encompass a variety of jobs and parts of the globe, are obvious. Here is another educational innovation whose development should be actively encouraged by DA and OSD.

13-30. External Degrees

Independent study, sometimes in combination with tutorials, followed by comprehensive examinations, has long been used by the University of London in its external degree program. Several American institutions, such as The University of Oklahoma, Syracuse University, Goddard College, and The University of South Florida have similar programs.[10] Under these programs, students can earn degrees by combining weekend seminars, independent study, proficiency examinations, and life experiences. A variety of techniques are used to assist him (videotapes, tape recordings, correspondence courses, home study, followed by statewide proficiency

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[8] Ibid.

[9] Less Time, More Options, p. 14. The Carnegie Commission's basic recommendation in this area was: "That alternative avenues by which students can earn degrees or complete a major portion of their work for a degree be expanded to increase accessability of higher education for those to whom it is now unavailable because of work schedules, geographic location, or responsibilities in the home."

[10] Op cit, pp. 20, 43.

77 examinations for degree programs).[11] These promising trends toward reduction of residence requirements, which are a major limitation on acquisition of degrees by military personnel, should be taken advantage of and encouraged.

13-31. Growth of Community Colleges

As more and more students go to college, much of the increased enrollment has been taken up by 2-year institutions and local community or junior colleges, which today are one of the fastest growing elements in higher education. In 1964-65 there were 720 2-year colleges, both public and private. It has been predicted that by 1975 there will be 1,500,[12] and the Carnegie Commission for Higher Education has set as a goal for 1980 "community colleges spread across the nation".[13] This expansion of community colleges will contribute to enlargement of educational opportunities for military personnel, and should be taken into account in our educational planning. These institutions offer both college transfer and terminal-occupational[14] programs and aim to provide a curriculum geared to community needs. They are

[11] Charting Student Needs, 1970-71 Annual Report of the American College Testing Program. (Iowa City, Iowa: ACT, 1971), p. 31.

[12] Ibid, p. 23.

[13] Less Time, More Options, p. 31.

[14] The US Office of Education defines "terminal-occupational program" as follows: "A program, extending not more than 3 years beyond high school, designed to prepare students for immediate employment in an occupation or cluster of occupations. It is not designed as the equivalent of the first 2 or 3 years of a baccalaureate degree program. Two levels of terminal-occupational programs are recognized: (1) the technical semi-professional level preparing technicians or semi-professional personnel in engineering or non-engineering fields; and (2) the craftsman/clerical level training artisans, skilled operators, and clerical workers. Programs of the first type generally require 2 to 3 years and programs of the second type are of somewhat shorter duration."

readily adaptable to military needs and, in some instances, can be utilized to conduct some of the formal education or training of military personnel.

13-32. The Army's Response

The Army has not been slow to respond to educational innovations that benefit its personnel. When the College-Level Examination Program (CLEP) was introduced in 1965 to "enable individuals who have acquired their education in non-traditional ways to demonstrate their academic achievement", the program was quickly adopted. Today it is a principal steppingstone to the acquisition of baccalaureate degrees by military personnel. No doubt the same energetic response will be made to other educational innovations in society at large as they occur. My hope is that, in anticipating future developments of great potential, we may help bring them into being more rapidly. From this standpoint, I believe we should take such actions as the following:

a. Urge Army faculty officers (especially school commandants) to work with civilian educators at all echelons in diversifying the routes to an education and support such innovations as the open university and an examining university.

b. Establish cooperative relationships at an early stage in the development of new institutions, such as community colleges, and lend support in design of curricula, exchange of faculty, use of facilities, etc.

c. Stimulate positive attitudes on the part of all supervisors toward participation by their personnel in educational programs, and ensure that work arrangements favorably accomodate such participation, especially of innovative learning experiences and new programs.

d. Provide positive incentives for off-duty study, including recognition of educational achievements through entry in personnel records and appropriate instructions to promotion boards.

e. Review the use of Armed Forces Radio and Television, both current and programmed, to determine whether maximum educational value is being gained from these media and whether

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there is a possibility of experimenting (in conjunction with the US Office of Education and one or more civilian institutions) with a radio/video-based open university for military personnel.

13-33. Guidance

It is suggested that the Army develop an action program for support of high payoff educational innovations in society at large through such measures as those listed in paragraph 13-32. (Guidance 33)

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CHAPTER 14

CONCLUDING COMMENTS ON ARMY OFFICER EDUCATIONAL SYSTEM

14-1. Basic Strengths

In compliance with its mission, this review has concentrated almost exclusively upon areas of potential improvement in our officer educational system; and it has paid scant attention to the strong points and superbly executed programs which often exist in our schools. In that sense, the overall perspective of this study is biased; its results should be viewed accordingly. However, in concluding this review, I think it only fitting that we recognize some of the basic strengths of our system--not in the sense of self-congratulation but in order that we may know what assets we may capitalize on in the future. Indeed, our assets are many; they are so impressive that one can say the U.S. Army is the best equipped single element of U.S. society to cope with the educational problems of the seventies.

a. Principal among our assets I would list the long standing Army tradition of respect for and support of education. This is no Johnny-come-lately, transitory sentiment, but is ingrained deeply in the attitudes, beliefs, and mores of our officer corps. Further, the validity of this faith in and commitment to education has been proven to the Army over the generations since Elihu Root and comparable men first inculcated it. Although there may be times when this commitment to education takes the individual form of acquiring a sheepskin for the sheepskin's sake, these aberrations are rare and do not detract from the basic integrity of our belief.

b. A second major strength rests in our existing organization and facilities. We have, over the years, developed an educational organization which may be imperfect in some respects but is, overall, a splendid one for the job. Complementing this organization, our facilities are basically excellent and have the capability of meeting the physical demands of the future (with three notable exceptions). We in the Army have grown almost accustomed to such facilities and tend to accept them as given; but they stand as models for most civilian institutions.

c. Combined, these two strengths give us a third which is highly important. This is the Army's ability to marshal sufficient resources to apply to worthy educational missions. This strength I consider especially significant in equipping the Army to meet the opportunities for technological advances in instruction. If we have the will to exploit this strength the Army can be in the forefront of the nation's effort in this important area.

d. Finally, there is the inherent strength we derive from the time phasing of our attendance at military schools, whereby an officer has an opportunity to recharge his professional and intellectual batteries every five to seven years. This is the ideal structure for continuing education in a period of educational explosion. To my knowledge, no other profession (outside the academic field itself) has developed and executed such a program.

14-2. Liabilities

The preceding paragraphs highlight only a few of the Army's educational assets; there are many others; and, it must be admitted, there are also some liabilities. In terms of meeting the demands of the seventies, I suspect that our greatest single liability rests in the fact that the Army educational system is, inevitably, a bureaucracy. There is nothing inherently wrong with this; in fact, the system could not function if it were not a bureaucracy. Nevertheless we have developed over the years an educational hierarchy of substantial size, to include major staff and supervisory elements for our educational effort. However well meaning, these staffs and supervisors can inhibit the flexibility and stifle the innovation which is fundamental to the continued success of our system. A special aspect of this hierarchy is its natural tendency to focus on the POI's and the curricula at the schools. POI's and curricula generally take the form of manageable staff documents and hence can be subjected to close and intensive review. There is no question that, on the whole, these POI's and curricula are excellent, and a measure of this excellence stems from the intensive review and monitorship they receive.

14-3. Widening Our Efforts

However, I would point out that the curriculum (what is taught) is at best one-fourth of the total components of an educational system; the others being who is taught (students), who is teaching (faculty)

'83 and how are they teaching (theory of teaching). If there is a single message in this lengthy review it is that we cannot produce an adequate educational system for the seventies by continuing the primary concentration on curricula. We must decisively widen the scope of our efforts to concentrate also on the teacher, the student, and the theory. The many recommendations in this review are designed to achieve this widening of scope. In sum, they call for four major efforts: improve the faculties, modernize and diversify our theory of teaching, reorient C&GSC, and incorporate opportunities for advanced civilian education. By concentrating on these four efforts, we can substantially increase the balance of our educational system and thereby best equip it and its products to meet the challenges of the seventies.

CHAPTER 15

CONSOLIDATED LIST OF RECOMMENDATIONS AND GUIDANCE

To facilitate reference to specific recommendations and guidance, a consolidated list is presented below. The recommendations and guidance are separated in accordance with the chapters to which they pertain, but are numbered serially.

Chapter	Recommendations	Guidance
4 BASIC COURSE	1. No change be made in the Basic Course statement of mission, but greater emphasis be placed on accomplishing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") to assist in earlier professionalization of the new officer. 2. The length of the combat arms Basic Course be established as 12 weeks, in consonance with the Basic Course developed by the Infantry School.	1. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment. 2. The Basic Course be more rugged and demanding, both academically and physically.

Chapter	Recommendations	Guidance
	3. The length of the Basic Course for the combat support and combat service support branches be variable but not less than 9 weeks, with the length of course for each school determined by CG, CONARC.	3. Although the field for validation in the Basic Course is relatively limited, it should be used wherever practical.
	4. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, and presented by a variety of instructional means, e.g., mobile teams; at major command, installation, and unit schools; and orientation at branch schools.	4. Each school develop and execute a junior officer retention program which recognizes the characteristics of the basic officer (paragraph 4-1) and capitalizes on existing programs (See Annex A, Good Programs).
	5. An evaluation system be instituted and executed to support the elimination or decommissioning of unfit or unsuitable basic officers.	

Chapter	Recommendations	Guidance
	6. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of basic officers, especially focused on potential weaknesses in literacy (writing ability), and on technical weaknesses (mathematics for Engineer officers).	
5 ADVANCED COURSE	7. The current mission statement be revised to-- a. Include a statement comparable to "and to provide a foundation for continuing education and further professional development." b. Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers to perform branch-related staff duties at major headquarters."	5. The Advanced Course education program be composed of a core of professional military subjects, and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on duty and off duty study that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue either a baccalaureate or advanced degree.

Chapter	Recommendations	Guidance
	8. OPO establish standards and institute procedures for tougher prescreening of officers prior to attending the Advanced Course, to weed out unfit and unmotivated officers.	6. An explicit objective of the Advanced Course be to provide the student and his family a full, rewarding and happy year to enhance his career satisfaction and develop his professionalism.
	9. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers.	7. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests and experiences; the student be allowed greater scope for self-directed and self-paced learning.
	10. Validation and diagnostic testing be used extensively in the Advanced Course to adjust to the diversity of the students.	8. The programs and techniques indicated in paragraph 5-4, chapter 5 be adopted where pertinent, in dealing with the condition of terminal education.

Chapter	Recommendations	Guidance
		9. The types of coverage indicated in paragraph 5-6, chapter 5 be adopted, where pertinent, in expanding the scope of the curricula of the CS and CSS schools.
		10. The academic program should cogently address contemporary issues. It should be of a quality that reflects the maturity and interests of the students.
6 C&GSC	11. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs: a. To prepare each officer to function effectively in a high-level staff area. b. To provide a foundation for continuing education and intellectual development.	

Chapter	Recommendations	Guidance
	12. Pursuant to adoption of the revision recommended in 11 above, change the curriculum at C&GSC to-- a. Establish a core curriculum of approximately 5 months duration which would be designed to teach every Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course. b. Institute staff functionalization courses of approximately 5 months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course.	11. The basic objective be the establishment of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree-granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community.

Chapter	Recommendations	Guidance
	13. Diversify educational methods by moving to student-centered techniques for a substantial majority of the instruction; and by full utilization of proven innovations in educational technology.	12. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly regarded Strategic Studies Program; and increased use of military history.
	14. Expand electives program and degree completion program.	
	15. DA and DOD obtain congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved.	13. The points raised about housing at C&GSC (Section X) be given appropriate weight in decisions on this subject.

Chapter	Recommendations	Guidance
	16. Establish a C&GSC (LOG) at ALMC. If established, staff functional instruction in logistics (12 above) would be transferred to C&GSC (LOG), consonant with student capacity at ALMC.	
7 ARMY WAR COLLEGE	17. Identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses.	14. The current system for utilization of AWC creative resources be continued. 15. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate.

Chapter	Recommendations	Guidance
8 CIVILIAN EDUCATION	18. All deserving career officers, both regular and reserve, who do not possess a baccalaureate degree be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less. 19. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of CLEP (College Level Examination Program) Examinations and off-duty study under the tuition assistance program.	16. The Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs.

Chapter	Recommendations	Guidance
	20. Officers within the purview of recommendations 18 and 19 be afforded the opportunity to attain their degree not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC.	
	21. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities available to achieve his educational aspirations.	
	22. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts.	

Chapter	Recommendations	Guidance
	23. Non-fully funded civilian education programs, i.e., degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC and AWC be expanded as the principal means of acquiring advanced degrees in the next decade.	
	24. Opportunities be provided to enable faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, to include an allowance for faculty continuing education and professional development.)	

Chapter	Recommendations	Guidance
	25. DA adopt the policy that, where the needs of the service and the desires of the individual can be reconciled, officers will be assigned to duties where they will have an opportunity to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree. 26. DA implement the proposed 18-month degree completion program at the earliest practicable date, with provision for extension to 24 months in individual cases. 27. DA should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools.	

Chapter	Recommendations	Guidance
9 THEORY OF TEACHING	28. The following general policy be adopted with respect to the theory of teaching employed in our service schools: a. The instructor-centered theory of teaching be employed only where essential. b. Student-centered teaching be employed for all other professional military education. 29. CONARC develop and implement a comprehensive, phased program for introduction of mechanized instructional methods into the Army education effort.	17. The Basic Course should achieve a balance of approximately 75 percent instructor-centered, 25 percent student-centered teaching. 18. The Advanced Courses should be approximately a 50-50 balance between instructor-centered and student-centered teaching. 19. The C&GSC should achieve a balance of approximately 80 percent student-centered and 20 percent instructor-centered teaching. 20. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanization would provide greater benefit to the officer educational program.

Chapter	Recommendations	Guidance
10 FACULTY	30. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School, and institute programs to meet these objectives. 31. Pending development of DA-approved quality objectives for the staffs and faculties of the schools in recommendation 30, OPO use the objectives contained in Appendixes N-P as interim quality objectives.	21. DA and OPO concentrate on upgrading the quality of faculty input, assigning this higher priority than improving the stability of faculty assignment. 22. Under CONARC guidance, instructor-training courses which capitalize on the best ideas from the 5-week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC. 23. Guest lecture programs at Advanced Courses and C&GSC be expanded. 24. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as--

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Chapter	Recommendations	Guidance
	32. C&GSC and branch school faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WAC's, civilians, allied officers, officers from other services, and qualified students. 33. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects. 34. A family of personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members.	a. Designating "faculty experts" for specific subject areas and supporting the faculty expert through library procurement and attendance at learned society meetings. b. Using instructor teams to conduct instruction where expert knowledge in more than one area is involved. c. Conducting faculty workshops on such matters as instructional technology, and new developments in learning theory. d. Providing opportunity for individual research. e. Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).

Chapter	Recommendations	Guidance
	35. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in 24 above.)	f. Welcoming participation in curriculum development (applies in particular to junior faculty members). 25. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to duration of faculty assignments, and adopt this approach where feasible. 26. As a corollary to 25 above, DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field.

Chapter	Recommendations	Guidance
11 EVALUATION	36. The student evaluation programs at our schools be comprised of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals.	27. Schools establish programs to develop and incorporate the views of the junior faculties and students to improve the evaluation of curricula.
	37. The relative role and importance now given to academic tests be de-emphasized.	
	38. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased.	
	39. Operators (commandants, staff, and faculties) work with professionals (educational advisors, HumRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels.	

Chapter	Recommendations	Guidance
	40. The subjective evaluation programs include the use of peer ratings, at least on a trial basis.	
12 ORGANIZATION	41. No change be made in the basic organizational relationships which now exist between DA, CONARC, and CDC for the conduct of our officer educational program.	28. DA should evaluate the system developed by the Air Force for the management of their civilian educational program, to determine what aspects, if any, the Army can adopt to its advantage.
	42. In carrying out its dominant role, CONARC should: a. Address major educational issues which are beyond the scope or purview of individual schools. b. Establish a CONARC Center for Research in Education and Instructional Methods.	

Chapter	Recommendations	Guidance
	43. Where agencies other than CONARC have a direct interest in a course of instruction (e. g. AMC in the recommended CS and CSS advanced courses; DA staff agencies and AMC in the recommended staff functionalization at C&GSC) CONARC retain command and control and coordinate actively with the other agencies in development of the curricula.	
	44. OPO initiate a program to assign officers with previous faculty experience to HQ, DA and CONARC staff positions related to officer education, with an objective of approximately 50 percent of these positions to be filled by such officers.	

Chapter	Recommendations	Guidance
13 AREAS OF SPECIAL INTEREST	45. Senior officers and staffs direct special attention to the IMA at Fort Bragg, NC and the SEWS at Fort Huachucha, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors.	
	46. That the pertinent recommendations of the CONARC Leadership Board be implemented.	29. That specific objectives be established for the extent of historical example usage, e.g., once basic principles have been developed not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented.
	47. That the pertinent recommendations of the Department of the Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented.	

Chapter	Recommendations	Guidance
	48. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, in view of the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed-up the doctrine production cycle.	30. That the Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the Advanced and C&GSC courses.
	49. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools.	31. That a portion of the historical studies in our curricula be analyses of unsuccessful US operations.

Chapter	Recommendations	Guidance
	50. Priority support be given to construction programs to improve the academic facilities of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and the Combat Surveillance and Electronic Warfare School at Fort Huachuca, Arizona; and the US Army Security Agency Training Center and School at Fort Devens, Massachusetts.	32. The Army school system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military Services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in paragraph 13-14, Section III be taken to accomplish this.
	51. That AR 351-1 be revised to include the paragraph on increased scope of the officer educational program contained in paragraph 13-17, Section IV.	33. That the Army develop a comprehensive action program for support of high payoff educational innovations in society at large through measures such as those listed in paragraph 13-33, Section VII.

APPENDIXES

APPENDIX A

ARMY OFFICER EDUCATION STUDY DIRECTIVE

A-1. The formal directive from the Chief of Staff, Army for conducting this review contains the following guidelines:

a. The officer conducting the review will familiarize himself with the overall Army Officer Education System, its policies and procedures, and will observe local implementation of these policies and procedures.

b. Observations will be conducted at selected Service schools and colleges. Commencing in November 1970, the officer conducting the review will be assigned to the OCSA.

c. The primary task will be to make recommendations and provide trip reports that will assist in developing improved policies for operation of the officer education system. Particular attention should be given to:

(1) Curriculum

(2) Instructor and instruction quality

(3) Thrust of instruction

(4) Adequacy of faculty

(5) Any major differences in support for academic operations

d. Upon completion, prepare a report of findings, recommendations, and recommend time phasing for implementing any change through CG, CONARC, to the Chief of Staff, United States Army.

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APPENDIX B

APPROACH TO REVIEW

B-1. The formal directive as received from the Office, Chief of Staff is desirably broad. However, some refinements and increased specifications within the terms of the directive are helpful to establish parameters on my own effort and to avoid confusion on the part of the schools and staffs involved. These refinements are given below. Of special interest is paragraph b, which indicates educational areas not covered in this review.

a. My review will concentrate on the officer educational system, post commissioning. It will not directly address any precommissioning educational experience (USMA, ROTC, OCS). These important areas have been, and remain, under intensive study by highly qualified individuals and agencies. My review of these areas would profit nothing. I shall, however, want to receive short briefings on the OCS and ROTC programs at the headquarters where these are important. These briefings should be designed to give background on the programs involved and to permit me to evaluate the basic course in the light of the OCS, ROTC, and USMA input. I shall also visit USMA for intensive discussions. These will be related primarily to the environmental considerations in the study and not to the USMA cadet or graduate as such.

b. CON Reg 350-1 states that the officer educational program includes eight types of courses: career, warrant officer career, mobilization, specialist, refresher, orientation, functional, and peripheral. I do not plan to review this entire spectrum; rather I shall concentrate primarily upon the career course area, with secondary attention to the specialist area and substantially less attention to the other courses. Specifically, I shall not address warrant officer career courses, mobilization courses, or aviation training. My consideration of refresher courses, orientation courses, functional courses, and peripheral courses will be brief and general. It will be designed primarily to determine the impact of these courses upon the resources of the schools involved and to obtain a perspective on the relative level of effort which these ancillary courses require.

c. A major area of interest at all pertinent echelons will be the civilian educational program, with special attention to the advanced degree element. I expect that civilian education will receive as much attention as professional military education in this review. At least the question of how we can best integrate the two will be a paramount issue.

d. I shall consider primarily the time frame 1971-76, with supplementary consideration of the 1976-81 period. A more ambitious time frame would be beyond my competence and would have little pertinence or convertibility for today's decisionmaker.

e. I plan a submission date of the completed product to the Office, Chief of Staff through CG, CONARC not later than 1 December 1971.

