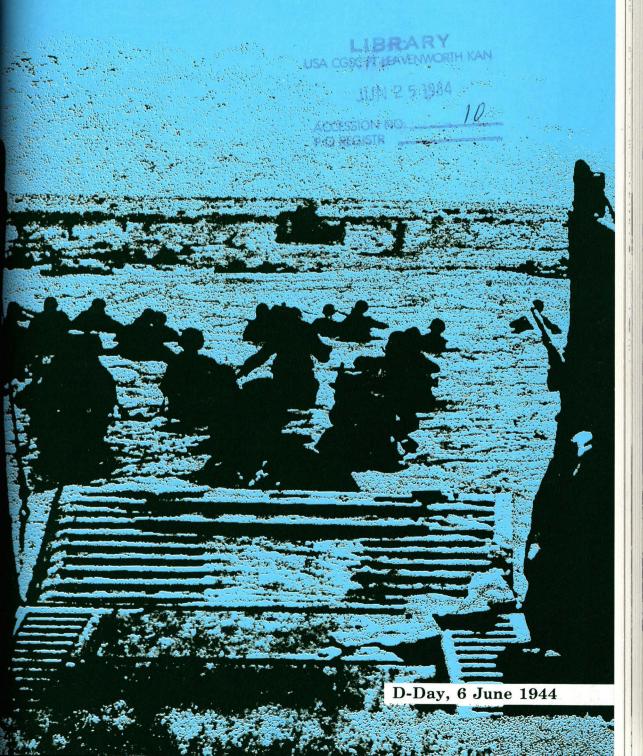
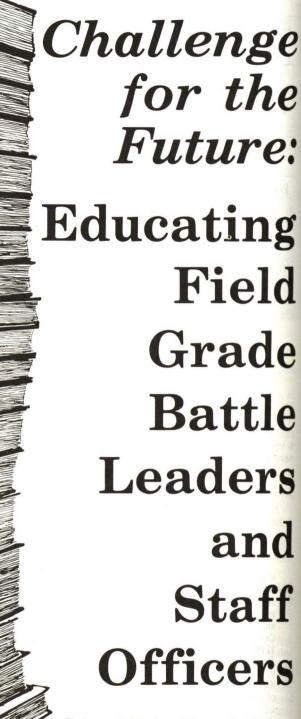
Military Review

The Professional Journal of the US Army

June 1984





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Conditions on the battlefield of today make it imperative that commanders and staff officers be capable of handling a multitude of tasks that are focused on defeating the enemy. Recent changes in the Army's education system are aimed at producing highly qualified officers who can shoulder such responsibilities.

THE REQUIREMENT

UR Army has a tougher task than any other army in the world. All armies today are faced with the demands of how to prepare for and conduct future war in light of rapidly changing technology and new political and social trends. Other Western and allied armies also face these challenges in the context of democratic societies in which military requirements must compete with legitimate social needs for the allocation of resources. However, the missions of their armed forces are more easily focused on clearly defined threats. Ours is the only army of a democratic society that carries on its shoulders the weight of superpower responsibility—a concomitant worldwide forward deployment and the need to prepare for a broad range of levels and forms of warfare.

For this, we will need more than just commitment and dedication; we must also measure up *intellectually*. We will clearly have to be better trained and educated than the enemy. It is important to note that the Soviet Union takes much longer to train and educate its officers. The new challenges facing officers and the paramount importance of their competence to lead require that we reexamine our officer training and education needs.

The combined effect of battlefield and peacetime requirements for the training and education of the Army's officers is staggering in its impact. We need an Army run by leaders who can do more with less under high-risk conditions and in less time—given a very wide-ranging set of possible missions. We must also be able to integrate smooth and continual change in organizations to effectively harness this nation's technological capability.

This will require a leadership with a common educational and cultural perspective on war which can stay conceptually ahead of the ever-changing technology. The day-to-day, peacetime running of the Army requires more knowledge to manage resources under tighter tolerances, to get more out of available training time and to cope with social pressures while, at the same time, maintaining a *daily* high standard of readiness unprecedented in our history.

Training for Peace or War?

It has been said many times that the most important duty of a soldier in peacetime is to prepare for war. But that dictum by itself is an insufficient guide for action. It is the peculiar nature of the profession of arms that there is no way to predetermine the training and education needs of its members with any certainty prior to first combat. And, therefore, it is difficult to marshal good arguments supported by hard data for more training or education resources devoted purely to the study of war. On the other hand, peacetime training and education needs can be defended with greater certainty, and indeed peacetime management tasks also

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contribute to preparing for war.

As a result, since at least 1951, we have seen a steady decline in the number of hours devoted to tactics and operations in the 10-month US Army Command and General Staff College (USACGSC) curriculum which has only recently been reversed. At the same time, we have added peacetime-related subject matter because the need for it was clearly indicated. Since our approach to training and educating officers has not changed significantly since World War II, it may be helpful to summarize some of the specific reasons why we think we must make substantial improvements in the training and education of leaders now.

PRESENT WARTIME TRAINING AND EDUCATION REQUIREMENTS

One by-product of the recent revision of Field Manual (FM) 100-5, *Operations*, was a better appreciation of what the combat competency of battle leaders must be. It is clear that AirLand Battle doctrine cannot be executed by Army leaders who do not understand the human dimension of combat, are not trained in the proper employment of modern hardware and systems, and are not educated to employ them with sound judgment.

Role of Leadership in Battle

Studies associated with the development of the new FM 100-