APPENDIX C

OTHER STUDY EFFORTS

C-1. Army officer education is under continuous study. Eight related actions are mentioned here.

a. Office, Deputy Chief of Staff for Personnel has been developing and staffing a new Officer Personnel Management System (OPMS).

b. General Ralph H. Haines, Commanding General, U.S. Continental Army Command, has been conducting an intensive series of personal visits to each of the schools to study the present Army educational system.

c. Brigadier General Henry Newton, USA (ret.) has been assisting General Haines by visiting the schools.

d. In May 1971, an ad hoc committee, under Colonel T. E. Griess, Chairman, Department of History at the U.S. Military Academy, completed a landmark study on the Army Need for the Study of Military History.

e. A CONARC Leadership Board, under Brigadier General H. E. Emerson, recently conducted a study of Army leadership and has submitted its recommendations in a report entitled Leadership for Professionals, dated 30 July 1971.

f. Office, Deputy Chief of Staff for Personnel, completed a study of The Military Education of Career Officers (MECO) in December 1970.

g. Office, Deputy Chief of Staff for Personnel, completed a study of the Army Civil Schooling Program, incorporating new civilian educational objectives for Army personnel. The study was approved by the Chief of Staff on 22 June 1971.

h. Office of the Special Assistant for the Modern Volunteer Army, under Lieutenant General George I. Forsythe, was

established as a focal point for Army actions leading to creation of a Volunteer Army (VOLAR) in the seventies. 214

ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Department of Defense Summary

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	[illegible]
Total Classified by Occupation	2,266	2,027	1,832	2,030	2,375	100.0	100.0	100.0	100.0	1[illegible]
Ground Combat	391	307	245	296	335	17.3	15.1	13.4	14.1	14.[illegible]
Infantry	209	157	132	157	186	9.2	7.8	7.2	7.8	7.8
Artillery	106	82	60	65	71	4.7	4.0	3.3	3.2	3.0
Armor	40	36	28	32	36	1.8	1.8	1.5	1.6	1.5
Combat Engineers	34	33	25	31	40	1.5	1.6	1.4	1.5	1.7
Other	1		1	1	2					.1
Electronics	216	263	245	292	349	9.5	13.0	13.4	14.2	14.7
Maintenance	105	118	133	168	192	4.6	5.8	7.2	8.2	8.1
Operation	111	145	113	124	156	4.9	7.2	6.2	6.0	[illegible]
Other Technical	189 2/	158	147	162	182	7.3 2/	7.7	8.0	8.1	7.7
Medical and Dental	101	89	85	94	108	4.5	4.4	4.6	4.6	4.5
All Other (incl. auxiliaries)	87	69	62	68	74	2.9	3.3	3.4	3.5	3.1
Administrative and Clerical	467	389	377	402	438	20.6	19.2	20.6	19.9	18.4
Supply	187	132	124	131	141	8.3	6.5	6.8	6.5	5.9
All Other	280	257	253	271	297	12.4	12.7	13.8	13.4	12.5
Mechanics and Repairmen	506	505	453	498	619	22.3	24.9	24.8	24.5	26.1
Aircraft	172	201	194	199	236	7.6	9.9	10.6	9.8	9.9
Automotive	82	73	59	71	106	3.6	3.6	3.2	3.5	4.5
Munitions & Weapons (incl. Naval gunners)	51	52	46	49	68	2.3	2.6	2.5	2.4	2.9
Shipboard Machinery (incl. Naval gunners)	97	87	79	88	58	4.3	4.3	4.3	4.3	4.1
Electrical & Wire Comm.	93	87	72	87	106	4.1	4.3	4.0	4.3	4.5
Other	12	5	4	4	5	.5	.2	.2	.2	.2
Craftsman	150	149	139	146	167	6.6	7.4	7.6	7.2	7.0
Constr. and Utilities	51	61	59	61	62	2.3	3.0	3.2	3.0	2.8
Shipboard Operations	36	29	25	27	34	1.6	1.4	1.3	1.3	1.4
Metal Working	24	21	20	20	23	1.1	1.0	1.1	1.0	1.0
Other	39	39	36	38	43	1.7	2.0	2.0	1.9	1.8
Services	348	257	225	241	285	15.4	12.7	12.3	11.9	12.0
Motor Transport Operators	87	60	56	57	68	3.8	3.0	3.1	2.8	2.9
Food Service	145	96	81	86	98	6.4	4.8	4.4	4.3	4.1
Security	79	69	66	71	75	3.5	3.4	3.6	3.5	3.2
Other	36	31	22	27	45	1.6	1.5	1.2	1.3	1.9

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

2/ Includes 22,000 aerial gunners.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/ 516

ARMY

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	950	781	666	770	925	100.0	100.0	100.0	100.0	100.0
Ground Combat	327	243	187	223	242	34.4	31.2	28.1	28.8	26.2
Infantry	173	115	90	112	123	18.2	14.8	13.6	14.5	13.3
Artillery	96	72	53	59	63	10.1	9.2	8.0	7.6	6.8
Armor	33	32	25	29	32	3.5	4.0	3.7	3.8	3.4
Combat Engineers	25	25	19	23	25	2.6	3.2	2.8	2.9	2.7
Electronics	47	72	60	71	85	4.9	9.3	9.0	9.1	9.2
Maintenance	20	16	25	31	40	2.1	2.1	3.7	4.0	4.3
Operation	27	56	35	40	45	2.8	7.2	5.3	5.1	4.9
Other Technical	69	66	58	66	73	7.3	8.5	8.7	8.6	7.9
Medical and Dental	46	40	36	42	46	4.8	5.2	5.4	5.5	4.9
All Other (incl. musicians)	23	26	22	24	28	2.4	3.3	3.3	3.1	3.0
Administrative and Clerical	181	127	125	144	158	19.1	16.3	18.8	18.6	17.1
Supply	88	40	39	44	57	9.3	5.2	5.8	5.7	6.1
All Other	93	87	86	100	101	9.8	11.1	13.0	12.9	10.9
Mechanics and Repairmen	115	108	98	127	188	12.1	13.7	14.7	16.5	20.3
Aircraft	3	7	10	15	28	.3	.9	1.5	1.9	3.0
Automotive	50	47	43	56	87	5.3	6.0	6.5	7.3	9.4
Munitions and Weapons	6	9	9	11	14	.6	1.1	1.4	1.5	1.6
Electrical & Wire Comm	50	44	34	43	56	5.3	5.6	5.1	5.6	6.1
Other	6	1	1	2	2	.6	.1	.1	.2	.2
Craftsmen	30	38	32	30	34	3.2	4.9	4.8	3.7	3.7
Constr. and Utilities	12	24	21	15	13	1.3	3.2	3.1	1.9	1.4
Metal Working	7	5	4	4	5	.7	.6	.5	.5	.5
Other	11	9	8	11	16	1.2	1.1	1.2	1.3	1.7
Services	181	126	105	111	145	19.1	16.1	15.8	14.5	15.7
Motor Transport	51	33	33	32	42	5.4	4.3	4.9	4.1	4.6
Food Service	66	41	31	35	47	6.9	5.2	4.7	4.6	5.1
Security	36	27	25	25	31	3.8	3.5	3.7	3.3	3.3
Other	28	24	17	19	25	2.9	3.1	2.5	2.5	2.7

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Navy

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	434	405	378	437	535	100.0	100.0	100.0	100.0	100.0
Electronics	65	73	73	97	127	15.0	18.0	19.2	22.3	21.7
Maintenance	32	34	35	47	56	7.4	8.3	9.3	10.8	10.4
Operation	33	39	38	50	71	7.6	9.7	9.9	11.5	13.3
Other Technical	37	33	32	35	45	8.5	8.2	8.5	8.0	8.3
Medical and Dental	30	26	25	28	36	6.9	6.4	6.7	6.3	6.6
All Other (incl.Musicians)	7	7	7	7	9	1.6	1.8	1.8	1.7	1.7
Administrative and Clerical	44	39	38	42	57	10.1	9.6	10.0	9.5	10.6
Supply	14	13	13	14	18	3.2	3.3	3.4	3.3	3.4
All Other	30	26	25	28	38	6.9	6.3	6.6	6.2	7.1
Mechanics and Repairmen	186	174	159	180	205	43.2	43.1	42.1	41.2	38.2
Aircraft	36	36	33	38	42	8.3	8.9	8.8	8.7	7.8
Munitions and Weapons	26	22	19	21	25	6.0	5.5	5.0	4.7	4.6
Shipboard Machinery	97	87	79	88	58	22.4	21.5	20.8	20.2	18.3
Electrical and Wire Comm.	26	27	27	31	37	6.0	6.7	7.0	7.1	6.8
Other	2	2	2	2	3	.5	.5	.5	.5	.7
Craftsmen	64	54	47	51	68	14.7	13.1	12.5	11.7	12.8
Constr. and Utilities	14	13	8	8	12	3.2	3.1	2.0	1.8	3.1
Shipboard Operations	33	26	23	24	29	7.6	6.5	6.0	5.5	5.4
Metal Working	7	5	8	8	10	1.6	1.3	2.1	1.9	1.8
Other	10	10	9	11	13	2.3	2.2	2.5	2.5	2.5
Services	37	32	29	32	35	8.5	8.0	7.7	7.2	6.5
Food Services	32	27	25	27	29	7.4	6.6	6.5	6.1	5.4
All Other	5	6	5	5	6	1.2	1.4	1.3	1.1	1.1

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/ 218

Marine Corps

DoD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	183	161	145	162	234	100.0	100.0	100.0	100.0	100.0
Ground Combat	63	63	58	66	93	34.4	39.4	40.2	40.5	39.6
Infantry	36	42	41	46	63	19.7	26.1	28.6	28.5	26.9
Artillery	11	10	7	7	8	6.0	5.9	4.7	4.2	3.6
Armor	6	4	3	3	4	3.3	2.5	1.8	1.8	1.9
Combat Engineers and Other	10	8	7	10	17	5.5	4.9	4.6	6.0	7.2
Electronics	12	12	17	18	30	6.6	7.5	11.2	11.5	12.8
Maintenance	4	5	7	9	16	2.2	2.9	5.0	5.7	6.8
Operation	9	8	9	9	14	4.9	4.7	6.3	5.8	6.0
Other Technical (excl. medical)	6	5	4	5	7	3.3	3.1	3.0	3.1	2.9
Administrative and Clerical	42	33	28	29	41	23.0	20.6	19.2	18.1	17.5
Supply	18	14	11	12	17	9.8	8.9	7.9	7.7	7.2
All Other	24	19	17	17	24	13.1	11.7	11.3	10.4	10.3
Mechanics and Repairmen	32	27	22	26	38	17.5	16.7	14.9	15.5	16.0
Aircraft	13	11	10	12	18	7.1	7.1	7.2	7.1	7.8
Automotive	8	6	5	5	7	4.4	3.6	3.2	2.9	2.9
Munitions and Weapons	5	4	3	5	8	2.7	2.6	2.1	3.2	3.4
Electrical & Wire Comm.	6	6	3	4	4	3.3	3.4	2.4	2.3	1.9
Craftsmen	4	3	3	3	5	2.2	1.8	1.7	1.8	2.0
Constr. and Utilities	2	2	2	2	3	1.1	1.3	1.0	1.1	1.2
Other	2	1	1	1	2	1.1	.6	.7	.7	.8
Services	24	18	19	15	22	13.1	10.8	9.8	9.3	9.3
Motor Transport	14	10	9	9	14	7.7	6.0	5.9	5.7	5.9
Food Services	8	7	5	5	7	4.4	4.3	3.4	3.2	2.9
Other	2	1	1	1	1	1.1	.6	.4	.4	.5

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Air Force

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	798	680	692	661	690	100.0	100.0	100.0	100.0	100.0
Electronics	91	106	96	104	107	13.1	15.5	15.0	15.8	15.7
Maintenance	50	63	66	80	81	7.[illegible]	9.3	10.2	12.0	11.9
Operation	42	42	31	25	26	6.0	6.2	4.8	3.8	3.8
Other Technicians	76 2/	53	52	56	57	7.7	7.8	8.1	8.5	8.4
Medical and Dental	25	23	24	24	27	3.6	3.4	3.7	3.6	4.0
All Other Tech Technicians	51	30	28	32	30	4.1	4.4	4.4	4.9	4.5
Administrative and Clerical	200	190	186	187	183	28.6	27.9	26.9	28.3	26.8
Supply	66	44	62	61	49	9.4	9.4	9.6	9.2	7.2
All Other	134	126	124	126	134	19.1	18.5	19.3	19.0	19.6
Mechanics and Repairmen	173	196	175	167	190	24.7	28.8	27.3	25.4	27.8
Aircraft	120	146	140	135	148	17.1	21.5	21.7	20.4	21.8
Automotive	23	19	11	9	9	3.3	2.8	1.6	1.4	1.3
Munitions and Weapons	14	17	14	12	21	2.0	2.6	2.2	1.9	3.1
Electrical & Wire Com.	10	10	8	9	9	1.4	1.5	1.3	1.4	1.3
Other	5	3	2	2	3	.7	.4	.3	.3	.4
Craftsmen	51	54	57	64	69	7.4	8.0	8.9	9.4	8.8
Constr. and Utilities	23	22	29	38	33	3.3	3.2	4.5	5.5	4.9
Metal Working	10	11	8	8	9	1.4	1.6	1.2	1.2	1.3
Other	20	21	20	18	17	2.9	3.0	3.1	2.7	2.6
Services	106	81	76	85	89	15.3	12.0	11.9	12.8	12.9
Motor Transport	23	17	15	16	12	3.3	2.6	2.3	2.4	1.8
Food Service	39	22	18	19	15	5.6	3.2	3.1	2.9	2.2
Security	44	42	41	45	44	6.3	6.2	6.4	6.9	6.5
Other	-	-	-	5	13	.1	-	-	.4	1.9

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and excludes trainees and other positions not classified by occupation.

2/ Includes 22,000 aerial gunners.

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APPENDIX E

PREFERRED DEGREE OF SPECIALIZATION FOR OFFICERS
OPINIONS OF MALE COMMISSIONED OFFICERS
AWARE OF CAREER PROGRAM, BY GRADE

(In Percent)

Degree of Specialization	GRADE						
	Total	COL	LTC	MAJ	CAP	1LT	2LT
100 percent generalist.....	4.9	11.1	6.6	5.1	4.1	3.5	2.9
75 percent generalist/ 25 percent specialist.....	38.5	47.6	42.7	41.1	36.4	31.3	35.8
50 percent generalist/ 50 percent specialist.....	39.3	32.5	34.8	39.7	38.9	44.7	42.4
25 percent generalist/ 75 percent specialist.....	16.3	8.5	14.6	13.5	19.1	19.3	18.0
100 percent specialist.....	1.0	0.3	1.3	0.6	1.5	1.2	0.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Strength*	83,964	5,520	13,497	17,240	19,474	9,930	18,303
Sample size.....	4,335	305	699	884	1,000	514	933

*Source: Strength expanded from sample in relation to DCSPER 46, "Strength of the Army" (U), 30 November 1967.

APPENDIX F

UNDEREDUCATED HUMP

1. Size of hump:

CIVILIAN EDUCATION LEVEL OF ARMY CAPTAINS
AS OF 15 NOV 1970

	RA		OTRA		TOTAL	
	No	%	No	%	No	%
Total Army Captains	9499		34,933		44,437	
Total with Education Level Known	9369	100.0	30,592	100.0	39,961	100.0
BA Degree or Higher	8512	90.86	14,453	47.24	22,965	57.47
Less than BA Degree	857	9.14	16,139	52.76	16,996	42.53
(a) Two or more yrs college	788	8.41	5,406	17.67	6,194	15.50
(b) Less than 2 yrs college	49	.52	5,451	17.82	5,500	13.76
(c) HS graduate	20	.21	5,282	17.27	5,302	13.27

2. The problem is concentrated in the OTRA captains. Percentages without college degrees by grade are:

LT (OTRA)	CPT (OTRA)	MAJ (ALL)	LTC (ALL)	COL (ALL)
25.81	52.76	17.30	17.04	15.12

3. Civilian education level of OTRA captains, OPD branches only, is shown in the following table:

CIVILIAN EDUCATION LEVEL
OTRA CAPTAINS, OPD BRANCHES
AS OF 15 NOV 1970

	Number	Percent
Ph.D Degree	138	
MA Degree	509	
Professional Degree	329	
Post-Graduate College but no Post-Graduate Degree	283	
Baccalaureate Degree	7175	
Sub-Total Baccalaureate Degree and Higher	8434	35.2%
Two Years or more College	4709	(30.4%)
Less than two years College	5449	(35.3%)
High School Graduate	5281	(34.3%)
Sub-Total Less Than Baccalaureate Degree	15,439	64.8%
Total	23,873	100.0%
Education Level Unknown	803	
Grand Total	24,676	

4. The number of voluntary indefinite officers in year groups that provide the bulk of OPD captains (FY 65-69) is shown in the next table. FY70 is included because it is the last year with large OCS input.

OTRA VOLUNTARY INDEFINITE OFFICERS, OPD BRANCHES
FISCAL YEAR GROUPS 65-70 AS OF 31 MAR 71

	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	Total FY 65-70
ROTC	290	482	699	1067	2640	4362	9540
OCS	804	1657	5576	4601	2509	3445	18,592
Other	224	402	748	618	708	1196	3896
(OCS and Other)	(1028)	(2059)	(6324)	(5219)	(3217)	(4641)	22,488
Total	1318	2541	7123	6286	5857	9003	32,028
Addendum: Integrated into RA from original OCS input	242	183	327	100	19	5	876

Source: COPO-91

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5. From para 3, 64.8 percent of OTRA captains in OPD branches do not have college degrees. Allowing for the fact that ROTC officers in fiscal year groups 65-69 have baccalaureate degrees, it can be computed that 90.1 percent of OCS and "other" (direct appointments, voluntary recall, etc) officers do not have a college degree. This yields a total of 20,300 officers in year goups FY65-70 who do not have college degrees, broken out as follows.

Have two years or more college	6170	30.4%
Have less than two years college	7160	35.3%
High school graduate	6970	34.3%
Total	20,300	100.0%

6. Because of reduction in size of the Army associated with VOLAR, it is evident that not all of the voluntary indefinite officers in year groups 66-70 will be able to remain on active duty. The order of magnitude of the normal and forced (policy-generated) attrition that will inevitably take place may be gauged by examining the current size of the year groups comprising the officer structure. This is shown in the next table.

OFFICERS ON ACTIVE DUTY
OPD BRANCHES
FISCAL YEAR GROUPS 42-71
AS OF 31 MAR 71

Fiscal Year Group	OTRA	RA	Total
1942	4	713	717
1943	10	449	459
1944	6	414	420
1945	12	563	575
1946	17	457	474
1947	35	328	363
1948	10	764	774
1949	71	843	914
1950	27	940	967
1951	211	1142	1353
1952	295	1373	1668
1953	518	1298	1816
1954	628	1272	1900
1955	442	1390	1832
1956	453	1344	1797
1957	620	1621	2241
1958	358	1530	1888
1959	468	1681	2149

Fiscal Year Group	OTRA	RA	Total
1960	638	1740	2378
1961	664	1690	2354
1962	1535	1792	3327
1963	1174	1686	2860
1964	1412	1647	3059
1965	1318	1583	2901
1966	2541	1603	4144
1967	7281	1913	9194
1968	7339	1983	9322
1969	11,718	2097	13,815
1970	23,532	2013	25,545
1971	8702	487	9189

SOURCE: COPO-91

7. By examining the RA and OTRA composition of year groups 58-65, and remembering that the Army has traditionally experienced a shortfall in officers with 3 to 13 years service, it appears that there will probably not be a future requirement for more than 2000 OTRA spaces in each year group of the career structure. Applying this to year groups FY 66-70 (refer to table in para 4), there will probably not be a requirement for retention of a total number of OTRA officers in these year groups much in excess of 10,000. Assuming 1000 of these are ROTC, and 90 percent of the remainder do not have college degrees, this yields a requirement to educate 8100 OTRA officers to the baccalaureate level. Adding 900 officers for FY 65, the total undergraduate education requirement for OTRA officers in year groups 65-70 is approximately 9000.

8. There are two principal programs for educating officers to the baccalaureate degree level: the degree completion program (bootstrap) and the officer undergraduate degree program (OUDP). Under bootstrap the officer must be able to complete his degree within one year (it is expected that this will be changed to two years). Under OUDP he must be able to complete his degree within two years. Officers must have RA potential and 2-7 years AFCS to be selected for OUDP. OPD practice is to program such officers to their branch advanced course first, and then to civil schooling.

9. Actual/projected inputs to these programs are estimated as follows:

	FY 70	FY 71	FY 72*	FY 73*	FY 74*	FY 75*	Total FY 70-75
			*Projected figures				
Bootstrap (undergraduate)	750	720	720	700	700	700	4290
OUDP	866	762	725	725	725	725	4528
Total	1616	1482	1445	1425	1425	1425	8818

SOURCE: OPD Civil Schools Branch and DCSPER Milestone Three Briefing on Army Civil Schooling Program.

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10. Total OPD objective for OUDP is 4500 officers over the 6 years FY 70-75. The recent DCSPER study of the Army Civil Schooling Program phased out the OUDP program in FY 76 and reduced the undergraduate bootstrap input to approximately 500 per year from 1976 on.

11. Thus, according to present plans, a total of 8818 officers will be educated to the baccalaureate level during the six-year period FY 70-75. Reducing this by 650 for the number of RA captains requiring a college degree (they will undoubtedly have priority in attendance), and by 860 to account for approximately 20 percent of the bootstrap quota going to field grade officers, the result is that approximately 7308 OTRA company-grade officers will be educated to the baccalaureate level. This is 81.2 percent of the 9000 requirement computed in paragraph 7.

12. However, from the data presented in paragraph 3, only about 30-40 percent of the officers of OPD branches lacking a baccalaureate degree can complete their degree in two years or less, which is a requirement for eligibility for OUDP (for bootstrap the eligibility requirement is completion of the degree in one year or less). Thus, any program to educate 100 percent of the officers lacking a baccalaureate degree to that level must adopt a variety of techniques to assist the officer in attaining an educational level such that he will be able to complete his degree in a maximum of two years. Such techniques could feasibly include GED testing for two-year college equivalency, and a combination of both on- and off-duty study under the tuition assistance program. In addition, OPD would have to establish a management system to identify the officers involved, evaluate their academic records, ascertain their desires to participate in the program, assign them to posts where adequate educational opportunity exists, and ensure the cooperation of commanders.

13. The goal for completion of the baccalaureate should be no later than the end of the eighth year of service, or roughly the beginning of eligibility for attendance at C&GSC. This is to ensure that the Army does not, in effect, employ a double standard in considering such officers differently from their more educated peers for future advancement.

14. Given the continued expansion of the number of persons with baccalaureate degrees in the next decade, the Army - particularly when it foots the bill - cannot afford to consider all baccalaureates as equal worth but must begin to look behind the degree to the quality of education received. Any program to raise the civilian educational level of our officers should not be simply a matter of progressing through a diploma mill, or getting a ticket punched by taking a smattering of courses, but should be an adjunct to the professional education of the officer concerned. This raises the question of whether any control should be exercised over the field of concentration of an officer acquiring a baccalaureate degree under this program. A relevant consideration is that, from the standpoint of career development, the principal goal of the officer in the first ten years of service is to become a functional expert in his branch or specialty. Assuming that most officers are properly assigned to the branch or special career field in which they are interested, and in which

they have some aptitude, there would appear to be advantages to requiring an officer's field of concentration while pursuing the baccalaureate to be in a field related to his branch or specialty, provided such criterion were construed liberally to offer a variety of alternative majors to the officers concerned. Taking Engineer Branch as an example, I would envision an officer would be permitted to major not only in any of the principal fields of engineering but also in such branch-related fields as physics and ecology, and in soft skills such as management, OR/SA, and ADP which have value to the branch. This would, however, preclude an Engineer officer from majoring in sociology, history, political science, languages, international relations, and most other social sciences/humanities. Such exclusion would not be without evident disadvantages, but would be completely consistent with the fact that an Engineer officer will be serving throughout much if not most of his career in a professional engineering capacity in Engineer units and districts, and will be collaborating with other professional engineers and expected to maintain professional standards of achievement. We could therefore with reason adopt the position that government-financed education should help the officer acquire the knowledge, skills, and professional standards appropriate to his particular branch or sub-profession of the military profession.

APPENDIX G

The following is a list of subjects and the number of hours that the QM Officer Advanced Students receive that is above the Brigade level of instruction:

International Logistics	3 hrs
Civil Disturbance, Domestic Emergency and Civil Defense	2 hrs
National Defense, Civil Aspects	2 hrs
Armed Forces in Emergencies	1 hr
Introduction to System Analysis (OR/SA)	17 hrs
General Management	19½ hrs
Financial Management	39 hrs
Sociology and the American Scene Today	21 hrs
Special Warfare Operations	25 hrs
The Division	26 hrs
Command and Staff	30½ hrs
Division Combat Support	10 hrs
Division Combat Service Support	20 hrs
Nuclear Weapons and CBR Operations	16 hrs
Division Tactical Exercise	16 hrs
Joint Actions	31 hrs
Automatic Data Processing	38 hrs
CONUS Supply System and Field Supply Management and Accounting Procedures	5 hrs
Depot Operations	15 hrs
Inventory Management	60 hrs
Petroleum Equipment and Technical Procedures	1½ hrs

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Installation Services	8 hrs
Maintenance Management	9 hrs
Logistical Support of Internal Defense and Development	2 hrs
MILSTAMP	1 hr
Introduction to TOPNS	1 hr
FASCOM	2 hrs
FASCOM Organization of the Support Groups	3 hrs
TASCOM	2 hrs
Field Depot Operations	2 hrs
Support Operations Employment Exercise	6 hrs
General Supply - TOPNS	2 hrs
Class V Operations in TOPNS	1 hr
Class IX (Repair Parts) and Salvage Operations	1 hr
Rear Area Protection	2 hrs
Availability and Utilization of Labor in a TOPNS	1 hr
Transportation Movements and Movements Management	3 hrs
Army Aviation	1 hr
Base Development Planning	8 hrs
PDO & Procurement	29 hrs
Exchange	2 hrs
Total	484½ hrs

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APPENDIX H

C&GSC CLASS
HOUSING PROJECTION

		FY 71	FY 72	FY 73
On Post	Adequate	484	584	884
	Substandard	108	108	108
Off Post	Lease (Local)	350	350	179
	Lease (Distant)	149	84	0
	Rent	89	45	0
	Own	6	5	5
		1,186	1,176	1,176
	BOQ	64	74	74
		1,250	1,250	1,250

APPENDIX I

DISCUSSION OF CURRENT ADVANCED CIVILIAN EDUCATION PROGRAMS

1. AERB. Our principal program in advanced civilian educational effort is conducted under the Army Educational Requirements Board (AERB). This program calls for a tight, straight-line relationship between the advanced civilian education received and a specific Army requirement for that education and, generally speaking, a specific assignment which will utilize the education (see AR 621-1 for details on this program). On the whole, this program has served the Army well in carrying out the stated educational policies it is designed to support. Although certain aspects of this effort have come under heavy criticism from the GAO, it remains a sound program which is essential to the officer educational effort. One favorable facet of this system is its demonstrated capability for growth and its flexibility in reflecting qualitative changes in the Army's educational requirements. For example, in 1964 the AERB approved 4,461 positions for advanced degree education; by 1970, this number had increased to 8,550 (an increase of 92 percent in six years). Historical trend data and a comparison of Army requirements with those of the other services are at Inclosures 1 and 2.

2. Advanced Degree Program for ROTC Instructor Duty. A second advanced civilian educational program which has considerable promise is the recently instituted system whereby officers assigned to ROTC duty are given special opportunities to obtain advanced degrees. (See DA Circular 621-7 for details.) This program has not been in effect for sufficient time to evaluate its overall worth but, over the years, it should make a continuing important contribution to the Army's advanced civilian educational program.

3. Cooperative Degree. The third advanced civilian educational program is the cooperative degree program now being conducted at the Army War College and C&GSC. Officers participating in these programs earn credit toward a Master's Degree while in residence at C&GSC or AWC, and become eligible to apply for further schooling subsequent to graduation in order to complete degree requirements at the cooperating university or other institution under the Degree Completion Program. Complementing these C&GSC and AWC efforts are programs for concurrent civilian education, principally for advanced course officers under the advanced course electives program, conducted at most of the branch schools. These programs permit officers to receive resident credit toward an advanced degree from an accredited civilian institution. The concurrent civilian education programs at branch schools vary widely in terms of comprehensiveness, attractiveness, command emphasis, student participation, etc; so it is infeasible to present a general characterization of them. However, most involve an established relationship with one of more civilian institutions to provide graduate-level instruction either on post or on campus; and all are meshed to a greater or less degree with the tuition assistance program for off-duty study, and the degree completion program.

4. Degree Completion Program. The fourth advanced civilian education program is the degree completion program, which currently allows up to one year of full-time study to satisfy degree requirements at an accredited institution. This program is a bulwark of civilian educational efforts because it provides

an incentive for individuals to acquire sufficient credits through the tuition assistance and other programs to achieve a level of education such that a degree can be attained in one year. Utilized in tandem with cooperative efforts at branch and service schools, it provides a flexible means of acquiring an advanced degree with minimum loss of the officer's services. Presently, applicants requiring one year or less to complete their degree are being selected for this program. It has been proposed to extend this period to 18 months commencing in FY 73. I recommend implementation of the 18 month degree completion program at the earliest practicable date.

5. Scholarships, Fellowships, and Grants. Supplementing the other educational programs is the program for acquisition of advanced degrees through scholarships, fellowships, or grants, such as Olmstead, National Science Foundation, and Rhodes scholarships.

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ARMY EDUCATIONAL REQUIREMENTS BOARD
TOTAL VALIDATED REQUIREMENTS

CY	Total Army	Army Less AMEDD
1963	-	3,995
1964	4,461	3,420
1965	5,421	3,357
1966	6,824	4,418
1967	8,628	5,550
1968	8.724	5,716
1969	9.421	6,489
1970	8,550	6,329

Source: OPO

VALIDATED POSITIONS (1971)
(OFFICER PERSONNEL)

	End Strength	Validated Positions	Required to Fill	Available Assets	Shortage	Continued in Training	New Input	Utilization Policy	V.P. /END Strength
Army	148,950	9,421	26,379	9,873	16,506	1,770	1,402	V.P. x 2.8	6.3%
Navy	74,560								
	Technical								
	URL	1,834	4,304	2,710	1,594			V.P. x 2.3	6.5%
	RL & SC	1,798	1,798	1,748	50			V.P. x 1	
	Non-Technical					1,479	1,819		
	URL	409	949	1,850	(901)*			V.P. x 2.3	
	RL & SC	803	803	1,002	(199)			V.P. x 1	
	Total	4,844	7,854	7,310	1,644				
Air Force	125,919	12,472	14,966	9,774	5,192	1,746	1,304	V P. x 1.2	9.9%
Marine Corps	21,699	471	1,130	713	557	57	68	V.P. x 2.4**	2.2%

*About two-thirds of the surplus are in International Relations. Most officers with P-codes in this curriculum received advanced degrees through a voluntary, non-Navy funded, off-duty course at the Naval War College.

**Includes reduction of 279 (not available due to rank, retirement, overseas assignment, attrition, etc.) and addition of 123 (anticipated graduations). Including reduction of 279, makes utilization policy V.P. x 3.0.

Abbreviations Used:

URL - Unrestricted Line Officers

RL & SC - Restricted Line and Supply Corps

V P - Validated Positions

Source: OSD (M&RA)
Inclosure 2 to Appendix I

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APPENDIX J

THE PROBLEM OF SPLIT INTEREST IN OFFICER EDUCATION

1. A common challenge to concurrent degree programs is that officers participating in such programs will consciously slight the professional military educational effort for the advanced degree program, i.e., if it is a question of devoting more time to their advanced degree effort or to their professional military effort, they will favor the advanced degree effort. Most observers of the concurrent degree program agree there is validity to this point, and that some favoritism towards the advanced degree effort will undoubtedly occur. However, there is an obverse to this. Many students in the advanced degree program make the point that, although they might favor the advanced degree effort, there were many instances where the knowledge and academic experience they were acquiring in their advanced degree effort were helpfully related to the professional military educational curriculum, and they were often able to enrich the class discussion by bringing out fundamental points which would otherwise have been totally missed, simply because of the broadening of their intellectual horizons in the advanced degree effort.

2. Actually, I think the discussion about whether professional military education suffers when an officer concurrently undertakes an advanced degree program really misses the central point. There are at least three competitors for an officer's time when he is in school: the professional military educational effort; the advanced civilian educational effort; and his family (also athletics and recreation). When confronting a tough question on personal priorities for allocation of his time, the average high-caliber officer will allocate his time in the following priority: first, advanced civilian education, second; professional military education, and family last. This, to me, is the principal hidden disadvantage of an intensive advanced degree program; but I see no way to avoid it; and it is not of sufficient weight to overcome the advantages.

APPENDIX K

THE BENEFITS OF ADVANCED EDUCATION

1. At the outset, it should be recognized that any answer to this question rests ultimately upon one's definition of "effectiveness" or "benefit". A narrow conception of benefit, which focuses solely on improved productivity or performance, would produce a result different from a broader conception which includes intangible as well as tangible returns. Some of these intangible returns have already been listed at the beginning of this chapter, e.g., increase in the Army's intellectual and technological stockpile, with concomitant flexibility in adapting to technological change;[1] avoidance of educational obsolescence; retention factor for high-quality officers, etc. Thus, the return to the Army of investment in higher education is much more than the return in terms of improved capabilities of the officers involved. Most justifications of higher education for the society at large clearly recognize this point and include intangible as well as tangible benefits.[2] So too, the Army should employ a broad conception of benefit when stating its case for advanced civilian education.

2. An important distinction when considering the benefits of higher education is the qualitatively different return to "training" as contrasted to "education". Robert Hutchins makes the distinction as follows:[3]

> "There is a fundamental, though not always sharp and clear, distinction between a learning society and a society in training. Learning, as I am using the word, aims at understanding, which is good in itself, and hence at nothing beyond itself. Training is instrumental; it may not require or lead to any understanding at all; it aims at the performance of prescribed tasks by prescribed methods. . . .
>
> Training, which is simple, direct, with an easily definable and defensible object, is also quite readily measurable. It may involve no higher mental faculty than memory. Learning, or education, on the other hand, is infinitely complicated, frequently unappealing, and not readily accessible to quantitative assessment. . .

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[1] The proposition that individuals with more education are likely to adjust better to technological change is sometimes used as an argument in favor of Federal Aid to Higher Education. See Joseph Froomkin, Aspirations, Enrollments, and Resources - The Challenge to Higher Education in the Seventies, US Office of Education Study OE-50058, Washington: US Government Printing Office, 1970, p.1.

[2] Kenniston, Kenneth and Gerzon, Mark, "Human and Social Benefits", in Universal Higher Education Costs and Benefits. American Council on Education (Washington: 1971), pp. 38-42.

[3] Hutchins, Robert M., "Toward A Learning Society - The Institutional Illusion", The Center Magazine, Vol IV, July/August, 1971, pp. 43, 45.

Kenneth Kenniston and Mark Gerzon made a similar point in distinguishing between the technical component of education and the critical component.[4]

> "The technical component of education focusses primarily on preparing students to become economically productive citizens by training them for established occupational roles in technological, administrative, or industrial enterprises. Its aim is to transmit a body of existing knowledge in order to enable its recipients to apply it productively to a defined range of technical problems. It can appropriately be termed professional 'socialization', for it attempts to impart to students the formal competences required for a specific occupational role, along with the informal skills needed for attaining success in that role. Such education logically assesses its own effectivness in terms of the number of its students who accede to positions of wealth and eminence as defined by quantifiable indices of income, rank, number of subordinates, pages published, and so on. Technical education exists at all degree levels, and throughout all fields of education. . . .
>
> The critical component of education, in contrast, attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions which stimulate students' intellectual, moral and emotional growth, so that they may ground their skills in a more mature, humane framework of values. Critical education deliberately tries to stimulate the student to reformulate his goals, his cognitive map of the world, the way he thinks, and his view of his role in society. Thus the more successful critical education is, the more difficult that success is to measure, for its aim is the transformation of persons and of the purposes to which they devote their knowledge."

3. The authors point out that, in practice, an individual's education is both partly technical and partly critical. They go on to make a strong case for "critical" education as essential in a highly technological, rapidly-changing society. In fact, it is a commonplace that education is society's best response to rapidly changing technology. However, both Hutchins and Kenniston stress the difficulty in measuring the benefits of the educational as contrasted to the training component of learning. This would seem to apply equally to the experience of an officer in graduate school. Thus, while AR 621-1 justifies graduate education as "essential training in areas not covered by military training facilities", the Army may actually benefit as much

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[4] Kenniston and Gerzon, op cit, pp. 40-41.

or more from the education that takes place in graduate schools than from the training which is the avowed purpose of the schooling. The emphasis on training in AR 621-1 stems directly from the fact that it is easier to justify training for a quantifiable skill requirement than education for essentially unquantifiable ends. Yet the emphasis on training in the regulation does the Army a disservice because it permits critics to construe the purpose of graduate schooling narrowly as training for specific jobs, whereas in practice a large part of the benefits accrue from the education that takes place. In the larger sense, the purpose and justification of graduate schooling should be at least as much for the education as for the training.

4. It can be hoped that in the future the growing literature on the impact of higher education on students will shed additional light on the advantages of graduate education. The results of the relevant research[5] to date is succinctly summarized by Kenniston and Gerzon:[6]

> "In sum, research on the impact of higher education clearly demonstrates that attending college has major effects upon students-apart from imparting skill and information. For one, college attendance tends to accentuate the student's pre-existing characteristics provided the student attends a college congruent with his prior characteristics. But overall, and increasingly clearly within the last decades, the college experience has a demonstrably liberalizing effect on most students: college attendance tends to increase open-mindedness, a perspectival view of truth, the individualization of moral judgments, psychological autonomy and independence; it decreases dogmatism, authoritarianism, intolerance, conformity, conventionalism, dependency, and so on. These effects, we have argued, can only be understood as developmental changes, as essentially irreversible transformations in the basic structures of the personality. Finally, these are precisely the kinds of effects we would predict as the consequences of critical higher education."

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[5]For example, Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students (San Francisco: Jossey-Bass, 1969). See also James W. Trent and Leland Medsker, Beyond High School: A Psychosociological Study of 10,000 High School Graduates (San Francisco: Jossey-Bass, 1968).

[6]Kenniston and Gerzon, op cit, pp. 53-54.

APPENDIX L

RATIONALE FOR ADOPTING A NEW THEORY OF TEACHING

1. Education and Technology. In a period of rapidly changing technology, skills quickly become obsolete. Therefore, it is not the skills that one learns through the educational system - though skills must certainly be inculcated to a certain extent - but powers of analysis and judgment that permit an innovative response to a changing environment. As Rene Dubos has cogently put it:

> "In a world where everything changes rapidly, the practical facts learned in school become obsolete . . . The only knowledge of permanent value is theoretical knowledge; and the broader it is, the greater the chances that it will prove useful in practice because it will be applicable to a wide range of conditions. The persons most likely to become creative and to act as leaders are not those who enter life with the largest amount of detailed specialized information, but rather those who have enough theoretical knowledge, critical judgment, and the discipline of learning to adapt rapidly to the new situations and problems which constantly arise in the modern world."[1]

2. New Emphasis in Education. The consequences of this argument for education are that less emphasis should be placed on subject matter and more on the processes of conceptual thought. This applies equally to professional as to general education. Whereas formerly professional education aimed at mastery of a body of knowledge and transmission of skill and technique, the rapid obsolescence of knowledge requires a shift in emphasis to development of problem-solving ability and the powers of innovation and judgment. This need for a new emphasis in education is a widely accepted view held by many knowledgeable experts. For example, Stanford C. Ericksen, Director of the University of Michigan Center for Research on Learning and Teaching, writes[2]:

> "The uncritical acceptance of chunks of knowledge does not add up to the kind of complete education needed to cope successfully with the wild rush of scientific and technological change and to understand social conflicts and issues. It is the constellation of interests, attitudes, and values the subject matter will help to formulate that will remain with students long after factual information and concept labels are forgotten or found to be obsolete or irrelevant . . . Traditionally education has stressed the assimilation of an established body of information and students were

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[1] Quoted in Daniel Bell, The Reforming of General Education (New York: Columbia University Press), p. 108.

[2] Stanford C. Ericksen, "Earning and Learning by the Hour" in William K. Morris (ed) Effective College Teaching, (Washington, American Council on Education, 1970.) Emphasis supplied.

graded accordingly. But factual information is now rapidly outdated; the more important instructional objective is helping students learn how to learn."

Psychologists Kenneth Kenniston and Mark Gerzon state that all educational experiences can be classified as containing two distinct and sometimes opposing components which they call technical and critical education.[3] They go on to say:

> "Virtually every observer of the industrialized nations has been impressed with their enormously rapid rates of technological, social, and cultural change. In some highly technical fields, the half-life of methods and bodies of knowledge may be as short as five years; the life span of social institutions and cultural values is often shorter than the life span of an ordinary man or woman. One psychological requirement of rapid historical change is that individuals reorient themselves during their lifetimes to new technologies, new social institutions, and new cultural orientations. In a world that is increasingly unpredictable and out of man's control, the greatest social need is for that kind of critical education which can help the individual develop a capacity to live in a world of rapid flux and to regain mastery over his own technology.[4]

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[3]"The technical component of education focuses primarily on preparing students to become economically productive citizens by training them for established occupational roles in technological, administrative, or industrial enterprises. Its aim is to transmit a body of existing knowledge in order to enable its recipients to apply it productively to a defined range of technical problems. Technical education exists at all degree levels, and throughout all fields of education. The critical component of education, in contrast, attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions which stimulate students' intellectual, moral, and emotional growth, so that they may ground their skills in a more mature, humane framework of values. Critical education deliberately tries to stimulate the student to reformulate his goals, his cognitive map of the world, the way he thinks, and his view of his role in society." Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in Universal Higher Education Costs and Benefits, Background papers for participants in the 54th Annual Meeting of the American Council on Education (Washington, American Council on Education, 1971), pp. 40-41. Emphasis in original.

[4]Ibid, pp. 58-59.

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J. Douglas Brown, Provost and Dean of the Faculty Emeritus of Princeton University, writes:

> Knowledge is but the means of education and not its end. The end is what happens to the student as a thinking, judging, active person and not as a storehouse of facts . . .
>
> A technician needs, primarily, information, knowledge of techniques, and skill - "know how". A member of a learned profession or an industrial executive needs also to have a firm comprehension of a system of ideas, values, and judgments - "know why" . . .
>
> As education progresses, especially for persons of high potential, there must be an increasing element of education in creativity, supplementing and building upon education in conformity. If the individual is to be an initiating force in his community, profession, or society, he must learn to think for himself, to use language, science, and history and all accumulating knowledge as tools and material for creative thinking and not to be tied down by someone else's thought or convictions . . .
>
> Creativity arises out of intuitive thought supported by, but not limited by, analysis and the accumulation of knowledge. Intuitive thought is stimulated by many things, some closely related to the focus of inquiry and some, apparently, far from it. It is a mysterious power of association of ideas, of bits and pieces of knowledge, of questions, hunches, and imagined premises. Intuitive thought thrives in a freewheeling climate in which sensitivity, clarity, and association work both consciously and unconsciously, and not under the severe restraints of logic or precedent. The enrichment of the mind by diverse sources of association and the stimulation of the mind by diverse approaches to understanding and appreciation seem to produce the greater results . . .
>
> Education (as outlined above) requires sustained interaction between the teacher and student and between the student and fellow student in order to be effective. This, in turn, requires more opportunities for the individual student to participate in discussions with the teacher in small groups or alone. Knowledge can be dispensed in large lecture halls, but ideas and values need to be hammered out in intimate, freewheeling interchange.[5]

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[5] J. Douglas Brown, The Liberal University, (New York, McGraw-Hill, 1969), pp. 107-111, 124. Emphasis in original except for the last paragraph, where emphasis has been supplied.

The foregoing views, and many others which could be cited, stress the need for a new emphasis in education in order to accommodate to the impact of rapidly changing technology. The shift in emphasis is away from transmission of knowledge and technique - one of the time-honored hallmarks of professional education - and toward greater stress on problem-solving ability, innovation, and judgment. To this may be added the communicative skills essential to effective functioning in a modern organizational setting. The reasons for this shift are evident in the obsolescence of knowledge and continual change wrought by technology, which places a premium on qualities of adaptability, creativity, and a spirit of inquiry. The need is for persons who, rather than responding to new conditions with a stock set of concepts and methods, instinctively mistrust the standard way of perceiving and solving the problems, and formulate a creative response through development of a totally new approach to the situation. These qualities are to be valued in leaders at all echelons of society, but especially in Army officers who are executives in a technology management organization[6], concerned with the constant application of technology to military systems and environments in order to enhance the capability to fight.

3. Impact of the New Emphasis in Education. This need for a new emphasis in officer education impacts upon the crucial elements of the educational process: what we teach, how we teach, and how we evaluate our students. According to Daniel Bell, "the curriculum has to be reorganized not so much to teach 'subject matter', as to make fundamental the nature of conceptual innovation and the processes of conceptual thought."[7] There is no need to repeat the words of Dean Brown, quoted above, on the requirement for sustained interaction between teacher and student and between student and fellow student through participation in small group discussions, in order for education to be effective. This verdict is reinforced by Dr. Ericksen, who adds the addtional judgment that "as educational technology grows, independent study and self instructional facilities will become more generally used, and the discussion group will form the essential supporting base for such arrangements."[8] That is, students will come together for small group discussions to sharpen the insights gained from self-study and be exposed to a variety of perspectives and opinions. According to Professor Gerald Whitlock of the University of Tennessee, the instructor in such a setting becomes less an imparter of facts and "more and more a source of inspiration for independent inquiry on the one hand and on the

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[6]Howard M. Vollmer, et al, The Role and Career Development of the Scientific and Engineering Officer in the Air Force (AD 668 077) (Menlo Park, Calif., Stanford Research Institute, Jan 1966.) See also "New Directions for Air Force Leadership," Air Force Review, Nov-Dec 1970.

[7]Bell, op cit, p. 108.

[8]Ericksen, op cit, pp. 22-23.

other an expert dispenser of feedback which reinforces the student's own efforts to achieve and to demonstrate competence as an independent scholar."[9] Lastly, the shift in emphasis in education creates a major problem for student evaluation, for the objectives easiest to test pertain to factual knowledge, whereas tests of intellectual skills such as analysis and synthesis are much harder to devise, and there are no simple means of testing critical judgment and creativity.[10] To quote Professor Whitlock once again, "Most end-of-course examinations sample only course content and leave unmeasured changes in attitude toward inquiry, capacity for independent research and study, heightened intellectual curiosity, tolerance for the tentative, and respect for honest difference of opinion."[11]

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[9] Gerald Whitlock, "Evaluating Instruction: Learning/Perceptions", Teaching-Learning Issues No. 16, Learning Research Center, University of Tennessee, Spring 1971, p. 5.

[10] Morris H. Shamos, "The Art of Teaching Science" in Morris, op cit, pp. 75-76.

[11] Whitlock, op cit, pp. 5-6.

APPENDIX M

IMPLICATIONS OF A MOVE TO STUDENT-CENTERED INSTRUCTION

Implications. There are many implications of moving toward greater use of student-centered instructional methods in the officer educational system. The impact will be considerable; and these implications should be recognized at the outset so that they may be appropriately dealt with in planning. Some of the principal implications are:

a. The role of contact hours as a measure of educational effort would be downgraded. This proceeds from the recognition that learning is not a straight-line function of time spent in class, a point repeatedly confirmed by research.[1] The practice of specifying mandatory subjects in terms of contact hours should be eliminated.

b. In line with the foregoing, classroom contact hours could be reduced as instruction becomes more student-centered. As an indication of the current emphasis on contact hours in the officer educational system, it has been computed that:

-- The average officer in C&GSC/branch school attends class 30-40 hours per week compared to 16 hours per week for the average undergraduate student in a typical state university and 10.5 hours per week for the average graduate student.[2]

-- An officer completing a 36-week advanced course attending class an average of 30 hours per week puts in the same number of contact hours as the average undergraduate does in two full academic years (4 semesters). He puts in the same number of contact hours as the average graduate student does in three full academic years (6 semesters). Reduction in contact hours would make additional time available to the faculty for counseling; tutorial, remedial, and other personalized instruction; and additional preparation time for their instructional duties.

c. Size of teaching unit would have to be reduced to permit small-group discussion, HUMRRO defines "small-group" as no more than 20. We know that when the class is larger than 30, the instructor is effectively lecturing. Hence optimal class size is less than 20, but certainly no more than 30. This will pose major problems for some schools in terms of the adequacy of classrooms and study halls; and all schools will confront faculty manning and scheduling problems.

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[1] In one college study comparing the efficacy of different methods of instruction, reduction of time in class varied from 30 to 80 percent. Yet at the end of the term there were no substantive differences in achievement among the students, as measured by content and learning resourcefulness tests. See Ohmer Milton, "Teaching or Learning," American Association for Higher Education, 1971.

[2] These are average credit hours based on the actual course loads of the 35,000 undergraduates and 7,500 graduate students at Ohio State University.

d. The student-centered theory of learning should lead to marked reduction in conference methods of instruction, and to a change in the conduct of practical exercises. The "conference," as presently in use in the school system, permits a limited amount of instructor-student interchange, but in reality is little different from a lecture, (especially when class size rises above 30). Time-consuming practical exercises, handed out in piece-meal fashion during class, have been largely responsible for the monotony and boredom in our instruction. Practical exercises can be improved by issuing the entire problem to the student for individual or group study and solution outside of class, followed by classroom presentation and discussion of the individual or group solution. For example, in a typical 4-hour PE today the entire time is spent working requirements in class. In the student-centered theory of learning two-three hours would be given for individual/group study and solution outside of class, followed by one-two hours of presentation and discussion of the individual/group solution in class.

e. Lesson plans, with their set instructional format, would be eliminated for most subjects and lesson notes substituted therefore. These notes would suggest alternative teaching techniques and approaches for each lesson. After teaching the lesson, instructors should fill out a lesson comment sheet summarizing experience with respect to good and bad techniques.

f. There are important faculty implications, namely:

(1) The faculty should be encouraged to experiment and innovate. This can be fostered by allowing instructors latitude to depart from the conventional instructional method of FM 21-6. This "decentralization to the classroom" should result in more challenging and satisfying teaching, and contribute to the development of the faculty officer. Decentralization to the classroom need not involve any loss of control, for the critical function of establishing learning objectives, course organization and content would always remain in the hands of the senior faculty.

(2) Instructor training courses would have to be re-shaped to embrace small-group and personalized/individualized instructional methods, and the new roles mentioned in subparagraphs (3) and (4) below.

(3) The instructor would play a more prominent role in evaluation. With smaller classes, he would be expected to get to know each student and gauge his progress through the caliber of his questions, quality of his writing, stature with his peers, occasional writs, etc. At the end of the course (or sectioning period) he would be expected to produce both an academic grade and a descriptive "whole man" appraisal on each officer.

(4) The instructor's role in teaching would shift from presentor

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Data provided by Office of Institutional Research, Ohio State University, and checked against similar data provided by Office of the Registrar, Pennsylvania State University.

of information to "manager of Learning".[3] He should diagnose student difficulties and assist in overcoming them, raise issues, answer questions, bring in historical situations, provide guidance concerning application, problem-solving, further reading and advanced study. His role as collaborator in learning should be accentuated; that of competitor (grader) muted. Resources other than the instructor would be used for presentation of information to a larger extent.

(5) Greater faculty stabilization would be desirable, not only to give an officer time to develop as a teacher through practice and experimentation with small-group and personalized/individualized instructional methods, but also to provide the sustained effort required to make the changeover to the new theory of teaching.

(6) Professorial tenure for a limited number of Department Heads and instructors would be desirable to assure continuity, expertise, and momentum. These officers might eventually comprise the nucleus of a career field in education and training, which in turn would bring greater professionalizm to the school system. These positions should not be civilianized as military officers may be more readily sent to the field for up-dating when their knowledge becomes obsolete.

g. The student evaluation program would be recast to provide a "whole man" evaluation of the student (see Chapter 12 Evaluation). Greater emphasis would be placed on validation/diagnostic exams which support personalized/individualized instruction. Instructors would provide subjective appraisals of their students. Peer ratings might be usefully employed.

h. Instructors would be expected to counsel and assist students willing and able to go beyond the course work. In addition, the Director of Instruction should develop special programs for officers capable of working at the post-graduate level, i.e. officers with MA's or PhD's. Alternatives could include programs of reading and research, service on the faculty, ungraded self-study, or combination work-study program that would place the student in a laboratory or agency where he can come to grips with real-life problems.

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[3] "The role of the instructor will change. Instead of being primarily an imparter of information, he will have to become more of a supervisor whose job will be to diagnose or assess continually where the trainee is in the learning process and to make available appropriate material so learning can occur efficiently." Howard H. McFann, "Individualization of Army Training", in Innovations for Training, Professional Paper 6-69 (Alexandria, VA, Human Resources Research Organization, Feb 1969). "The teachers and the instructors have to function effectively as tutors, diagnosticians, remediators, managers, counselors, advisors, conversationalists, and stimulating consultants. These skills are not part of most teacher-training or instructor-training curricula." William A. Deterline, "Applied Accountability" in Educational Technology, Vol XI, No. 1, Jan 1971, p. 19.

i. Full use could be made of students as instructors or assistant instructors in their areas of expertise, thereby better tapping this important resource.

j. Library and information retrieval facilities, such as microfiche readers and copiers, may have to be expanded to meet increased demand.[4] Multi-media library services and specialized assistance would also have to be provided to instructors for efficient use of mechanized instructional aids.

k. Instructional requirements would be stated in terms of learning objectives or desired learning outcomes, with considerable latitude in determining how these are achieved. Some requirements would be met by formal instruction, others by integration with related instruction, still others by programmed texts, guest lectures, reading assignments, etc.

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[4] As an example, when the electives program was introduced in our schools, library utilization increased dramatically, as much as 300 percent in one case.

APPENDIX N

FACULTY QUALITY OBJECTIVES - COMBAT ARMS SCHOOLS

	COMMAND			MILITARY SCHOOLS			CIVILIAN SCHOOLING	
	BDE	BN	CO	AWC	CGSC	ADV CRSE	COLLEGE DEG	ADVANCED DEG
C Instructional Dept	70	100		100			100	65
O Staff Agency	55	100		100			100	85
L Combined Staff & Faculty	65	100		100			100	70
L Instructional Dept		70		20	100		100	25
T Staff Agency		70		0	100		100	55
C Combined Staff & Faculty		70		15	100		100	30
M Instructional Dept			95		50	100	100	20
A Staff Agency			95		50	100	100	45
J Combined Staff & Faculty			95		50	100	100	22
C Instructional Dept			70			45	95	5
P Staff Agency			75			90	100	30
T Combined Staff & Faculty			70			50	95	7
L Instructional Dept			Plt Cmd 100				100	5
T Staff Agency			85				100	20
Combined Staff & Faculty			95				100	8

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APPENDIX O

FACULTY QUALITY OBJECTIVES - COMBAT SUPPORT AND COMBAT SERVICE SUPPORT SCHOOLS

ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	14%	-0-	-0-	-0-
Battalion	100%	37%	-0-	-0-
Company	100%	100%	100%	100%
MILITARY EDUCATION				
War College	28%	-0-	-0-	-0-
C&GSC	100%	74%	42%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	100%	32%	24%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	43%	32%	13%	-0-
AMC/CDC/Comparable HQ	57%	21%	9%	-0-
Log Cmd, FASCOM, TASCOM, DISCOM, Comparable HQ	100%	100%	90%	40%
Bn or Bde	100%	100%	100%	100%

NON-ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	40%	-0-	-0-	-0-
Battalion	100%	27%	-0-	-0-
Company	100%	100%	100%	21%
MILITARY EDUCATION				
War College	40%	-0-	-0-	-0-
C&GSC	100%	73%	32%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	40%	18%	41%	-0-
Baccalaureate	100%	100%	100%	100%
STAFF EXPERIENCE				
DA/Joint	60%	18%	9%	-0-
AMC/CDC/Comparable HQ		9%	23%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	73%	7%
Bn or Bde	100%	100%	100%	50%

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TOTAL SCHOOL OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	25%	-0-	-0-	-0-
Battalion	100%	33%	-0-	-0-
Company	100%	100%		75%
MILITARY EDUCATION				
War College	33%	-0-	-0-	-0-
C&GSC	100%	73%	40%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	75%	27%	28%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	50%	27%	12%	-0-
AMC/CDC/Comparable HQ	33%	17%	12%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	86%	30%
Bn or Bde	100%	100%	100%	84%

APPENDIX P

FACULTY QUALITY OBJECTIVES - C&GSC

	Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Department Director					
Resident Instr	BDE	Div (*)	SSC	MA	Education
Nonresident	BDE	DA	SSC	MA	Education
Command	BDE	Div (*)	SSC	MA	
Division Opns	BDE	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	SSC	MS	
DJCASO	BDE	DA	SSC		
Grad Studies	BDE	DA	SSC	PhD	
Ed Advisor				PhD	Education
Deputy Directors					
Resident Instr	BN	Div (*)	SSC	MA	Education
Nonresident	BN	DA	CGSC	MA	Education
Command	BDE	Div (*)	SSC	-	
Division Opns	BN	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	CGSC	-	
DJCASO	BN	DA	CGSC	MA	Pol Sci
Grad Studies	BN	DA	CGSC	MBA	Business
Key Staff Positions					
DRI (4)				MA	ADP (1) Education (3)
DNRI (4)				MA	Education
DGSR				MA	Soc Science
Curriculum Courses					
1 DC Sec Ch, Gen Stf	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I	-	-	CGSC	MA	History
A/I	-	-	CGSC	MA	Eng
2 DC Sec Ch, Cmd	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I (10)	-	-	CGSC	MA	OR/SA, ADP, Journ, Compt, Law

(*) Principal Staff Experience

FACULTY QUALITY OBJECTIVES - C&GSC

	Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Curriculum Courses (cont)					
3 DDO Sec Ch	BDE	Div (*)	SSC	MA	
Sec Ch (2)	BN	Div (*)	CGSC	-	
A/I (6)	BN	-	CGSC	-	-
A/I (9)	-	Div	CGSC	-	
A/I	-	-	CGSC	MA	
4 DLUO Sec Ch	BDE	Corps (*)	CGSC	-	-
Sec Ch	Group	TASCOM, FASCOM	CGSC	-	-
A/I (22)	BN	Corps	CGSC	-	-
A/I (23)	BN	FASCOM, TASCOM	CGSC	-	-
5 DJCASO Sec Ch	BDE	DA	SSC	MA	Soc Sci
A/I (2)	BN	DA	SSC	-	-
A/I (8)	BN	Div	CGSC	MA	Hist, Geog, IR (3), Pol Sci, Econ (2)
A/I (5)	BN	Div	CGSC	-	-
6 DJCASO Sec Ch	BDE	Joint	SSC		
A/I (2)	BN	Joint	CGSC		
A/I (2)	BN	DA	CGSC		
A/I (5)	BN	Div	CGSC		
A/I (6)	-	Div	CGSC		
7 DJCASO Sec Ch	BDE	Div	SSC	MA	Soc Sci
A/I (2)	-	Joint	CGSC	-	
A/I (2)	-	Joint	CGSC	MA	Econ, IR
A/I (2)	-	Div	CGSC	MA	Econ, Psychology
A/I (5)	-	Div	CGSC	-	
A/I (2)	-	-	CGSC	MS	Pol Sci, Anthropology
A/I (2)	-	-	AFSC	-	

(*) Principal Staff Experience

APPENDIX Q

DISCUSSION OF VALIDATION

Q-1. Prima Facie Validation

There is a limited but important field in our validation effort for what might be termed automatic or prima facie validation. This type of validation should result from a simple recognition of certain identifiable academic qualifications of students. For example, when an officer is assigned as a student in an advanced course immediately following a tour as an instructor for the same advanced course, it seems logical to validate him for that portion of the course in which he previously acted as an instructor. There also appears to be a profitable area for automatic validation of USMA and OCS graduates in some of the general military subjects taught in the basic course. Certainly a student who possesses unique expertise in a subject being taught at the advanced or basic course level should be a logical candidate for automatic validation of that subject. The academic skill he possesses might better be put to use by having him act as an assistant or principal instructor in his area of expertise.

Q-2. Academic Credit for Validation

An important problem related to validation is determination of the academic credit which should be given to the validating individual. At least four alternatives exist:

a. Zero out the validated portion of the course and grade the student based on his performance on nonvalidated areas, for example, work taken in lieu of the validated portion of the curriculum is nongraded.

b. Give the validating student the grade achieved by the highest nonvalidated student in the relevant portion of the curriculum, or adjust the grades of validated students to bring them into an appropriate relationship with the grades of nonvalidated students.

c. Grade the student based on his performance in curriculum he pursues. In this scheme, though different students may take

different academic programs, each is graded on his own particular course of studies.

d. Compute a weighted grade for the student based on a specific formula.

Q-3. Student Attitudes Toward Validation

a. The question of the weight to be ascribed to validation is more important than it might seem because the competition for academic standing is very real among advanced course students today. This factor alone influences the attitudes of many students towards validation.

b. One of the major strengths of the comprehensive evaluation program recommended in Section IV, Chapter 11, is that it should attentuate the competition for standings, thereby increasing the willingness of able students to validate. When the student understands that academic ranking is not the sole factor influencing his final class standing (or overall evaluation), that weight will be given to peer and/or supervisory ratings or other subjective appraisals as well, he will see that the quest for extra credit in a particular course will not have sufficient effect on his final standing to warrant the effort that might otherwise be directed to other academic pursuits. Indeed, excessive zeal in the quest for academic rankings might yield a net loss to the student who gains a reputation for file boning among his peers.

c. Modifying the evaluation system to give less weight to academic ranking, together with constructive use of peer pressure and adoption of a grading system that does not penalize taking advanced work, should tend to work a very healthy and welcome change in student attitudes toward validation. When this transformation occurs, it should not be necessary to accord any greater weight to a course taken through validation than to any course in the core curriculum. However, until the current system of academic ranking is replaced by a more comprehensive evaluation system, assignment of greater weight to courses taken through validation may serve as a useful incentive.

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Q-4. Trends in Academia

The advanced placement program is an illustration of the use of validation type procedures in college teaching. While faculty acceptance still leaves something to be desired,[1] the general approach is well established and widely used in such areas as mathematics and modern languages, and the outlook is for greater use of proficiency[2] evaluation in the future. A well-known authority, Dr. Stanford C. Ericksen, Director of the University of Michigan Center for Research on Learning and Teaching, has stated:

> "Diagnostic evaluation. Instructors generally pay much more attention to the level of student achievement at the end of the course than they do to the student's standing at the beginning. The fulfillment of formal prerequisite course-requirements is no guarantee that a student has achieved the level of content proficiency required to enter a course. It generally can be assumed that for a typical class the bottom 25 percent of the students start out handicapped by inadequate information, skill, knowledge, and the like. These students should be identified and, if conditions permit, a remedial or tutorial section or other opportunities should be provided for them. Otherwise many of them will fall farther behind as the course proceeds and in the end will display the familiar signs of frustration: having never been able to keep up with a course, they transfer and fail.
>
> Corrective action by the instructor will probably most help the student when provided at the beginning of a course. It might be quite revealing to a new instructor

[1]Ohmer Milton, "Teaching or Learning", Research Report No. 6 (Washington: American Association for Higher Education, May 1971).

[2]The term "proficiency evaluation" is commonly used in lieu of "validation" in academia.

to give his final examination, on an experimental basis, on the first day of the course. This diagnostic procedure gives the instructor and the students useful information on what topics and areas need special attention."

Q-5. Service Academy Experience

As a concluding point, it may be noted that a validation program is a significant part of the educational efforts of the service academies, where many of the entering cadets have completed some college. Validation is perhaps even more applicable to the postcommissioning officer educational system, where the great diversity in student educational background, military experience, ability, etc, is a predominant factor with which the system must contend.

APPENDIX R

DISCUSSION OF PASS-FAIL

R-1. Civilian Practice

In considering the possibility of adopting a pass-fail program for some limited portions of our curricula, some attention should be paid to recent civilian practice. According to the American Association for Higher Education, about half the colleges and universities in the country have introduced some modification into their grading system in the past 5 years. The most common consequence has been the introduction of a pass-fail option that permits students to take one course per term on a pass-fail basis if the course is not in the student's major field. Students who choose to use the option, typically about half the student body, complete their college careers with about 10 percent of their courses graded pass-fail. The pass-fail option was adopted primarily to encourage students to take courses they would otherwise not risk for fear of jeopardizing their grade level average. The major effect of the option is to give students greater discretion in allocating their study time and effort among various courses. They frequently slight the pass-fail course to give more time to their other courses. As might be expected, students overwhelmingly, though not unanimously, favor the pass-fail option and generally urge its expansion to permit more students to exercise it in more courses.[1]

R-2. Application to Military Evaluation

Pass-fail grading may be profitably employed in some subjects of some courses in our military educational system. It would serve

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[1]Jonathan R. Warren, Current Grading Practices, Research Report No. 3, American Association for Higher Education (Washington: 15 Jan 71). See also Robert A. Feldmesser, The Option: Analysis of an Educational Innovation (Hanover, N. H.: Dartmouth College, 1969); Marvin Karlins, M. Kaplin, and G. Stuart, "Academic Attitudes and Performance as a Function of Differential Grading Systems: An Evaluation of Princeton's Pass-Fail System." The Journal of Experimental Education 37: 38-50, Spring 1969.

to reduce the pressure of grades and grading on both students and instructors. When used for grading work taken in lieu of a validated subject, it would provide an incentive to validation, since it would not be perceived as a threat to the student's overall average. The principal objections by civilian educators to pass-fail grading are that it results in reduced student effort in the pass-fail course, is an invitation to reduced effort generally, and it presents problems in determining admission to graduate school.[2] These objections have less force when applied to a military setting. Uneven allocation of effort to different courses is only natural and poses no great difficulty. Reduced effort appears less likely when dealing with a relatively mature officer group subject to both career and peer pressures. On balance, the pass-fail system offers some promising possibilities for modernizing and improving our evaluation program.

R-3. Self-Evaluation

When pass-fail grading is employed, it should be remembered that it is fundamental to the learning process that the student be given information on how he is doing. This information can be conveyed by a variety of means, such as comments on oral and written work, ungraded tests (scored, but not for record), and discussions with the instructor. It should be an aim of officer education to encourage self-evaluation. One educator has noted:

> "Creativity in learning is best facilitated when self-criticism and self-evaluation are basic, and evaluation by others is of secondary importance. . . . The best research organizations, in industry as well as in the academic world, have learned that external evaluation is largely fruitless if the goal is creative work. The individual must be permitted to make his own efforts."[3]

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[2]Ibid.

[3]Carl Rogers, "The Facilitation of Significant Learning" in L. Siegel (ed), Instruction: Some Contemporary Viewpoints (San Francisco: Chandler Publishing Co., 1967), p. 12.

APPENDIX S

THE WEST POINT APTITUDE FOR THE SERVICE SYSTEM AND PEER RATINGS

The West Point Aptitude for the Service System has the objective of identifying cadets with outstanding leadership ability to occupy the more responsible chain of command positions, to provide counsel and guidance to those cadets who have demonstrated leadership shortcomings, and to eliminate those cadets who do not possess the necessary leadership potential to become an officer. The system is a composite of peer and superivsory ratings. Each cadet is rated by his tactical officer and by cadets of his own and senior classes within his company. Raters compare the cadet to his classmates and assign him a rank order based on his ability to command a group of men in the accomplishment of an assigned mission while maintaining within the group high standards of discipline, morale and personal morality.

The rankings are scored by computer. Tactical officers' ratings are combined with cadet ratings in a 1:2 ratio and a standard score arrived at for each cadet. This is the aptitude for the service rating (ASR). Standard scores provide a means of combining the ratings of each cadet company and arriving at a class aptitude order of merit. This order of merit list is the principal tool for identifying cadets in carrying out the three basic purposes of the aptitude system. However, final judgments are based on a "whole man" evaluation of a cadet's entire record, including academic grades, physical education scores, participation in extracurricular activities, and a supplemental leadership evaluation file. The latter contains cadet performance reports for various duties, summer camp and "third lieutenant" performance reports, evaluation of ability to present effective military instruction, and so forth.[1]

As stated earlier, ASR ratings are a composite of peer and supervisory (tactical officer) ratings. In explaining the rationale and support for peer ratings, Tobin and Marcrum state:

A peer rating is a composite or average of each group member's assessment of every other group member on a recognizable quality such as task performance, popularity, leadership, etc. From his work Leaders, Groups, and Influence, Hollander (1964) states "peer nominations represent a more superior, consistent predictor of performance criteria across situations than any other single variable. This evidence, mainly from military studies, is quite clear on this point." The question may well be asked "Why are peer ratings a superior and consistent predictor of performance?" In general, there appears to be three important reasons that answer this inquiry. First, peer ratings are simply more reliable. The rating being a consensus of the group is less subject to fluctuations and acts to control for variance between raters. Hard raters balance out easy raters and, on the average, the individual is more likely to receive his true rating. In addition, biases, prejudices, personality conflicts, petty

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[1]Daniel J. Tobin and Robert H. Marcrum, Leadership Evaluation. USMA Office of Military Psychology and Leadership, West Point, 1967.

resentments and other personal conflicts involving the rated individual and any one of his raters are certainly less significant. The obtained reliability leads to a greater measure of belief simply because of its repetitive nature. Secondly, peer ratings are made in an atmosphere free of status differential between the rater and the ratee. Often the relationship between superior and subordinate is colored by a degree of artificiality because of their different roles. Simply said, we can expect the subordinate to always be on his "best behavior" when interacting with his boss, but among his contemporaries he is more apt to reveal his true self. Finally, the peer rating is made on the basis of observed behavior across a variety of situations and not just in the context of official relationships. The peer will observe an individual in work, play, social occasions and in moments of emotional stress more often than the supervisor. But again, as with the supervisory rating, one must not carte blanche accept the peer rating as the panacea of performance evaluation. Recent evidence tends to indicate that the peer nomination may well be more a function of the internal group process than it is a function of the total group product or performance. It is quite probable that the peer rating measures an interpersonal competence factor that deals with the ability to make one's self socially acceptable to the work group: the term "socially" encompassing not only the individual's general temperament but also his willingness to abide by the group norms and goals while adhering to the professional values held in esteem by the group members. Thus, an individual receives a high peer rating at the Military Academy probably will receive high officer performance type ratings when the sociometric conditions are demanding of efficient interpersonal behavior - such is often the case in the large bureaucratic, diversified structure of the present Armed Forces. A leading leadership theoretician, Dr. Raymond B. Cattell (1965) suggests that an aspect of leadership that must continue to be related to leadership assessment is the total product or performance of the group when serving under the leader. In summary, it can be stated that although peer ratings contribute a major portion of the leadership evaluation at West Point, they are tempered by other objective measures of performance and the experience and judgment of the tactical officer.[2]

In their study, Tobin and Marcrum digest the results of eighteen studies of the Aptitude for the Service spanning the classes of 1944 through 1967. The following table summarizes the results of several of these studies. It should be noted that the validity co-efficients hold up fairly consistently across diverse criteria of officer success.

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[2] Ibid.

APTITUDE AS A PREDICTOR OF SUCCESS[3]

Criterion	Class	Validity
Efficiency Reports	1944	.44
Efficiency Reports	1945	.48
Efficiency Reports	1946	.50
Efficiency Reports	1953	.44
Combat Effectiveness	1945-50	.52
Combat Effectiveness	1944-48	.50
Combat Effectiveness	1949-50	.49
Officer Efficiency Index	1948	.44
Outstanding Promotion	1948	.45
Continues Service	1948	.08
Efficiency Reports	1954-56	.26
Outstanding Promotion	1953	.43
Ranger Performance	1965	.35

In interpreting the validity coefficients in the foregoing table it should be noted that a coefficient of .4 or above is considered quite good in the field of predicting human performance from a test battery, aptitude rating, or similar screening device. Considering that most studies of the predictive ability of ASR are relating measures separated in time by six to ten years, and that graduates perform under highly diverse conditions, obtained correlations of ASR and officer performance are held to be quite significant.[4]

Other noteworthy studies of ASR include the following:[5]

-- A study conducted by the U.S. Army personnel Research Office during the Korean Conflict related combat effectiveness, as measured by a specially designed efficiency report on a sample of graduates from the classes of 1945 through 1950, to ASR. The study found a correlation of .52 (a pretty high correlation in this business) between combat effectiveness and ASR.

-- Another study by USAPRO on the USMA Class of 1948 was conducted to determine whether the predictive superiority of ASR persists for performance at the field grade level. The study found that ASR continued to display superior predictive power than alternative measures (class standing, academic grades, PE) for overall effectiveness and selection for advanced promotion.

-- An MP&L study of officers of the classes of 1953 through 1956 classified FQNS (fully qualified but not selected) for promotion purposes indicated that ASR is related to performance as long as ten years subsequent to graduation.

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[3] Ibid, p. 23.

[4] Ibid, pp. 52-53.

[5] Ibid. 32-50.

-- An MP&L study of the class of 1967 examined the value of supervisory ratings as a complement to peer ratings. Results indicated that ASR was still the better over-all system but many desirable features of the chain of command rating warranted its use in addition to ASR. This lends support to the value of descriptive supervisory ratings used in conjunction with peer ratings. 270

-- A study conducted in 1967-68 by the Office of MP&L undertook to assess the validity of the Aptitude System from an examination of the characteristics of those who had been found deficient or marginal performers by the system.. The study concluded that those cadets eventually declared deficient in military aptitude are identified by the Aptitude System at the first rating during the Fourth Class Year; and the main failure of cadets dismissed for lack of military aptitude is lack of interpersonal skills, i.e., ability to project an image of himself as a competent individual.[6]

-- An MP&L study of cadets who had experienced substantial shifts in aptitude standing from entrance to graduation tended to show that aptitude standing does change in relation to changes in performance, personality, or attitudes.[7]

-- A study of the Class of 1962 showed that 74 percent of selectees from the secondary zone for major stood in the top half in aptitude as cadets. A special performance report on 114 members of the class serving in Vietnam in 1966-67 showed that those officers who had an aptitude standing above the middle of their class tended to perform better in Vietnam than those who stood below the middle.[8]

-- A MP&L study in 1966 was made to determine the percentage of cadets from the classes of 1960 through 1965 initially rated low in ASR (4th Class Fall Rating) who eventually managed to graduate. The study concluded that even at an early date ASR is an accurate measure of individuals who will fail for all reasons to graduate from the Military Academy.[9]

-- The results of the foregoing study support the findings of an earlier study (1949) at the Signal Corps OCS by Wherry and Fryer. They found

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[6]Samuel H. Hays, Robert H. Marcrum, James C. Burris, and Ramon A. Nadal. An Evaluation of the Aptitude for the Service System. Office of Military Psychology and Leadership, USMA, West Point, October 1968, p. 9.

[7]Ibid, p. 3.

[8]Ibid, pp. 3, 110.

[9]Tobin and Marcrum, p. 42.

that peer ratings measured the same factors as early as the first month of training as they measured three months later. Moreover, the first month measurement was the same as the rating given by supervisors after four months observation. The evidence was clear that peer rating was the more reliable and that the supervisory rating tended to become more like peer rating rather than vice versa.[10] This study and the previous one, together with the 1967-1968 study by MP&L of deficient or marginal performers already cited, lend support to the validity of peer ratings as student evaluation instruments in courses as short as the officer basic course.

-- In his book, Leaders, Groups and Influences, E. P. Hollander states that peer ratings are the best personnel measurement system available. He also states, however, that generally the same people will end up at the top and bottom of a peer rating scale regardless of what criterion they are measured against. Basically, this means that peers can make accurate and valid judgments but oftentimes may not be able to identify the reason for their judgment.[11] Hollander has also shown that peer groups can predict with some success performance seemingly unrelated to interpersonal skills, i.e., success or failure in flight training.[12] The subject of what precisely is measured by peer ratings is the subject of continuing research.[13]

-- A review of the literature on peer ratings by the Office of MP&L concluded as follows:

"Peer ratings have become a widely accepted system of personnel evaluation, not only in the military services, but in industry and educational institutions as well. A review of pertinent contemporary published research and studies was conducted, seeking to compare the findings from other sources with those previously determined in the workings of the USMA Aptitude System. The primary conclusions of this literature review are that peer ratings are the most valid personnel rating system now available, that this fact is well recognized by psychologists and professional workers, and that current research in this field has gone far past the question of reliability and validity of these measures. Current academic research is primarily concerned with the use of peer ratings as criterion measures against which to validate other measurement instruments and to attempt to isolate the personality factors which peer ratings actually measure.

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[10] Ibid, p. 19.

[11] E. P. Hollander. Leaders, Groups and Influence. (New York, Oxford University Press, 1964. Cited in Ibid.

[12] Hays, et al, op cit, p. 123.

[13] Ibid. See the survey of literature, pp. 115-123.

Although peer ratings have gained wide acceptance within the military and their validity is generally accepted in industry, they have not been widely utilized in operational situations in industry. Their use has been generally concentrated in school situations and basic training centers."[14]

-- A peer rating system can probably be administered more effectively in a school environment than most other military environments. They have been administered to ROTC and OCS classes on numerous occasions for research purposes. A paper by USABESRL summarizes seventeen such experiments.[15] Thus, peer ratings seem to be appropriate for use in a service school setting.

-- Concerning the possible use of peer ratings in the basic course, the following considerations are applicable:

a. The research previously mentioned which indicates that peer ratings are valid predictors as early as the first month of training.

b. Peer ratings may have a favorable effect on the professional socialization of new officers - a particularly important task in view of the diverse values and attitudes of today's youth. This conclusion stems from the hypothesis that peer ratings tend to measure conformity with group norms. Peer ratings could also assist in identifying "attitude" cases for elimination.

c. Peer ratings could be usefully supplemented by instructor and/or tactical officer ratings. This is based on the view that since measurement instruments are not perfect, a composite of peer and supervisory ratings is the best approach. The West Point system embodies this approach. At West Point, tactical officer ratings were found to have a much higher validity than academic instructor ratings.[16]

-- Based upon West Point experience and the character of the demands made upon Army officers, it appears that leadership is the most valid criterion for peer ratings.

The West Point Aptitude for the Service System was first used in 1943. Thus, we have close to thirty years experience with the system as a predictor of future success. During the period the validity of the Aptitude for the Service Rating has been verified by psychologists and researchers in almost every conceivable way. In each case the ASR has been determined to be a valid, reliable, and significantly more accurate predictor of

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[14] Ibid. Emphasis supplied.

[15] USABESRL. School Measures as Indicators of Later Officer Performance - Summary of Research Findings (Washington, 1971).

[16] Tobin and Marcrum, pp. 17, 20, 22.

73 future officer performance than any alternative measure, including class standing, academic grades, physical ability, tactics, conduct, instructor training, and a wide range of academic subjects. A skeptical DA staff, by directing review after review of the ASR (the last in 1967), has contributed to the development of an impressive body of evidence in support of peer ratings as predictors of future performance. Since everything a school does aims at retention and transfer of learning to duties performed in future assignments, peer ratings would thus appear to constitute a valid evaluation instrument for use in our schools. The issue is mainly whether the West Point Aptitude for the Service System can be adapted for use in the post-commissioning military schooling system.

APPENDIX T

RESEARCH AND DEVELOPMENT CENTERS

Dr. Robert Glaser, Director
Dr. William Cooley, Co-Director
Learning Research and Development Center
University of Pittsburgh
160 N. Craig Street
Pittsburgh, Pennsylvania 15213
412-683-8841
412-683-8640-1 Dr. Cooley

Dr. Max G. Abbott, Director
Center for the Advanced Study
of Educational Administration
University of Oregon
147B Hendricks Hall
Eugene, Oregon 97403
503-686-5172

Dr. Herbert J. Klausmeier, Director
Wisconsion Research and Development
Center for Cognitive Learning
The University of Wisconsin
1404 Regent Street
Madison, Wisconsin 53706
608-262-4858

Dr. Robert F. Peck, Co-Director
Dr. Oliver H. Bown, Co-Director
Research and Development Center
for Teacher Education
University of Texas
Education Annex
Austin, Texas 78712
512-471-1343

Dr. Nathaniel L. Gage, Acting Director
Stanford Center for Research and
Development in Teaching
Stanford University
770 Welch Road
Palo Alto, California 94304
415-321-2300, Ext. 4724

Educational Policy Research Center
216 Ostrom Avenue
Syracuse, New York 13210

Dr. Leland L. Medsker, Director
Center for Research and Development
in Higher Education
University of California
2150 Shattuck Avenue
Berkeley, California 94704
415-642-5769

Dr. Marvin C. Alkin, Director
Center for the Study of Evaluation
University of California
405 Hilgard Avenue
145 Moore Hall
Los Angeles, California 90024
213-825-4711, Ext. 28

Dr. John Holland, Director
Center for the Study of Social
Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218
301-366-3582

Dr. Ohmer Milton, Director
Learning Research Center
University of Tennessee
Knoxville, Tennessee 37916

Dr. Stanford C. Ericksen, Director
Center for Research on Learning
and Teaching
University of Michigan
Ann Arbor, Michigan 48104

Center to Improve Learning and
Instruction
University of Utah
Salt Lake City, Utah

Center for Studies in Vocational
and Technical Education
University of Wisconsin
Madison, Wisconsin 53706

Center for Research and Leadership Development
in Vocational and Technical Education
Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

Center for Creative Leadership
Greensboro, North Carolina

ERIC CLEARINGHOUSES: BRIEF SCOPE NOTES

ERIC Clearinghouse on Adult Education
Syracuse University
107 Roney Lane
Syracuse, New York 13210
Telephone: (315) 476-5541 X 3493

Adult education in public schools, colleges, and universities; activities carried on by national or community voluntary and service agencies; all areas of inservice training; fundamental and literary education for adults; correspondence study; continuing education in the professions.

ERIC Clearinghouse on Counseling and Personnel Services
Information Center
611 Church Street, Room 3056
Ann Arbor, Michigan 48104
Telephone: (313) 764-9492

Preparation, practice, and supervision of counselors at all educational levels and in all settings; theoretical development of counseling and guidance; use and results of personnel procedures such as testing, interviewing, disseminating, and analyzing such information; group work and case work; nature of pupil, student, and adult characteristics; personnel workers and their relation to career planning, family consultations, and student orientation activities.

ERIC Clearinghouse on Early Childhood Education
University of Illinois
805 W. Pennsylvania Avenue
Urbana, Illinois 61801
Telephone: (217) 333-1386

Prenatal factors, parental behavior; the physical, psychological, social, educational, and cultural development of children from birth through the primary grades; educational theory, research, and practice related to the development of young children.

ERIC Clearinghouse on Educational Management
University of Oregon
Eugene, Oregon 97403
Telephone: (503) 686-5043

Leadership, management, and structure of public and private educational organizations; practice and theory of administration; preservice and inservice preparation of administrators, tasks, and processes of administration; methods and varieties or organization, organizational change, and social context of the organization.

Sites, buildings, and equipment for education; planning, financing, constructing, renovating, equipping, maintaining, operating, insuring, utilizing, and evaluating educational facilities.

ERIC Clearinghouse on Educational Media and Technology
Institute for Communication Research
Cypress Hall, Stanford University
Stanford, California 94305
Telephone: (415) 321-2300 X 3345

Individualized instruction, systems approaches, film, television, radio, programmed instruction, computers in education, and miscellaneous audiovisual means of teaching. Technology in instruction and technology in society when clearly relevant to education.

ERIC Clearinghouse on Exceptional Children
Council for Exceptional Children
1411 South Jefferson Davis Highway
Suite 900
Arlington, Virginia 22202
Telephone: (703) 521-8820

Aurally handicapped, visually handicapped, mentally handicapped, physically handicapped, emotionally disturbed, speech handicapped, learning disabilities, and the gifted; behavioral, psychomotor, and communication disorders, administration of special education services; preparation and continuing education of professional and paraprofessional personnel; preschool learning and development of the exceptional; general studies on creativity.

ERIC Clearinghouse on Higher Education
George Washington University
One Dupont Circle, Suite 630
Washington, D.C. 20036
Telephone: (202) 296-2597

Various subjects relating to college and university students, college and university conditions and problems, college and university programs. Curricular and instructional problems and programs, faculty, institutional research, Federal programs, professional education (medical, law, etc.), graduate education, university extension programs, teaching-learning, planning, governance, finance, evaluation, interinstitutional arrangements, and management of higher educational institutions.

ERIC Clearinghouse for Junior Colleges
Room 96, Powell Library
University of California
405 Hilgard Avenue
Los Angeles, California 90024
Telephone: (213) 825-3931

Development, administration, and evaluation of public and private community junior colleges. Junior college students, staff, curriculums, programs, libraries, and community services.

ERIC Clearinghouse on Languages and Linguistics
Modern Language Association of America
62 Fifth Avenue
New York, New York 10011
Telephone: (212) 691-3200

Languages and linguistics. Instructional methodology, psychology of language learning, cultural and intercultural content, application of linguistics, curricular problems and developments, teacher training and qualifications, language sciences, psycho-linguistics, theoretical and applied linguistics, language pedagogy, bilingualism, and commonly and uncommonly taught languages including English for speakers of other languages.

ERIC Clearinghouse on Library and Information Sciences
American Society for Information Science
1140 Connecticut Avenue, N.W.
Suite 804
Washington, D.C. 20036
Telephone: (202) 659-3778

Various detailed aspects of information retrieval, library and information processing, library and information sciences, library services, library and information systems, information utilization, publishing industry, terminology, library facilities and information centers, library materials and equipment, librarian and information science personnel, library organizations, and library education.

ERIC Clearinghouse on Reading
200 Pine Hall
School of Education
Indiana University
Bloomington, Indiana 47401
Telephone: (812) 337-9101

All aspects of reading behavior with emphasis on physiology, psychology, sociology, and teaching. Instructional materials, curricula, tests and measurement, preparation of reading teachers and specialists, and methodology at all levels. Role of libraries and other agencies in fostering and guiding reading. Diagnostic and remedial services in school and clinical settings.

ERIC Clearinghouse on Rural Education and Small Schools
Box 3 AP
New Mexico State University
Las Cruces, New Mexico 88001
Telephone: (505) 646-2623

Education of Indian Americans, Mexican Americans, Spanish Americans, and migratory farm workers and their children; outdoor education; economic, cultural, social, or other factors related to educational programs in rural areas and small schools; disadvantaged of rural and small school populations.

ERIC Clearinghouse on Science and Mathematics Education
Ohio State University
1460 West Lane Avenue
Columbus, Ohio 43221
Telephone: (614) 422-6717

All levels of science, mathematics, and environmental education; development of curriculum and instructional materials; media applications; impact of interest, intelligence, values, and concept development upon learning; preservice and inservice teacher education and supervision.

ERIC Clearinghouse for Social Science Education
855 Broadway
Boulder, Colorado 80302
Telephone: (303) 443-2211 X8434

All levels of social studies and social science; all activities relating to teachers; content of disciplines; applications of learning theory, curriculum theory, child development theory, and instructional theory; research and development programs; special needs of student groups; education as a social science; social studies/social science and the community.

ERIC Clearinghouse on Teacher Education
One Dupont Circle
Suite 616
Washington, D.C. 20036
Telephone: (202) 293-7280

School personnel at all levels; all issues from selection through preservice and inservice preparation and training to retirement; curricula; educational theory and philosophy; general education not specifically covered by Educational Management Clearinghouse; Title XI NDEA Institutes not covered by subject specialty in other ERIC Clearinghouses.

ERIC Clearinghouse on the Teaching of English
1111 Kenyon Road
Urbana, Illinois 61801
Telephone: (217) 328-3870

Skills of English, including speaking, listening, writing, and reading (as it relates to English instruction); content of English, including composition, literature, and linguistics; methodology of English teaching; speech and public speaking; teaching of English at all levels; preparation of English teachers; preparation of specialists in English education and teaching of English; teaching of English to speakers of nonstandard dialects.

ERIC Clearinghouse on Tests, Measurement, and Evaluation
Educational Testing Service
Princeton, New Jersey 08540
Telephone: (609) 921-9000 X 2691

Tests and other measurement devices; evaluation procedures and techniques; application of tests, measurement, or evaluation in educational projects or programs.

ERIC Clearinghouse on the Disadvantaged
Information Retrieval Center on the Disadvantaged
Teachers College
Columbia University
Box 40
525 West 120th Street
New York, New York 10027
Telephone: (212) 870-4808

Effects of disadvantaged experiences and environments, from birth onward; academic, intellectual, and social performance of disadvantaged children and youth from grade 3 through college entrance; programs and practices which provide learning experiences designed to compensate for special problems of disadvantaged; issues, programs, and practices related to economic and ethnic discrimination, segregation, desegregation, and integration in education; issues, programs, and materials related to redressing the curriculum imbalance in the treatment of ethnic minority groups.

ERIC Clearinghouse on Vocational and Technical Education
Ohio State University
1900 Kenny Road
Columbus, Ohio 43210
Telephone: (614) 486-3655

Agricultural education, business and office occupations education, distributive education, health occupations education, home economics education, technical education, trade and industrial education, subprofessional fields, industrial arts education, manpower economics, occupational psychology, occupational sociology, and all matters related to the foregoing.

APPENDIX V

EDUCATIONAL RESEARCH AGENCIES AND PROFESSIONAL ASSOCIATIONS

Carnegie Commission on Higher Education
1947 Center Street
Berkeley, California 94704

Institute for Social Science Research
1200 17th Street N.W.
Washington, D.C. 20036

Educational Policy Research Center
Stanford Research Institute
Menlo Park, California 94025

Dr. Christopher Jencks
Institute for Policy Studies
1520 New Hampshire Avenue N.W.
Washington, D.C. 20036

Dr. Amitai Etizoni
Center for Policy Research
423 West 118th Street
New York, New York 10027

American Association of University Professors
One Dupont Circle N.W.
Washington, D.C. 20036

American College Testing Program
P.O. Box 168
Iowa City, Iowa 52240

American Association for Higher Education
One Dupont Circle N.W.
Suite 780
Washington, D.C. 20036

The Brookings Institution
1775 Massachusetts Avenue N.W.
Washington, D.C. 20036

National Planning Association
1606 New Hampshire Avenue N.W.
Washington, D.C. 20036

American Council on Education
One Dupont Circle N.W.
Washington, D.C. 20036

American Society for Training and Development
P.O. Box 5307
Madison, Wisconsin 53705

Educational Technology Publications, Incorporated
140 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

Western Interstate Commission for Higher Education
P.O. Drawer P
Boulder, Colorado 80302

Educational Testing Service
Princeton, New Jersey 08540

National Association of State Universities and Land-Grant Colleges
Suite 710
One Dupont Circle N.W.
Washington, D.C. 20036

APPENDIX W

CONARC LEADERSHIP BOARD FINDINGS AND RECOMMENDATIONS

1. Finding: Leadership instruction in service schools is inadequate to meet current and future needs of the Army.

Recommendations:

a. CONARC revise regulation 351-1 to base leadership instruction on new programs of instruction (POI) that are progressive from one school level to the next and that include training in human behavior and contemporary leadership problems.

b. CONARC review and update POI annually based on leadership surveys such as the AWC study, questionnaires sent to course graduates, and new knowledge of human behavior.

c. DA revise AR 351-1 to focus leadership instruction at all service schools on those duties the student is most likely to perform upon graduation.

2. Finding: Leadership instruction in service schools does not maximize learning through student involvement and corrective feedback to facilitate individual self-development.

Recommendations:

a. CONARC task HUMRRO to prepare case studies requiring maximum individual student involvement based on successful officer and NCO leadership experiences and disseminate to service schools.

b. Introduce experiential learning techniques at two selected service schools on a test basis.

c. Commission the Center for Creative Leadership (CCL) or a similar institution to develop a manual on experiential learning for use by service schools.

d. DA task BESRL to develop a proposal for use of peer ratings for development and student evaluation in service schools.

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5. Finding: Increased emphasis on human behavior aspects of leadership requires that service schools have more leadership instructors trained in human behavior.

Recommendations:

a. DA identify service school requirements for personnel with graduate degrees in the behavioral sciences and fill them on a priority basis.

b. CONARC send several service school leadership instructors to CCL Training Program, 15 Sep - 24 Dec 71.

c. CONARC survey civilian sector to ascertain other courses suitable for training service school leadership instructors in human behavior.

6. Finding: Branch requirements for leadership instruction vary.

Recommendations:

a. Designate the Infantry School (USAIS) and the Transportation School (USATS) to develop scopes, techniques, and instructional material for use by combat and service support branch service schools, respectively.

b. Encourage service schools to further adjust leadership POI, scopes, and the instructional material to suit their particular needs.

7. Finding: The Army should make better use of in-house leadership research and expertise.

Recommendations:

a. CONARC plan and conduct periodic leadership conferences and seminars with representatives of service schools and other interested agencies.

b. CONARC assign HUMRRO Division #4 a larger role in support of leadership instruction and training.

c. DA establish for BESRL product requirements which will contribute to leadership development.

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11. Finding: The Army needs better counseling instruction in service schools and a practical counseling manual.

Recommendations:

a. CONARC adopt program developed by Board for improved counseling training in service schools.

b. DA publish a counseling manual.

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13. Finding: Some service schools fragment responsibility for leadership instruction and training.

Recommendation: CONARC encourage service schools to centralize responsibility for all leadership instruction under a single agency.

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16. Finding: Management of leadership instruction and training is inadequate to meet the Army's current and future needs.

Recommendations:

a. CG, CONARC designate on a full time basis a single staff agency at directorate or higher level, to manage the entire CONARC leadership development program and to monitor leadership instruction in non-CONARC schools.

b. Charge the designated staff agency with the following leadership development responsibilities:

(1) Evaluate and publish progressive scopes of instruction.

(2) Assign responsibilities for development of instructional materials.

(3) Review instructional materials annually.

(4) Maintain liaison with civilian and military organizations engaged in leadership research, education and training.

(5) Conduct assistance visits to schools.

(6) Conduct curricula and instructor training conferences.

(7) Publish periodic instructional bulletins.

(8) Determine requirements and monitor instructor qualifications, training and utilization.

(9) Act as principal staff advisor to CG, CONARC.

c. Assign the US Army Infantry School and US Army Transportation School responsibilities for recommending material to combat arm and service support branch schools respectively. (Combat support branch schools to draw from both USAIS and USATS as needed)

d. USAIS continue responsibility for FM 22-100, The Leadership Manual.

e. Provide staffing and funding to the HQ, CONARC Staff Agency, the USAIS and the USATS in order to support proponency missions adequately.

APPENDIX X

EXTRACT OF PERTINENT RECOMMENDATIONS FROM THE DEPARTMENT OF THE ARMY AD HOC COMMITTEE REPORT ON THE ARMY NEED FOR THE STUDY OF MILITARY HISTORY (WEST POINT, NEW YORK, 1971)

1. General. It is recommended that:

a. CONARC introduce a progressive coordinated history program into the Army Educational System. The military history electives taught at service schools should be refined, rigorously tested and recommended for inclusion under such a program.

b. OPD accurately determine and continue to monitor existing personnel resources relative to graduate training in history in anticipation of assignment of graduate level trained officers to faculty positions to teach military history or subjects heavily related to history. As these resources prove inadequate or unqualified, consideration should be given to: educating more officers (after careful study of the impact of civilians teaching in ROTC), re-utilizing officers on second teaching tours, and extending length of tours of duty.

c. OCMH prepare and publish a guide for the study and use of military history which can be issued to all officers at the Basic Course and to others on request. This guide should outline the objectives for the study of military history by all officers; provide recommended reading lists; suggest progressive comprehensive programs of study encompassing self-study, off duty classes, service school electives, and cooperative degree - "bootstrap" degree programs; acquaint the officer with the available military history resources; and provide guidance on research and writing to stimulate interest in such activities.

d. An annual meeting of selected military faculty teaching military history be held for the purpose of discussing instructional methods and exchanging ideas and materials. The first such meeting should be held not later than 1 January 1973.

2. The Teaching of Military History. It is recommended that:

a. With regard to the branch service schools:

(1) a two hour orientation on the importance of and value in the study of military history be conducted at the Basic Course.

(2) two hours of instruction in the history of the branch be taught at the Basic Course.

(3) two elective courses be offered at the Advanced Course - one operationally oriented, the other emphasizing civil-military relations.

(4) historical examples be used whenever possible in instruction at all schools.

(5) a minimum of two spaces be validated for graduate level work in history for each school conducting an advanced course. These spaces should be filled by officers possessing at least MA degrees who should teach military history in general.

(6) each service school study the ability of its library to support instruction in military history contingent upon the proposals in this committee's report.

b. With regard to instruction at the Command and General Staff College:

(1) historical examples be used whenever possible in instruction at the college.

(2) a thirty-hour unit of instruction in the critical analysis of selected appropriate level tactical operations along the lines developed in the committee's report be introduced into the core curriculum.

(3) from the military history viewpoint, the unit of instruction in strategic estimates be retained.

(4) the two military history elective courses currently offered be retained and upgraded as faculty expertise grows.

(5) a new elective course in strategic studies, as discussed in the committee's report, be introduced into the elective program.

(6) a minimum of three positions be validated immediately for advanced degrees in history and that they be filled by officers who possess at least an MA degree in history. They should be tenured for a minimum of four years. As military history offerings develop and consideration is given to more required instruction in military history, and experience is gained on the amount of assistance available from civilians, additional spaces may be required.

(7) the officers occupying validated positions be assigned first priority duty to plan and teach elective courses and advise faculty on military history in general.

(8) every opportunity be taken to utilize the facilities of universities near Leavenworth to offer history electives which supplement in-house military history electives and can contribute to the on-going cooperative degree program.

(9) in view of the proposals made by the committee for more military history instruction, the College restudy the question of a visiting professorship in military history.

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c. With regard to instruction at the Army War College:

(1) the existing validated spaces in history should be filled by an officer possessing graduate level education in history.

(2) more students should be encouraged to write papers in the Student Research Program which involve the critical use ot military history.

(3) within its capability, the USAMHRC resources in military history should increasingly be exploited by the AWC faculty and student body.

APPENDIX Y

MANPOWER STAFFING FACTORS

INSTRUCTIONAL AND SUPPORT PERSONNEL DUTY FOR WHICH MANPOWER IS AUTHORIZED BY DA PAM 616-558, STAFFING GUIDE FOR U.S. ARMY SERVICE SCHOOLS, AND STAFFING FACTORS WHICH PROVIDE MANPOWER ALLOWANCES FOR SUCH DUTIES

DUTIES	DESCRIPTION	STAFFING FACTOR
Basic Instructor Duties		
1. Presentation of Instruction	Presents and assists in the presentation of courses of instruction in accordance with developed instructional material and as directed by an instructor advisor.	PLATFORM CAPABILITY
2. Supervision of Students	Exercises immediate supervision over students in field and/or practical exercises.	FACTOR
3. Preparation for Instruction	Prepares for presentation of instruction by developing or assisting in the development or adaptation of lesson plans, instructor manuscripts, student outlines, examinations, tactical problems, and training aids (other than initial development or major rewrite) to support specific classes. Orients and trains new instructors. Insures that classrooms, training area facilities, and training aids are ready for use.	
Additional Instructor Duties		
1. Research and Analysis.	Performs research in development, review and analysis, and revision of doctrine, organization, tactics, and equipment in area of specialization. Accomplishes major rewrite of instructional material required by changes in doctrine, organization, tactics, and equipment. Performs technical writing duties to develop instructional material for new courses. Prepares, reviews, edits, or revises MOS evaluation tests, Army-wide and command-wide training literature such as--field manuals, technical manuals TOE, MTOE, ATT, training circulars, nonresident instructional material, and other technical and training publications which are the responsibility of the department but which are not directly related to the presentation of instructional material to assigned classes.	SUPPLEMENTAL LOWANCE FACTOR

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INSTRUCTIONAL AND SUPPORT PERSONNEL DUTY FOR WHICH MANPOWER IS AUTHORIZED BY DA PAM 616-558, STAFFING GUIDE FOR U.S. ARMY SERVICE SCHOOLS, AND STAFFING FACTORS WHICH PROVIDE MANPOWER ALLOWANCES FOR SUCH DUTIES

DUTIES	DESCRIPTION	STAFFING FACTOR
Additional Instructor Duties (Cont.)		
2. Miscellaneous Duties	Performs duties not directly related to the presentation, preparation, or research functions, such as grading examinations; student counseling; course evaluation; participation in LOGEX; observation of maneuvers and field exercises; escorting visitors; provides assistance to other agencies such as AMC Boards and HUMRRO; supervision of maintenance of training aids, equipment, and facilities; TDY not contributing to other instructional duties; details; physical training and mandatory military training; administrative duties; officer's annual physical examinations; and courts-martial duty.	SUP-PLE-MENTAL-LOW-ANCE-FACTOR
Support Personnel Duties		
	Personnel assigned to instructional elements as assistants to instructors (other than primary duty maintenance personnel and projectionists) who normally perform duties such as--preparing classrooms, training area facilities, and training aids for instruction; distributing instructional material and examinations to students; demonstrating use of equipment; displaying and operating training aids, Vu-Graphs, projectors, and other devices required to support instruction; assisting in enforcing safety measures; maintaining training aids, equipment, and facilities; performing other miscellaneous duties not related to the presentation of instruction such as mandatory military training, details, etc.	SUP-PLE-MENTAL-LOW-ANCE-FACTOR

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APPENDIX Z

CREDIT HOURS TAUGHT BY FACULTY WHO ARE PRIMARILY TEACHING, UNIVERSITIES AND FOUR-YEAR COLLEGES

SPRING 1963

	HOURS			PERCENT DISTRIBUTION[1]				
	Number	Median Hours	Mean Hours	1-5 Hours	6-10 Hours	11-15 Hours	16-20 Hours	21 Hours or more
Professor	32,877	9	9	16	45	32	5	1
Associate Professor	29,351	11	11	10	38	41	8	2
Assistant Professor	36,707	12	11	9	32	48	9	2
Instructor	20,661	12	11	8	27	53	8	2
Other	4,346	12	11	10	31	43	13	3
All	123,943	11	11	11	36	43	8	2

[1]Percentages may not add up to 100 percent due to 1% not on a credit hour system, and due to rounding in original source.

NOTE: As an approximation, credit hours may be interpreted as number of class hours per week. "The number of credit hours assigned to a course is usually defined by the number of hours per week in class and the number of weeks in the session. One credit hour is usually assigned to a class that meets 50 minutes a week over a period of a semester, quarter, or term; in laboratory, field work, drawing, music, practical arts, physical education or similar type of instruction, one credit hour is assigned for a session that meets for 3 hours a week per semester, quarter, or term." National Center for Educational Statistics, Definitions of Student Personnel Terms in Higher Education. Prepared in cooperation with the American Association of Collegiate Registrars and Admissions Officers, U.S. Department of Health, Education, and Welfare and Office of Education.

SOURCE: Teaching Faculty in Universities and 4-Year Colleges, Spring 1963, (Washington: GPO, 1966).

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APPENDIX A[1]

ACADEMIC ACTIVITY OF AMERICAN COLLEGE FACULTY, 1969

Number Class Hours Per Week	All Institutions	In Four-Year Colleges	In Universities
None	7.8	4.4	11.5
1-4	15.4	10.8	21.0
5-8	25.0	20.6	32.6
9-12	29.1	42.1	22.8
13 or more	22.5	22.2	12.1

SOURCE: American Council on Education, College and University Faculty: A Statistical Description, Research Report, Vol. 5, No. 5, (Washington: ACE, 1970).

SELECTED BIBLIOGRAPHY

BOOKS AND PAPERS

American Society for Training and Development, Training and Development Handbook, McGraw-Hill Book Company, New York, 1967.

Bardikian, Ben H., The Information Machines, Harper and Row, New York, 1971.

Bell, Daniel, The Reforming of General Education, Columbia University Press, New York, 1966.

Berg, Ivar, Education and Jobs, Praeger, New York, 1970.

Brown, Harrison; Bonner, James; and Weir, John; The Next Hundred Years, The Viking Press, New York, 1957.

Brown, J. Douglas, The Liberal University: An Institutional Analysis, McGraw-Hill Book Company, New York, 1969.

Cantril, Albert H. and Roll, Charles W., Hopes and Fears of the American People, Universe Books, New York, 1971.

Carnegie Commission on Higher Education, A Chance to Learn, a special report and recommendations, March 1970.

Carnegie Commission on Higher Education, Less Time, More Options - Education Beyond the High School, a special report and recommendations, McGraw-Hill Book Company, New York, January 1971.

Center for the Study of Democratic Institutions, Santa Barbara, California, The Establishment and All That.

Clark, Harold F. and Sloan, Harold S., Classrooms in the Military, Bureau of Publications, Teachers College, Columbia University, 1964.

Coates, Charles H. and Pellegrin, Roland J., Military Sociology, The Social Science Press, University Park, Maryland, 1965.

Cohen, Arthur M. and Brawer, Florence B., Measuring Faculty Performance, the ERIC Clearinghouse for Junior College Information, Washington, DC, American Association of Junior Colleges, 1969.

Drucker, Peter F., Landmarks of Tomorrow, Harper and Brothers, Publishers, New York, 1959.

Dunham, E. Alden, Colleges of the Forgotten Americans, McGraw-Hill, New York, 1969.

Eurich, Alvin C.(ed), Campus 1980, Dell Publishing Co., Inc., New York, 1968.

Finkle, Robert B. and Jones, William S., Assessing Corporate Talent, John Wiley and Sons, Inc., New York, 1970.

Froomkin, Joseph, Aspirations, Enrollments, and Resources - The Challenge to Higher Education in the Seventies, U.S. Department of Health, Education, and Welfare, Office of Education, 1970.

Gaff, Jerry G. and Associates, The Cluster College, Jossey-Bass, Inc., San Francisco, 1970.

Hackel, Erwin, Military Manpower and Political Purpose, The Institute for Strategic Studies, 18 Adam Street, London WC2, Adelphi Papers, No. 72, December 1970.

Hefferlin, J. B., Dynamics of Academic Reform, Jossey-Bass, Inc., San Francisco, 1969.

Huntington, Samuel P., The Soldier and the State, The Belknap Press of Harvard University, Cambridge, Massachusetts, 1957.

Inter-University Seminar on Armed Forces and Society, Inc., A Survey of Military Institutions, 1969.

Janowitz, Morris and Little, Roger, Sociology and the Military Establishment, Russell Sage Foundation, New York, 1965.

Janowitz, Morris (ed), The New Military, Russell Sage Foundation, The Norton Library, New York, 1964.

Janowitz, Morris, The Professional Soldier, The Free Press, New York, 1960.

Jencks, Christopher and Riesman, David, The Academic Revolution, Doubleday and Company, Inc., Garden City, New York, 1968.

Jordan, Amos A., "Officer Education".

Just, Ward, Military Men, Alfred A. Knopf, New York, 1970.

Lorge, Irving; Jensen, Gale; Bradford, Leland; and Birnbaum, Max, Adult Learning, Adult Education Association of the USA, April 1965.

Lyons, Gene M. and Morton, Louis, Schools for Strategy, Frederick A. Praeger, Publishers, New York, 1965.

Masland, John W. and Radway, Laurence I., Soldiers and Scholars - Military Education and National Policy, Princeton University Press, Princeton, 1957.

99

Mayhew, Lewis B., Colleges Today and Tomorrow, Jossey-Bass Inc., Publishers, San Francisco, 1969.

Mayhew, Lewis B., Graduate and Professional Education, 1980, McGraw-Hill Book Company, New York, 1970.

Morris, William H. (ed), Effective College Teaching, American Association for Higher Education, Washington, 1970.

Pappas, George S., Prudens Futuri, The US Army War College - 1901-1967, Walsworth Publishing Company, 1967.

Partridge, P. H., Education for the Profession of Arms, Australian National University Press, Canberra, 1969.

Richards, Max D. and Nielander, William A., Readings in Management, South-Western Publishing Co., Chicago, 1958.

Rourke, Francis E. and Brooks, Glen E., The Managerial Revolution in Higher Education, The John Hopkins Press, Baltimore, 1966.

Sadler, P. J., "Technical Change and Military Social Structure", presented to NATO Symposium on Defense Psychology, NATO Headquarters, Paris, France, 27-29 July, 1960.

Schwab, Joseph J., College Curriculum and Student Protest, The University of Chicago Press, Chicago, 1969.

Shelburne, James C. and Groves, Kenneth J., Education in the Armed Forces, The Center for Applied Research in Education, Inc., New York, 1965.

Silberman, Charles E., The Myths of Automation, Harper and Row, New York, 1966.

Smith, Robert M.; Aker, George; and Kidd, J. R., Handbook of Adult Education, The Macmillian Company, New York, 1970.

Toffler, Alvin, Future Shock, Random House, New York, 1970.

Turner, Cornelius P., A Guide to the Evaluation of Educational Experiences in the Armed Services, American Council on Education, Washington, 1968.

Vaizey, John Ernest, Education in the Modern World, McGraw-Hill Book Company, New York, 1967.

Venn, Grant, Man, Education and Work, American Council on Education, Washington, DC, 1964.

Wool, Harold, The Military Specialist - Skilled Manpower for the Armed Forces, The John Hopkins Press, Baltimore, 1968.

Zoll, Allen A., Dynamic Management Education, The Addison-Wesley Publishing Company Inc., Reading, Massachusetts, 1969.

Prospectus 1972, The Open University, printed by Morrison and Gibb Limited London and Edinburgh.

PERIODICALS

"Colleges and Jobs," Business Conditions, Federal Reserve Bank of Chicago, July, 1971.

Deterline, William A., "Applied Accountability," Educational Technology, January, 1971.

Hunter, Harold G., "Military Techniques for Obtaining Training Feedback," Educational Technology, Vol. XI, No. 5, May, 1971.

Hutchins, Robert M., "Toward a Learning Society - The Institutional Illusion," The Center Magazine, July/August 1971.

Janowitz, Morris, "Military Elites and the Study of War," The Journal of Conflict Resolution, Vol. 1, March, 1957.

Katzenback, Jr., Edward L., "Professionalism at the War Colleges," United States Naval Institute Proceedings, March, 1965.

Korten, Dr. David C., "New Directions for Air Force Leadership," Air Force Review, Nov-Dec, 1970.

Mayer, Lawrence A., "New Questions About the U.S. Population," Fortune Magazine, February, 1971.

Okun, Arthur M. and Perry, George L., Brookings Papers on Economic Activity The Brookings Institution, Washington, DC, 1971.

Raimi, Ralph A., "Examinations and Grades in College," American Association of University Professors, Vol. 53, No. 3, September, 1967.

Straubel, James, "Accountability in Vocational-Technical Instruction," Educational Technology, January, 1971.

"Rights and Responsibilities: The University's Dilemma," Daedalus, Summer, 1970.

The Brookings Bulletin, Vol. 8, No. 1, Winter 1971.

"The Embattled University," Daedalus, Winter 1970.

"The Professions," Daedalus, Fall 1963.

Willingham, Ed, "Education Report/Nixon's Approach to College Aid Meets Opposition in Crucial Hill Committees," National Journal, Vol. 3, No. 21, May 22, 1971.

RESEARCH PUBLICATIONS

A Guide to the Advanced Placement Program, 1971-72, College Entrance Examination Board, Princeton, New Jersey.

Charting Student Needs, 1970-1971 Annual Report of the American College Testing Program, Iowa City, Iowa.

Collected Papers Prepared Under Work Unit TEXTRUCT, Professional Paper 34-70, Human Resources Research Organization, December 1970.

College Credit by Examination Through the College-Level Examination Program, College Entrance Examination Board, 1970.

College Student Profiles - Norms for the ACT Assessment, American College Testing Program, 1966-67.

College Student Questionnaires, A Prospectus, Educational Testing Service, Princeton, New Jersey.

Crawford, Meredith P.; Lyons, Daniel J.; McFann, Howard H.; Heyl, Arnold A.; and Prophet, Wallace W., HUMRRO Research in Training Technology, Human Resources Research Organization, Professional Paper 21-70, June 1970.

Curriculum Innovations and Evaluation, Proceedings of the Association for Supervision and Curriculum Development Pre-Conference Seminar, Educational Testing Service, Princeton, New Jersey.

Draft for Volunteer Army Discussion, edited by Jane Newitt and Max Singer, Hudson Institute, Inc., Croton-on-Hudson, New York, 30 April 1971.

Edling, Jack V., "A Basic Reference Shelf on Instructional Media Research," ERIC Clearinghouse on Educational Media and Technology, Stanford, California, November 1967.

Essential Reading for the Future of Education Revised, a publication of the Educational Policy Research Center at Syracuse, February 1971.

Etzioni, Amitai, Towards Higher Education in an Active Society: Three Policy Guidelines, Center for Policy Research, New York, June 1970.

"Evaluating Instruction: Learning/Perceptions," Teaching-Learning Issues, prepared by the Learning Research Center, The University of Tennessee, No. 16, Spring 1971.

Farr, Richard S., "Knowledge Linkers and the Flow of Educational Information," an occasional paper from ERIC at Stanford, September 1969.

Feldhusen, John H., "A Position Paper on CAI Research and Development," a paper from ERIC at Stanford, Stanford, California, February 1970.

Forsythe, Richard O., "Instructional Radio: A Position Paper from ERIC at Stanford, December 1970.

Grabowski, Stanley M. (ed), "Adult Learning and Instruction," ERIC Clearinghouse on Adult Education and Adult Education Association of the USA, 1970.

Haggard, Donald F.; Willard, Jr.; Norman; Baker, Robert A.; Osborn, William C.; and Schwartz, Shepard, An Experimental Program of Instruction on the Management of Training, Human Resources Research Organization, Technical Report 70-9, June 1970.

Harman, Willis W., "Educational Alternatives for the Future," a talk prepared for the President's National Council on Educational Reform, Washington, DC, March 30, 1971.

Harman, Willis W. and Rosenberg, Mae E., "The Most Critical Problems Facing American Education Today," Educational Policy Research Center, Stanford Research Institute, Menlo Park, California, January 20, 1971.

Hilgard, Ernest R., "A Basic Reference Shelf on Learning Theory," a paper from ERIC at Stanford, Stanford, California, September 1967.

HumRRO Research in Training Technology, Presentations at Headquarters, US Continental Army Command, Fort Monroe, Virginia, Professional Paper 21-70, June 1970.

Hunter, Harold G.; Lyons, J.; MacCaslin, Eugene F.; Smith, Robert G.; and Wagner, Harold, The Process of Developing and Improving Course Content for Military Technical Training, Human Resources Research Organization, Technical Report 69-9, May 1969.

Innovations for Training, HumRRO presentations at the USCONARC Training Innovations Conference, Fort Benning, Georgia, Professional Paper 6-69, February 1969.

Institutional Functioning Inventory, a prospectus, Educational Testing Service, Princeton, New Jersey.

Kahn, Herman, The World of 1980, Hudson Institute Paper, Hudson Institute, Inc., Quaker Ridge Road, Croton-on-Hudson, New York.

Kopstein, Felix F. and Seidel, Robert J., The Computer as Adaptive Instructional Decision Maker, HUMRRO, Professional Paper 1-70, January 1970.

03 Lange, Carl J.; Rittenhouse, Carl H.; Atkinson, Richard C.; Training Leaders with Sound Films and Group Discussion Techniques, HumRRO Professional Paper 3-69, February 1969.

"Learning Transfer: A Diogenean Task?," Teaching-Learning Issues, prepared by the Learning Research Center, The University of Tennessee, No. 15, Winter, 1971.

Marien, Michael D., Alternative Future for Learning: An Annotated Bibliography of Trends, Forecasts, and Proposals, Educational Policy Research Center, Syracuse University Research Corporation, Syracuse, New York.

McFann, Howard H.; Seidel, Robert J.; Willard Jr., Norman; and Crawford, Meredith P.; Innovations for Training, HumRRO Professional Paper 6-69, February 1969.

New Approaches to Individualizing Instruction, a report of a conference on May 11, 1965 to mark the dedication of Ben D. Wood Hall, Educational Testing Service, Princeton, New Jersey.

Notes on the Future of Education, a publication of the Educational Policy Research Center at Syracuse, Vol 1, Issue 2, January-February 1970.

Olmstead, Joseph A., Handbook of Small-Group Methods of Instruction, HumRRO RBP-D4-71-27.

Olmstead, Joseph A., Theory and State of the Art of Small-Group Methods of Instruction, HumRRO Technical Report 70-3, March 1970.

"One Synoptic Context (and Summary) for Discussing the '70's and '80's," Hudson Institute, Croton-on-Hudson, New York.

Pagano, Jules, Education in the Peace Corps, Center for the Study of Liberal Education for Adults, 1965.

Presentations at Headquarters, U.S. CONARC, Fort Monroe, Virginia, on July 1970, HumRRO Research on Officer Training, HumRRO Professional Paper 24-70, September 1970.

Research at ETS: Projects and Publications, Educational Testing Service, 1970.

Ritterbush, Philip C., "Museums and Media: A Basic Reference Shelf," a paper from ERIC at Stanford, December 1970.

Seidel, Robert J., Computers in Education: The Copernican Revolution in Education Systems, HumRRO Professional Paper 16-69, May 1969.

Seidel, Robert J.; Compton, Judy G.; Kopstein, Felix F.; Rosenblatt, Richard D.; See, Sally, Project IMPACT: Description or Learning and Prescription for Instruction, HumRRO Professional Paper 22-69, June 1969.

Seidel, Robert J.; and Kopstein, Felix F., The Computer as Adaptive Instructional Decision Maker, HumRRO Professional Paper, January 1970.

Social and Technological Change, The Center for the Advanced Study of Educational Administration, University of Oregon, Eugene, Oregon, 1970.

Teaching - Learning Issues, No. 2, Fall, 1966, prepared by the Learning Resources Center, The University of Tennessee, Knoxville, Tennessee.

The IMPACT Staff, Project IMPACT - Computer-Administered Instruction: Description of the Hardware/Software Subsystem, HumRRO Technical Report 70-22, December 1970.

The Franklin Institute Research Laboratories, Art and Requirements of Command, Vol. 1-4.

The Franklin Institute Research Laboratories, Junior Officers' Duties, 1968.

Training Information Sources, an information service to ASTD for Research in Training and Development, ERIC Clearinghouse on Adult Education, Syracuse, New York, November 1969.

Twelker, Paul A., "A Basic Reference Shelf on Simulation and Gaming," a paper from ERIC at Stanford, June 1970.

Use of Job and Task Analysis in Training, presentations at Headquarters, USCONARC, Fort Monroe, Virginia, HumRRO Professional Paper 1-69, October 1968.

Zinn, Karl L. and McClintock, Susan, "A Guide to the Literature on Interactive Use of Computers for Instruction," a paper from ERIC at Stanford, January 1970.

PROFESSIONAL SOCIETY PUBLICATIONS

American Association for Higher Education, Abstracts, 26th National Conference on Higher Education, "The New Decade: Who Counts? What Counts?", Washington, DC.

American Association of University Professors, "Statement on Faculty Workload," October 1969.

American Council on Education, College and University Faculty: A Statistical Description, Research Report, Vol. 5, No. 5, 1970.

25

American Council on Education, Universal Higher Education: Costs and Benefits, background papers for participants in the 1971 Annual Meeting, Shoreham Hotel, Washington, DC, October 6-8, 1971.

American Council on Higher Education, "A Fact Book on Higher Education," Washington, DC, 1969.

Association of Governing Boards of Universities and Colleges, AGB Reports, various issues.

Association of Governing Boards of Universities and Colleges, Background Material AGB Annual Meeting, San Francisco, April 19-21, 1970.

Lawrence, Ben; Weathersby, George; Patterson, Virginia; Outputs of Higher Education: Their Identification, Measurement, and Evaluation, papers from a seminar held at Washington, DC, May 3-5, 1970, conducted by the Western Interstate Commission for Higher Education in cooperation with the American Council on Education and the Center for Research and Development in Higher Education at Berkeley, July 1970.

Milton, Ohmer, "Teaching or Learning," American Association for Higher Education, Research Report No. 6, May 1, 1971.

National Commission on Accrediting and the American Council on Education, "The Integrity of the Academic Degree," 1964.

Proceedings of the National Association of State Universities and Land-Grant Colleges, 82nd Annual Convention, November 10-13, 1968, Washington, DC.

Proceedings of the National Association of State Universities and Land-Grant Colleges, 83rd Annual Convention, November 9-12, 1969, Chicago, Illinois.

Proceedings of the Tenth Annual Meeting Council of Graduate Schools in the United States, Miami Beach, Florida, December 2-4, 1970.

US ARMY PUBLICATIONS

Army Educational Requirements Board, "Proceedings," December 1970.

CONARC Reg 350-100-1, Training-Systems Engineering of Training, 1 February 1968

CONARC Reg 350-1, Annex Q, Army Schools Curriculum Administration and Training Policies, 15 December 1969.

Department of the Army Ad Hoc Committee Report on the Army Need for the Study of Military History, West Point, New York, May 1971.

Department of the Army, Office of The Adjutant General, Letter, Subject "The Officer Personnel Management System", 25 June 1971.

Deputy Chief of Staff for Personnel, Directorate of Personnel Studies and Research, Peripheral Service School Courses Study, 31 March 1968.

Deputy Chief of Staff for Personnel, DCSPER Study, "Military Education of Career Officers", December 1970.

Deputy Chief of Staff for Personnel, "Army Civil Schooling Program Milestone III Briefing", May 1971.

DR&S Presentation on USAWC Mission Study, "1970 Mission Study Presentation," 16 November 1970.

Helme, William H., Identification and Career Development of Officer Leaders, US Army Behavior and Systems Research Laboratory, July 1970.

Office of the Chief of Military History, Anti-war and Anti-military Activities in the United States, 1846-1954, 11 March 1970.

Office of Personnel Operations, "Civilian Education Level Army Department Officers," January 1971.

CONARC Leadership Board, "Leadership for Professionals," 30 July 1971.

Report of the Department of the Army Board to Review Army Officer Schools (Haines Board), Department of the Army, Washington, February, 1966.

Report of DA Officer Education and Training Review Board (Williams Board), Department of the Army, July 1960.

The Logistics Manpower Planning Task Force, Report of The Long Range Logistics Manpower Planning Task Force, February 1969.

Career Development of Combat Service Support Officers, a report by the Special Review Panel on Department of the Army Reorganization, July 1970.

US Army Behavioral Science Research Laboratory, Research to Predict Cadet and Officer Performance, Research Study 69-10, May 1969.

United States Army Combat Developments Command, Man and the 1990 Environment, 1970.

US Army Engineer School, "Proposed Changes to DA Pam 616-558 Staffing Guide for U.S. Army Service Schools," 1 December 1970.

U.S. Army Logistics Management Center, Logistics Training in the Army School System, Study No. 11-64, January 1965.

US Army Management Engineering Training Agency, AMC Training Device Management, 13 August 1970.

7 US Army Materiel Command, Study on Technical Missions, Structure and Career Development, ASDIRS No. 0116.

US Military Academy, Office of Research, Results of First Class Questionnaire Class of 1970, July 1970.

US Military Academy, Office of Military Psychology and Leadership, Leadership Evaluation, December 1967.

US Army War College, Leadership for the 1970's, 20 October 1971.

US Army War College, Study on Military Professionalism, 30 June 1970.

US Continental Army Command Computer Assisted Instruction Project, "A Macro System for Computer Assisted Instruction," Technical Report 70-3, May 1970.

US Continental Army Command Computer Assisted Instruction Project, "The Implementation of Computer Assisted Instruction in US Army Basic Electronics Training," Technical Report 69-1, September 1969.

AR 10-6, Organizations and Functions - Branches of the Army, 14 October 1968.

AR 351-1, Schools, Military Education and Training, 19 August 1971.

AR 621-1 Training of Military Personnel at Civilian Institutions, 17 May 1971.

DA Pamphlet 600-3, "Career Planning for Army Commissioned Officers," 1 August 1970.

DA Pamphlet 601-4, "Commander's Guide to the Retention of Junior Officers," November 1970.

DA Pamphlet 611-2, "Army Personnel Tests and Measurement," June 1962.

DA Pamphlet 616-558, "Staffing Guide for U.S. Army Service Schools," December 1967.

DA Circular 621-7, "Advanced Degree Program for ROTC Instructor Duty," 23 February 1971.

FM 21-6, Techniques of Military Instruction, January 1967.

DOD AND OTHER SERVICE PUBLICATIONS

AF Manual 50-2, Instructional System Development, 31 December 1970.

Air University, Professional Education in the Squadron Officer School, January 1967.

Department of Defense, Office of The Assistant Secretary of Defense (Manpower), Officer Education Study, July 1966.

Department of Defense, "Defense Management Education and Traning," DOD 5010-16-C, 1 October 1970.

Department of the Navy, Future Professional Manpower Requirements Study, 29 August 1970.

Glass, E. M.; Davis, E. J.; and Magill, H. F.; "Characteristics of the Technical Military Officer," DOD Management Analysis Note 68-4, 30 January 1968.

Magill, Henry F., LTC, US Army, "A Comparative Study on the Characteristics and Compensation of Technical Military Officers," Management Analysis Report - Office for Laboratory Management, Office of the Director of Defense, Research and Engineering, Washington, DC, March 1967.

Taylor, John N., "Graduate Education of Air Force Line Officers," Personnel Research Division, Lackland Air Force Base, Texas, January 1970.

Stanford Research Institute, The Role and Career Development of the Scientific and Engineering Officer in the Air Force, January 1966.

OTHER US GOVERNMENT PUBLICATIONS

Drysdale, Taylor, Improvement of the Procurement, Utilization, and Retention of High Quality Scientific and Technical Officers, Personnel Research Lab, USAF Systems Command, June 1968.

Federal Educational Policies, Programs and Proposals- A Survey and Handbook, prepared in the legislative reference service of The Library of Congress by Charles A. Quattlebaum, Specialist in Education, 90th Congress, 2d Session, House Document No. 398.

Innovation and Experiment in Education, A progress report of the Panel on Educational Research and Development to the US Commissioner of Education, the Director of the National Science Foundation, and the Special Assistant to the President for Science and Technology, March 1964.

Manpower Report of the President, transmitted to the Congress April 1971.

National Center for Educational Statistics, Digest of Educational Statistics, 1970, US Department of Health, Education, and Welfare, Washington, DC.

US Office of Education, Teaching Faculty in Universities and Four-Year Colleges, OE-53022-63, Washington: GPO, 1966.

US Bureau of the Census, Current Population Reports, Series P-20, No. 207, "Educational Attainment: March 1970," US Government Printing Office, Washington, DC, 1970.

US Bureau of the Census, Projections of Educational Attainment 1970 to 1985, prepared by Donald S. Akers, Staff Assistant, Population Division, Series, P-25, No. 390, March 29, 1968.

US Bureau of the Census, Statistical Abstract of the United States: 1970, 91st edition, Washington, DC, 1970.

US Department of Health, Education, and Welfare, Projections of Educational Statistics to 1978-79, (1969 edition), Washington, DC.

US Department of Health, Education, and Welfare, Research in Education, Office of Education, Washington, DC.

US Department of Health, Education, and Welfare, Report on Higher Education, March 1971 (Newman Report).

US Department of Health, Education, and Welfare, "How to Use ERIC," Washington, DC.

Special Labor Force Report, Changes in Occupational Employment Over the Past Decade, Report No. 88, United States Department of Labor, 1967.

US Department of Labor, Tomorrow's Manpower Needs, Bulletin No. 1606, February 1969.

US Department of Labor, Technician Manpower, 1966-80, Bulletin 1639, March 1970.

US Department of Labor, College Educated Workers, 1968-80, Bulletin 1676, Washington, DC.

US Department of Labor, Occupational Outlook for College Graduates, 1970-71 edition, Bulletin 1681, Washington, DC.

"The US Labor Force: Projections to 1985," reprinted from the February 1970 Monthly Labor Review, reprint 2673.

US Department of Labor, Occupational Employment Statistics, 1960-67, Bulletin 1643, Washington, DC, 1970.

US Department of Labor, Occupational Employment Patterns for 1960 and 1975, a study sponsored by the Manpower Administration, Bulletin No. 1599, Washington.

"Education of Adult Workers in 1975," Special Labor Force Report No. 95, a Monthly Labor Review reprint from the April 1968 issue.

"Priorities in Higher Education," The Report of the President's Task Force on Higher Education, August, 1970.

The Report of the President's Commission on Campus Unrest, Campus Unrest, US Government Printing Office, 1970.

The Economics and Financing of Higher Education in the United States, a compendium of papers submitted to the Joint Economic Committee, Congress of the United States, 91st Congress, 1st Session, 1969.

Report of the President's Science Advisory Committee, Computers in Higher Education, The White House, Washington, DC, February 1967.

"The White House Message on Education Reform" to the Congress of the United States, March 3, 1970.

Educational Technology Act of 1969, Hearing before the Select Subcommittee on Education of the Committee on Education and Labor House of Representatives, 91st Congress, second session on H.R. 8838, a bill to improve educational quality through effective utilization of educational technology, hearings held in Washington, DC, March 12, 1970.

Needs of Elementary and Secondary Education for the Seventies, a compendium of policy papers compiled by the General Subcommittee on Education of the Committee on Education and Labor House of Representatives, 91st Congress, March 1970.

Definitions of Student Personnel Terms in Higer Education. Prepared by the National Center for Educational Statistics in cooperation with the American Association of Collegiate Registrars and Admissions Officers, US Department of Health, Education, and Welfare and Office of Education.

Directory of Educational Information Resources. Compiled by the System Development Corporation under a contract with the US Office of Education.

STUDENT THESES AND REPORTS

Hopper, LTC Thomas E., "Air Force Advanced Education: A Cost Effectiveness Approach," Air War College, Maxwell Air Force Base, Alabama, Report No. 3387, May 1967.

Jersey, LTC Donald H., "United States Army Postgraduate Institute," Carlisle, Pennsylvania, US Army War College, Thesis No. 69091S, 17 March 1969.

Leaman, Richard E. and Mesler, Robert A., "Managerial Education of Naval Officers," submitted in partial fulfillment of the requirements for the degree of Master of Science in Management, US Naval Postgraduate School, Monterey, California, 1965.

Reid, LTC Addison T., "Educational Requirments Planning in the USAF," Air University, Maxwell Air Force Base, Alabama, Report No. 3144, January 1966.

Thorne, MAJ Carlton Eugene, "The Air Force Advanced Education System," presented to the faculty of the School of Engineering or the Air Force Institute of Technology, Air University in partial fulfillment or the requirements for the degree of Master of Science, June 1970.

Tomlinson, COL William H., "An Analysis of Selected Aspects of the Army Civil Schooling Program for Combat Arms Officers," graduate student thesis, University of Alabama, 1960.

Tomlinson, COL William H., "The Army's Graduate Civil Schooling Program in the Engineering and Physical Science Fields: A Critical Evaluation," Carlisle, Pennsylvania, US Army War College, Thesis No. 66187, 8 April 1966.

Ulmer, LTC Walter F. Jr., "Concepts of Generalization and Specialization in Officer Career Management," Carlisle, Pennsylvania, US Army War College, Thesis No. 69200, 3 March 1969.

Vealdry, Wallace F., "Civilian Universities Versus Army Postgraduate School," US Army War College student essay, April 1967.

ANNEX B

PERSPECTIVES AND PHILOSOPHIES

15

ANNEX B - PERSPECTIVES AND PHILOSOPHIES

Introduction. This annex contains some personal thoughts on matters which may be of interest to some readers. These views are not included in the body of the report because, in most instances, they are not directly related to the problem areas discussed therein; and it is not intended that any recommendations or guidance be derived from them. They treat a variety of unrelated subjects; they have no common bond other than their loose relationship to officer education in general. The following subjects are addressed:

Section I - Comparison of Military Educational System with Civilian Educational System

Section II - Comparison of Army Officer Educational System with the Officer Educational System of the Other Services

Section III - Comparison of Officer Educational System with Industrial Education Systems

Section IV - Systems Engineering

Section V - Credentialism

Section I - Comparison of Military Educational System with Civilian Educational System

1. There are both striking similarities and substantial differences between the Army officer educational system and civilian educational programs. For example - because the Army educational program has a structure involving three major levels of sustained academic effort and these levels are progressively more sophisticated (the advanced course, C&GSC, and senior service school), a casual observer tends to equate this educational experience to the three-level structure in the civilian university (baccalaureate, master's and doctorate). As the following discussion will indicate, this particular comparison is not accurately taken; and an in-depth analysis will probably develop more differences than similarities.

2. An important difference between the military educational system and the normal civilian higher educational program concerns the basic structure of the two systems. The civilian educational structure resembles a pyramid with the base being a baccalaureate degree covering a relatively broad area of academic disciplines and skills; with the master's degree narrowing the area of academic interest substantially; and with the doctorate focusing on a very small area, covering this in tremendous depth. In contrast, the military structure up-ends this pyramid and stands it on its point, i.e., the basic course and the career course cover the detailed skills required to be a professional in a selected area of the military profession (Infantry, Engineers, Ordnance, etc); the middle level of schooling broadens this area substantially; and a senior service

college teaches a curriculum which is almost panoramic in scope. The civilian pattern apparently serves civilian purposes well, the military pattern certainly serves military purposes well; but the difference between these two patterns is fundamental.

3. Normally, the educational experience of a civilian is highly concentrated in the early years of his career. After achieving his education, the civilian moves actively into his chosen field or profession and practices it, generally without extensive formal re-education, during his active career. On the other hand, the professional military education program is phased over approximately a 20-year period, with intervals of some five to six years occuring between educational experiences at the four levels involved. This phasing is a logical one for the military; for there is no percentage in taking a 2nd lieutenant and sending him in three successive years to his basic course, career course, middle course, and senior service school; thereby producing a 25-year old lieutenant who is fairly well versed, academically speaking in international strategy but has not yet commanded a platoon. Note that this phasing of the military educational system is a real advantage in permitting the military officer to maintain currency in fast-moving fields. He does not face the same problems of technological or educational obsolescence which confront the civilian who has had his formal education concentrated in the early years of his career. This phasing, then, is an inherent strength of the Army officer education system; we should recognize it as a basic asset.

4. A logical derivative of this difference in phasing is a difference in the age and maturity of the student bodies. Under the consecutive phasing which characterizes most civilian educational experiences, an individual will normally complete the PhD level before the age of 30. In contrast, the military officer attends the advanced course at about age 27 or 28; the C&GSC level at about 34-35; and the War College at 41-42. This phasing provides a maturity for the student body and a leavening of pragmatism which is highly desirable for our purposes. It also creates the universally recognized situation wherein much of the learning that goes on in our upper level schools results from the interaction between these mature students, and the educational process is, in many cases, a bootstrap operation. On the other hand, this maturity and practicality does entail an academic cost in that the academic skills, sharpness, and capability of the civilian student who remains continuously in an academic environment until he acquires his PhD are undoubtedly greater than those of the intermittent military student.

5. As an important consideration, we should recognize that the Army officer educational system is a <u>professional</u> educational system - it is not a liberal arts educational system or a technical/scientific educational system, with a firm hierarchy of degrees leading to a doctorate level. Rather, it is much more closely allied to the professional education experienced by lawyers, doctors, architects, etc.[1] In this regard, note that the total time devoted to formal

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[1] Janowitz says the attributes of a profession are: a specialized body of knowledge acquired through advanced training and experience; a mutually defined and sustained set of standards; and a sense of group identity and corporateness. Strauss says the attributes are: expertise, autonomy, commitment and responsibility. Judged by these, the military is undoubtedly a profession.

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professional education is roughly comparable between the military and the other professions (with the exception of specialization in medicine). The seasoned military professional will spend not less than three academic years developing his capabilities (although these are spread over an 18 to 20 year career); this period is similar to that spent by the engineer, architect, and lawyer in his formal professional education. This fundamentally professional character of our Army education also leads to a direct and continuing concentration on doctrine, at least in the basic, advanced and C&GSC curricula. Exposition of this doctrine and its inculcation in the student is the way the Army assures that its units will operate in the field the way they are expected to; so the academic emphasis on doctrine is well-founded. However, when compared to the academic approach of the liberal arts college, (which is broad ranging, exploratory and questioning), the Army system has an inherent rigidity and a somewhat monolithic character. Here again, I believe each approach is correct in the light of the different academic objectives.

6. There is a fundamental difference in teaching philosophy between the civilian university and the Army service school below War College level. The civilian institution stresses the importance of the critical approach for the student receiving instruction. The student is encouraged to question his teachers, to exhibit skepticism toward sources. The college professor, especially if he has tenure, teaches in a highly autonomous, independent manner. The service school approach, of course, is quite different. Instruction is based on doctrine--the distilled product of field experience subjected to rigorous analysis. Firm in the belief that it knows much more than the student, the school stresses student absorption and application of doctrine, rather than his questioning of instruction given. Each system has its merits and drawbacks. Unsupervised civilian instructors sometimes approach the lecturn with little or no plan for the hour's instruction. At the same time, they can be highly flexible and forward-looking since they are not bound by lesson plans and adherence to doctrine--both of which may be outmoded. The supervised military instructor will usually turn in an acceptable, if routine performance.

7. An area of comparison where military education appears to be at a substantial disadvantage is faculties. We have traditionally followed the custom of taking officers directly from operational assignments and assigning them to faculties for an average period of about three years, and then returning them to the field duty. Viewed by the civilian educator, this is a poor way to establish and maintain a faculty; and it suffers severely when compared with the best civilian methods which involve intensive academic preparation through the PhD level and thereafter a lifetime of dedicated work as a teacher and educator. Looking beneath the surface, however, there are very solid reasons for the existing system of faculty assignments within the military. First, remembering that our system is a professional educational system, not an academic one, it is most desirable that professionals instruct in professional subjects. Hence, the requirement for a military faculty that has been actively involved in practicing its own profession. Second, we must assure that our professional education reflects both the real-life, day-to-day requirements of the field and, concurrently, looks to the future in order to assure that we

are not teaching how to win the last war. This requires a mixture of practical experience (which we get by taking the faculty officer from the mainstream) and the involvement of both the faculty and CDC, under the Center Commander, in the analysis of future trends. One other aspect deserves mention. College faculties avoid stagnation by recruitment from an extraordinarily wide base of potential faculty members. This wide base includes the vast complex of colleges and universities across the nation which provide a substantial input of qualified academicians and potential educators annually. The civilian educational system tries to maintain flexibility, vitality and innovation by frequent transfers and moves of academic talent from one institution to another. This is a continuing process which is well recognized and favorably considered by the entire civilian educational community. In contrast, the military has no such nationwide base of qualified academic input which is faculty-oriented, so it must capitalize upon its own in-house resources to the best advantage. It attains viability and avoids stagnation in its faculty by this relatively rapid turnover and by recruitment from the field. Evidently, this rationale will not be convincing to any civilian educator; and it smacks of making a virtue of necessity even for the military educator; but I think it is an accurate portrayal of what we do and why. Certainly, a strong case can be made for the existing system where military officers teach other officers; in other words, a professional teaches a professional about his profession in the same sense that a doctor normally teaches medical students at medical schools. This case is weakened when it is translated into military officers teaching across a broad spectrun of liberal arts subjects, e.g., political science, sociology, psychology. Nevertheless, there is a professional view (a military professional view) on these liberal arts subjects; and this view should be conveyed to military students by qualified military instructors.

Section II

Comparison of Army Officer Educational System With the Officer Educational System of the Other Services

1. It is generally recognized that the Army places the greatest emphasis on and ascribes the most importance to professional military education, with the Marines a close second and the Air Force/Navy a distant third/fourth. To my knowledge, no one has formally addressed the question of why the service attitudes differ as they do. Since all four services are mission-oriented and pragmatic and are officered by men of comparable background and principles, it seems likely that, insofar as their attitudes towards the importance of professional military education do differ, there must be some quite fundamental reasons for the difference. I believe there are two such reasons: environment and people.

2. Operating as they do on the earth and the nap of the earth, ground forces must accommodate to the limitless varieties of terrain; and this factor is further complicated by the interplay of enemy and mission. As a simple example, the Army has five different types of divisions, designed primarily to provide a basic family of organizations which can adjust to the vagaries of environment; we also have developed innumerable combinations of firepower and maneuver for these organizations. A comprehensive and precise body of doctrine and procedures condition the employment of these forces across the spectrum of environments. Further, we have found that the essentials of this doctrine are learnable in the classroom; and our officer corps can be well prepared doctrinally in the classroom. Of course, there is no substitute for actual experience on the ground, but our professional education provides the sound base on which experience can build.

3. Related to the environmental factor, ground forces are intimately and inextricably involved with people. This involvement is deeper than that indicated by the accurate cliche's, "Man is a land animal"; or, "The Army's ultimate weapon is man"; for it stems from the dominant roles that people occupy in the ground scheme. The Army, for example, must not only command and support its own, but also is unavoidably concerned with allies, neutrals, and hostiles. We must attain and merit the cooperation of the ally; assure as a minimum the continuing neutrality of the neutral; and defeat the hostiles in battle. Even the domestic security mission of the Army dictates an involvement of the Army with the US citizen to a degree not approached by the Air Force/Navy (and, in this instance, the Marines); and the greater Army role with MAAG's, Missions and MTT's poses difficult international and interpersonal relationships. Here too, we have found formal education an absolute necessity in preparing our officers for these special challenges.

4. In sum, the heterogeneous ground environment, with the complications introduced by people, has generated a vast number of non-military and quasi-military as well as military tasks which must be performed by Army forces.

The greater number and diversity of these tasks, as compared with those of air and naval forces, could help account for the larger emphasis which ground forces - Marines as well as Army - place on formal education and training. Certainly, the total Army experience in accomplishing its missions to date has led us to depend heavily on our professional educational program - without such an emphasis, we could not accommodate to the dominant factors of environment and people.

5. The foregoing does not deny that the Air Force and Navy also face massive problems in the environmental and people areas - they do. Further, they must employ man and machines with a special type of precision that is not often demanded of the Army/Marines; and the technological and specialist aspects of their operations pose some unique problems. They properly find their solution to these problems by a combination of efforts: creation of the best technological base, conduct of a sophisticated specialist training program, establishment of quality operational units and maintaining them at the highest stage of operational readinesss, and constant practice with these units. Thus, they use more pragmatic approaches and depend less upon professional education than their ground force counterparts. They are well served by their program, we are well served by ours, and it would be a grave disservice to our defense effort to force our educational systems into a common pattern.

6. The postulate can also be advanced that, except at the highest levels (department and theatre), the requirement for staff action in the operations of Navy and Air Force units is not as great as it is for ground forces. This stems from the highly-integrated, self-contained, normally self-sufficient operating units in air and ocean combat, in contrast to the highly dependent, normally dispersed units in ground combat. These ground force units demand, routinely, the best of staff action to assure support and survival; I do not believe the air/ocean environment does. As a gross oversimplification, the staff problems involved in executing "Full Speed Astern" with a cruiser do not equate to those in conducting the same maneuver with a brigade. Although overdrawn here, I think there is some validity to this postulate; at any rate, it would be an interesting exercise to compare the use of staffs by a Marine or Army division commander in operations with that of the commander of a carrier task force, or a numbered Air Force. I expect that the importance of staff action and direction in the ground force echelon is substantially greater for comparable units in the other services. Here again, this type of staff action which is so vital to success of ground units can be taught quite effectively in classrooms; and the Army and Marines have traditionally done it. The Navy/Air Force do not encounter the same operational necessity for such staff action; so they do not emphasize it in their schools. I hope it is unnecessary to note that the point in the preceding paragraph is <u>not</u> to indicate that the command of ground units is inherently more difficult or demanding than the command of Navy/Air Force units. Far from it. For totally sound reasons, each service commands by techniques which best suit its own operational requirements. Staffs simply play a bigger role in meeting the ground requirements.

7. An abstruse but pertinent point can be made by going back to the basic words of the Constitution. The Constitution requires that we "maintain a Navy", but we "raise an Army". Translating this broad dictate to modern times, the Navy and Air Force have in their inventory at any given time most of the weapons and men which will be required to handle anything except large emergencies, whereas the Army and Marines must anticipate substantial expansion to handle even relatively modest demands. In the absence of a large number of existing operational units which it can practice with, and in anticipation of a requirement for rapid expansion, the Army has understandably leaned on its school system to prepare an officer corps to meet these problems.

8. Traditionally, the Army military educational system has had clout, i.e., it was extremely difficult for an officer of the combat arms to be promoted to colonel without C&GSC and comparably difficult to be promoted to general without attendance at a senior service college. Attendance at service schools has not carried the same significance for the Air Force and Navy.[1] Occasionally, the Army system is criticized on the basis that attendance at the upper military schools merely involves getting your ticket punched. In that context, the accurate comment is often made that when an Army job requirement states that a graduate of a senior service college is needed for a particular position, this does not normally mean the job really demands the academic or professional skills taught at the senior service college. Rather, it means the job should be filled by an officer of the overall caliber which is required to merit attendance at the senior service school. Despite this inconsistency, I do not think the Army should ever retreat from an educational system with clout. We should retain the "status symbol" of school attendance as a real element of our personnel system; otherwise our educational program will lose its meaning. The fact that an Army officer is a graduate of Leavenworth or Carlisle <u>does</u> mark him, and just about everybody in the Army understands the significance of that mark; we should keep it that way.

9. The Navy has its own postgraduate school (NPGS) at Monterey; the Air Force has its Air Force Institute of Technology (AFIT) at Wright-Patterson Air Force Base. There is an understandable tendency on the part of many Army officers to look at AFIT and NPGS and say, "Why doesn't the Army have its own postgraduate school?" There would be many advantages to an "Army-owned, Army-operated" postgraduate school. For example, it could deal directly with graduate education of Army officers to meet Army requirements; it would add prestige and status to the Army educational effort; it could provide excellent faculty assignments for Army officers who are scholastically and academically inclined; it could develop a flexible curriculum which would be more responsive to changes in Army requirements than the civilian educational environment could be; and, once established, it probably would not be subject to as close

[1] Commander Hay, a USAWC graduate, writing in the Naval Review, submits an analysis which indicates that attendance at senior service college may hinder, not help, selection to flag rank.

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or adverse monitorship by GAO as is the current AERB System. There are, however, some significant disadvantages to such an institution, at least one of which is prohibitive. This is cost. Both the cost of the initial establishment of the college and the higher per capita graduate cost from such a military installation in comparison to the per capita cost of graduates from civilian institutions would combine to make such a college unattainable within current resource availability. A second disadvantage is perhaps more subjective in nature than the cost factor, but it is nevertheless very important. This is the high degree of educational insularity which could be incurred by the concentration of the Army advanced degree program at an Army-run institution. One of the greatest benefits of the current broadly-based program is the opportunity for Army officers to live in a civilian environment for a substantial period of time, and for both civilian and military people to profit thereby. This substantial advantage would be lost if the Army conducted its advanced civilian education in-house. Hence, an Army postgraduate school does not seem to be desirable or attainable. (This comment, however, should not be construed as being in basic opposition to the idea advanced by ASA for an Army institute of Cryptology (see Good Programs). This ASA concept may be exactly right for that highly specialized field, but only a careful staffing will determine its feasibility and desirability.)

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Section III - Comparison of Officer Educational Systems with Industrial Education Systems[1]

1. My opportunities to observe the management education programs of major industries were neither many nor adequate, but I think some points of interest can be made. In terms of overall scope and its impact on the individual executive, the educational programs conducted by industry are much smaller and less significant than the military programs. There are at least three solid reasons for this difference. First, from an environmental standpoint, the business executive is in a state of continual combat. Each day he and his firm exist in a highly competitive situation where he is called upon to apply all of the skills, techniques, and know-how which he has acquired; and he also can observe how well these are working. If he were to leave his job for ten months of schooling, somebody else would have it long before he got back. This is in marked contrast to the military environment where long-term schooling is an integral part of career management, and officers are educated and re-educated for the conduct of combat operations, but out of a total career, only a small part of it is spent practicing what has been learned. Second, industry has an almost fool-proof measure of how well their managers are performing - this is the balance sheet. Although it can be contended that the balance sheet is a crude and indiscriminate device, there is no question that it is explicit and effective. From it, industry can get both instant and long-term evaluations of how well particular personalities and policies are working. In these circumstances, industry can always adopt a pragmatic approach as opposed to the academic or educational approach which the military uses in the absence of pragmatic evaluations. Finally, a major deterrent to the establishment by business of a management education program comparable to the military's is cost. It is doubtful that any big business could afford to institute an educational program where its middle and potential top level managers spent at least 10 percent of their first 20 years in school; yet this is what the Army customarily does, and with excellent reason.

2. Despite these differences in scope and significance, there are strong similarities between the two systems. Fundamentally, each is engaged in the same type of program, i.e., the continuing education of adults. Both programs seek essentially the same goals which are improved effectiveness, and better accomplishment of mission, rather than education as an end in itself. Both are subject to the same technological and sociological influences; and both operate in a domestic environment where their activities are under increasing observation, often hypercritical in nature. A mature and sophisticated educational program is really the best answer for both industry and the military in these circumstances.

3. Thus, we can expect an ever-increasing interest on the part of industry in the education of its mid- and top-level managers, and we can anticipate

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[1]For clarity's sake, this discussion will address only the educational programs conducted by industry which are directed at the development of their mid- and top-level managers; it will ignore the extensive training programs which are conducted at all echelons from apprentice through blue collar.

substantially greater diversions of high caliber personnel and or scarce resources into this educational effort. This increased allocation to education will result from a clear-headed analysis of the many complex factors that impact on big business today. Just two deserve mention: first, the pace of technology and the development of new management techniques necessitate re-education of the manager if he is not to become obsolete and ineffective. As one industrialist put it to me, "For some generations, there has been a sort of a race between a manager's date of retirement and the date of his technological or educational obsolescence. This is not even a race any more. In today's fast moving situation, the manager who is not re-educated has lost this race before he starts". (Note that this is almost precisely the problem that the military faces). A second aspect which will require greater investment in education by industry is the growing internationalization of our industrial effort. For at least two decades after World War II, American business could concentrate primarily upon the domestic scene with a relatively small degree of managerial attention to and interest in the international business picture. Those days are clearly past. From the standpoint of competition alone, to say of nothing of the standpoint of opportunities, American business today must internationalize. This internationalization calls for an intense educational effort, because the costs of internationalizing on a trial and error basis can easily be catastrophic.

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Section IV - Systems Engineering

1. One of the most significant educational management tools introduced into the Army is systems engineering, as currently spelled out in CONARC Regulation 350-100-1. This regulation is the basic guidance under which our curricula are developed; and CONARC has established a phased program calling for the systems engineering of all courses through the advanced course by end of FY 7_. All schools are aware of this requirement and have been participating in this common effort.

2. In discussing and observing systems engineering at various schools, I found a wide spread of attitudes towards it; this spread varied from dedicated enthusiasm to some foot-dragging on the part of its less enthusiastic supporters. Certainly, systems engineering has many strengths. Most important, its basic logic and rationale is unchallengeable; it simply is a solid, well developed and most helpful program. It makes all the sense in the world to first determine what the educational tasks are and then by six other logical steps, teach these to the student. Undoubtedly, this is the way most good curricula have been developed over time; but systems engineering formalizes this process and assures that all of the bases are touched. Also, properly employed, systems engineering can assure a proper balance within a curriculum and make certain that the important subjects are emphasized, the insignificant de-emphasized. This strength is of special advantage when dealing with the crowded curricula which characterize our educational efforts today.

3. There are, however, some disadvantages to systems engineering. As is the case with many inherently worthy staff procedures, we run the risk of forgetting the purpose of the action and becoming immersed in the processing and techniques. Systems engineering undergoes a real danger of being overwhelmed in its own paperwork; at worst, it could become a bureaucratic answer to what should be an intellectual and educational process (curriculum development). Next, there is a tendency which I observed at many schools to assume that, simply because a course has been systems engineered, it is thereby a fine course. This was evidenced on occasions when the briefer in presenting a course would say simply, "This course has been systems engineered," and move on to the next subject as if the systems engineered course were automatically O.K. I evidently do not believe systems engineering is <u>that</u> good. Lastly, there is no question that systems engineering demands a tremendous amount of faculty and administrative time, and provides almost an open-ended opportunity for staff reviews and minor changes which contribute little to the educational process.

4. My own view of systems engineering is that it is a tremendous asset to our educational process, provided only that it is used with discretion. A discrete use of it, in my opinion, is to recognize that its greatest effectiveness and applicability rests in the training fields; and, as we move from training towards education, its effectiveness and applicability will be reduced. As extreme examples, systems engineering is the ideal technique for developing a course of instruction in the assembly and disassembly of an M-16; it leaves a great deal to be desired in developing a course of

education on division command. I consider its applicability to the basic course to be almost total; I do not believe that it has the same degree of pertinence to the advanced course, and its utility for specific application to C&GSC is suspect. In applying systems engineering, we must make sure that we remain flexible enough to avoid putting our curricula into strait-jackets and stagnating. The effort which goes into systems engineering a course is so substantial that, once accomplished, there is a natural tendency not to attempt revisions or changes which call for re-systems engineering. (This is probably overstated, because systems engineering does have a clear audit trail of why a particular unit is or is not in a curriculum, and its basically modular concept permits addressal or individual modules). This would be about the worst thing which could happen to our curricula in the coming decade; so we must make sure that the systems engineering tail does not wag the curriculum dog. Lastly, in applying systems engineering, I think we have to take a very careful look at its demands in faculty and staff efforts. These demands are substantial; the returns from them can also be substantial. I merely note that there are a multitude of other demands on the staffs and faculties, many of which have been generated by recommendations in this report. CONARC and the Commandants should evaluate these competing demands and determine an appropriate priority for the systems engineering effort. In my personal opinion, the net return to our educational system from a concentration of staff and faculty effort on the adoption of student-centered learning would be much greater than the concentration of a comparable amount of staff and faculty time on systems engineering; but this is a matter beyond my decision.

Section V - Credentialism

1. An inevitable end product of our larger, more complex, computerized society is credentialism, i.e, discriminating between individuals or groups of individuals by use of their academic credentials. In the Army, the common term for credentialism is "ticket-punching"; and, in that usage, the term can embrace more than educational credentialism and thereby extend into the operational fields, e.g., "get your ticket punched as a commander and as a high-level staff officer." Although many aspects of credentialism are deeply disturbing, and it undoubtedly leads to individual frustration, disappointment and disgust, I think there is no feasible substitute for it as a basic tool of Army personnel management. It is clearly impossible for Army personnel managers to have the deep personal insight into the background, attitudes, personalities, capabilities, interests, family, etc of every officer to a degree which would permit us to ignore credentialism and rely on such knowledge. Furthermore, properly employed, credentials do provide a means of measuring the benchmarks and achievements in an officer's career and serve, to a degree, to indicate his potential for the future.

2. Recognizing that credentialism is a necessary element in personnel management today, I think it is most important that we devote a great deal of attention to how we use credentials within our system, and assure that they do not assume exaggerated importance. This is especially true of educational credentials; for, as pointed out in Chapter 12 - Evaluation, no one has been able to establish a positive correlation between educational achievement and demonstrated performance as an officer. This exaggeration can be particularly damaging in personnel procurement and promotion policies. The propelling force behind credentialism in personnel procurement has been the hiring practices of personnel managers in virtually all walks of life but especially in industry and government. First the high school diploma, now the baccalaureate degree, and increasingly the master's degree are set quite arbitrarily - for want of a better discriminator - as basic employment criteria. The sheepskin is the ticket. Those without it are denied admission to better jobs or assignments. Statistics correlating high education level with high earnings are probably better explained in terms of this factor than the common assumption that education level correlates with ability or is somehow related to job "requirements".[1] A complicating aspect of credentialism which has special importance for the Army in the seventies is the fact that educational credentials may no longer be an indication of quality. In the forties and fifties the high school diploma for enlisted men and baccalaureate degree for officers was a fair index of quality. In the early forties roughly half the students entering the fifth grade completed high school. The typical student going to college was the successful high school student. Today this is no longer the case. High school completion is taken for granted. College is not only for those with ability, but for all who seek access. As the Newman Report on Higher Education states: "Gradually, the public has come to assume that everyone who wants to go to

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[1] Ivan Berg, Education and Jobs: The Great Training Robbery, New York, Praeger, 1970.

college should be able to do so." The response to this demand has been the tremendous expansion in the capacity of higher education during the past decade.

3. The application of educational credentials in promotion poses an especially difficult problem. Take this situation: You are on a selection board for promotion from lieutenant colonel to colonel. Before you are the essentially equal records of two fine officers. These records are directly comparable - each officer has a well-balanced career; each has commanded expertly; each has instructed at his service school; each has served well on the DA staff. One officer has a baccalaureate degree, the other does not. Which one do you promote? I expect that most people would opt to promote the officer with the baccalaureate degree on the basis that he probably has higher potential. I personally would lean toward the non-baccalaureate degree holder on the basis that he has accomplished just as much as the baccalaureate degree man with less of a head start. Regardless of what your answer is, educational credentialism is a slender reed for promotion selection.

4. As previously noted, credentialism certainly is not going to go away; in fact, it is probably going to increase in impact and importance. There are some continuing implications of this situation which should be recognized by our educators and personnel managers. These include:

a. First, we should rely less on the high school diploma and baccalaureate degree as a screening device for procurement and retention, because the increasing number of individuals with these credentials render them ineffective as even a rough gauge of ability. Hence, we need to look behind the formal credentials to the quality of the individual's education and his ability.

b. Second, we should concentrate considerable effort on the development of better selection instruments - tests or other measuring devices - as a basis for personnel actions. Statistical and psychometric techniques are becoming available which will permit the development of better screening devices and more valid ways of ranking personnel. Design and evaluation of these improved selection instruments should be a priority task, with professional input for this effort provided by BESRL and HumRRO.

c. Third, we should not put ourselves in the position of establishing the degree or diploma as a rigid requirement for commissioning, because in the face of increased numbers with these qualifications, this will be a poor screening device. Except for battlefield commissions, such a policy would cut the Army off from many talented people who have tremendous ability and have followed non-academic paths prior to commissioning. The careers of many senior officers on active duty today, as well as the performance of many of our under-educated hump of officers procured through OCS during Vietnam, are a living refutation of the fallacy that academic credentials

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go hand-in-hand with performance. The Army would be truer to its own experience and would find a partial solution to the dilemma of over-emphasis on degrees if it can use more discriminate selection instruments and, thereby emphasize potential and performance rather than academic achievements.

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ANNEX C

COSTS, FEASIBILITIES, AND PRIORITIES

ANNEX C - COSTS, FEASIBILITIES, AND PRIORITIES

1. General Considerations

Many of the actions recommended in this review entail significant costs in money and manpower. Other recommended actions may be implemented through reallocation of effort within the existing resources invested in the school system. Some actions can be expected to yield savings in money and manpower that should be deducted from the over-all cost of the recommended program. Only a detailed appraisal of each recommendation will yield up cost and resource figures of sufficient reliability to serve for decision purposes. However, there are a number of important general considerations which bear upon such decisions:

a. Officer education is a claimant for additional Army resources at a time when the proportion of national resources allocated to defense is declining both in absolute terms and as a percentage of GNP. Consequently, whatever merits a recommended educational program may have, it will and should be subjected to a tough analysis to isolate/identify those actions which will yield the largest payoff relative to cost.

b. Education is an investment; an expenditure that yields a flow of benefits in the future. In principle, investment in education should be appraised like any investment decision, that is, whether the value of the expected benefits is greater or less than the cost. In the case of officer education, the problem is complicated by the difficulty of measuring returns in dollar and cents terms, by the numerous intangible benefits which may stem from the investment,[1] and by the complexities of measuring alternative uses of the resources.[2]

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[1]For additional discussion, see chapter 8, Civilian Education.

[2]For example, the cost of investing additional man-years in officer education, either as faculty or students, is the increment of combat effectiveness that could be obtained by leaving officers in military units for a longer period of time.

Because of these complications, an appraisal of the merits of investment in the officer educational system cannot be wholly statistical; it requires the exercise of mature judgment. The decision-maker's personal evaluation of the tangible and intangible benefits or education is a fundamental factor in this difficult equation.

c. While recognizing the fierce competition for resources and the difficulty of quantifying the benefits of an increased allocation of scarce resources to education, it remains my firm judgment that officer education should receive an increased proportion of the Army budget in the post-VN period. Any objective appraisal of the Army and its environment in the seventies will reveal the absence of any conclusive factor that argues for a decreased allocation of resources to education. On the contrary, there are many and impressive reasons for an increase. (The points raised in chapter 2 - Environment are especially germane in this respect.)

2. Broad Impact of Programs

This review proposes four major improvement efforts: improve faculties, modernize instructional methodology, reorient CGSC and increase opportunities for civilian education. Without conducting a detailed analysis, certain impacts of these principal measures are discernible:

a. Faculty improvement will pose few problems to the schools or CONARC (in fact, it should be most welcome to both); but it will pose problems for OPO. The derivation of agreed quality objectives can be a time consuming staff effort which will involve the schools but it should not be too difficult. Meeting the quality objectives will be tough. I foresee three principal problems.

(1) The bulk of the high quality officers who should go to faculty duty under the new objectives will be the same quality of officers which DA and high level staffs have been receiving. Since there are not enough of these officers to meet all needs, high level staffs will have to accept the loss of some quality.

(2) There may well be some objections from officers assigned to faculties under the new policies. They are generally aware of the current status of faculty assignments and some will want to avoid the risk of being the trail breakers in the new policy area.

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(3) Within OPO and on selection boards, there must be an increased, sustained awareness of the fact that faculty status is being enhanced and there must be strong support for this effort. This is not easy to achieve, not because of conscious objection either in OPO or the boards, but because of ingrained attitudes. Time and tact are the only answers, but the favorable change in status of the faculty assignment should be achieved soon and it should receive appropriate recognition where it counts.

b. Modernizing instructional methodology will probably generate the greatest aggregate demand because:

(1) It actually involves two major sub-programs--the move to student centered teaching and the increased mechanization of instruction. Each of these is a big job in itself.

(2) It affects all the schools across the board, with the possible exception of AWC.

(3) In execution, it affects all faculty members and most personnel on academic staffs.

(4) It poses major academic management problems for CONARC and, to a lesser extent, DA.

(5) It has resource implications in terms of:

(a) Quality and quantity of faculty

(b) Quality of staff effort at CONARC and schools, especially in terms of analyzing the requirements for automation.

(c) Money for machines

c. Reorient C&GSC. Although this program directly concerns only CGSC, (and ALMC) it has substantial implications for all agencies except the branch schools and AWC.

(1) The decision concerning the recommendation to incorporate staff functional instruction will be a major issue involving DA, CONARC, AMC, and CGSC.

(2) The decision concerning the recommendation to establish a CGSC (LOG) will involve the agencies listed in (1) above plus ALMC and Fort Lee.

(3) The development of staff functional curricula will be an academic chore of the first magnitude and will require major inputs from five DA staff agencies and AMC, in coordination with CONARC and CGSC (plus ALMC).

(4) Recruitment of a faculty which can conduct staff functional instruction will require quality inputs from DA and AMC.

(5) Actual manpower costs to the student account which may result from the establishment of a CGSC (LOG) are dependent on decisions as to the total student load at CGSC and/or CGSC (LOG)--these cannot be predicted at this time.

d. Increased civilian educational programs.

(1) The proposed increase inthe non-fully funded programs for civilian education will probably be the most complex of the four major efforts because, fully-executed, it involves an expansion of two existing programs (the ROTC degree and concurrent advanced civilian educational effort at our schools) and the initiation of two new programs (provide special opportunities for faculty members to continue their civilian education while serving on the faculty; and where circumstances permit, assign officers to areas where their continuing education is facilitated).

(2) As an essential element in carrying out this multi-faceted program, a personnel data base must be developed which accurately reflects the educational status of each officer, and this data must be utilized to carry out an educational program which is best for the Army and for the individual. This program can range in scope from high school certification for a very limited number to doctorate status, also for a limited number. The program must have strong direction by OPO to insure that the interests of the Army are reflected and to avoid aimless efforts by misguided officers to "get a sheepskin". OPO control must be supplemented by educational couseling services at the schools (and at non-school posts also) which are completely aware of local educational opportunities and can best advise each interested officer concerning his own program. Although

the rudiments of the needed data base and the counseling program already exist, substantial staff effort and probably some allocation of spaces will be required to develop them to the desired competence. (As examples of existing programs, see Annex A - Good Programs - the Air Force System for Management of Civilian Education, and the Counseling Service at Transportation School.)

(3) Given the highly individual nature of this program, staff planners will encounter special difficulties in developing precise costs and manpower figures. There is, in my opinion, no way to avoid this; and the program may have to procede on some shaky estimates until empirical data can be developed.

(4) This program will pose a new or increased personal demand on the Commandants, educational advisors and senior faculty members in developing the necessary contacts and programs with local civilian academic institutions; and the management of the program at the school level may require additional spaces. (There is, of course, a potential for utilization of some post GED personnel in this role.)

(5) The portion of this program related to increasing the opportunities for under-educated officers to attain the baccalaureate is relatively clearcut. Much excellent staff work has already been carried on, primarily by DCSPER (DIT); so the planning factors themselves should not be controversial. There will, however, be manpower costs; and these costs largely will be incurred in the grade of captain where our overall educational status is weakest. Estimates made by this review, and those made separately by OPO, place the size of the undereducated hump, after normal and policy-generated attrition incident to reducing the postwar size of the Army, at approximately 10,000 career officers, both Regular and Reserve. OPO further estimates that current programs will educate 75 percent of these officers to the baccalaureate level by the 1978-80 time frame. In order to give practical effect to the recommendation that all deserving officers be given such opportunity, it would be reasonable to expand the existing program from 75 to 90 percent, which would mean an investment of an additional 3,000 man-years (assuming two years to complete the degree) over the next six years (FY 73-78) or an additional 500 man-years annually.

3. Priorities

In carrying out approved recommendations/guidance of this review, the issue of priorities will be paramount; and this issue will affect all echelons from DA to the individual faculty member. Sound priorities are especially important at the schools--without them, faculty resources can be dissipated in a series of half-measures and in adequately executed programs which, in toto, will harm rather than help our educational effort. However, a rigid establishment of priorities at higher headquarters will be self-defeating because it would not accomodate to the differing situations , needs and capabilities of the individual schools, nor would it reflect the differing responsibilities and resources of the intermediate headquarters. In that sense, there is little advantage in recommending precise priorities to be established. There may be merit, however, in advancing some general suggestions concerning programs which appear to be particularly important or promising. No detailed rationale will be developed for these suggestions; they simply represent my opinion regarding this hazy area of priorities.

a. In an ideal world, the program to improve the faculties would be initiated and executed prior to initiating the other major efforts involved. However, the faculty improvement program must be a long-term one if it is to be successful; and the other issues are of sufficient urgency to demand early attention and effort. Therefore, although a continuing high priority should be ascribed to improving the faculty, other programs whould be initiated at once without awaiting the desired improvement in faculty status. Note also that improvement in faculty quality is an effort which does not significantly involve the schools themselves; so they can be applying their resources on other projects to good advantage while DA/CONARC work to improve the faculties.

b. From the many recommendations advanced, it is difficult to isolate one which may give the biggest immediate return to the Army in terms of increased operational effectiveness, but I expect the extension of the length of the Basic Course for combat arms to 12 weeks will do this. This extension will cost manpower at a time when manpower is very scarce, but it should put better prepared lieutenants in the units. This extension must, of course, be coupled with other actions to give the lieutenant the requisite sense of confidence and dignity. Cost to the schools of carrying out this

program are minimal; but it demands a high level of interest and dedication by already hard-working faculty members.

c. From the standpoint of improvement in actual learning and in student satisfaction with his educational experience, the program to move to student-centered teaching holds the greatest promise. In my opinion, it should receive top priority for CONARC and faculty effort at the branch schools, with special emphasis on the Advanced Courses. Although somewhat less significant at C&GSC, it should be a high priority effort there, and it should be meshed with the development of staff functioal education from the inception of both efforts.

d. From the standpoint of meeting the Army's most urgent and important educational need, the expansion and improvement of leadership instruction, as recommended by the CONARC Leadership Board, should be undertaken. Major allocations of resources are not required, but what is allocated must be the best. Further, the effort will pose a continuing demand. It cannot be a one shot affair; so active monitorship from DA down is required. (The guidance that the Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education is pertinent here.)

e. From the standpoint of lending realism, pertinence and life to existing curricula, the most important action is the incorporation of the use and study of military history. Plentiful raw material for this effort already exists, but qualified military historians are needed on the faculties to lead the way; and an indoctrination and orientation of current faculties must be achieved. Here again, major resources are not demanded, but scarce skills and changes in past practices are required.

f. From the standpoint of educationally preparing the Army officer to operate effectively as a citizen soldier, the most important single action which can be taken is to increase the number and scope of guest lecturers at the Advanced Courses and C&GSC. Guest lectures currently occupy from about .6 of one percent to about 7 percent of the curricula hours; an increase to about 10 percent and a conscious effort to attain variety appear in order. These guest lecturers should be selected to address military and nonmilitary issues of importance. Their purpose should be to inform and stimulate

the issue-oriented officers of today. The resource implications of this action are minute; the favorable educational implications will be substantial.

g. From the standpoint of integrating professional education with career experiences and of making it significant to the individual officer, the move to a whole-man evaluation system is the most important single action. Desirable as this would be, it calls for research and staff work of the highest order to develop the system, and then some additional manpower to carry it out.

h. From the standpoint of preparing mid-career and senior Army officers to accomplish their professional duties and of concentrating our educational effort on major Army functions, the program to institute staff functionalization education at C&GSC is most important. This action would provide an annual input of mature, highly competent officers who are aware of major Army problems and are educationally prepared to address them. It would put our professional strength to work in those functional areas where we have traditionally been weak. Also, the opportunity to consider these problems and areas in an academic environment (but under the guidance of experienced and knowledgeable instructors) could develop new approaches and solutions which may differ markedly from those developed in the pressure-cooker atmosphere of the Pentagon.

i. From the standpoint of urgency and of the image of the Army as perceived by a significant proportion of our junior officers, the program to increase the opportunities for a baccalaureate degree for the undereducated hump is most important. The urgency factor argues for top priority for this effort for the short term.

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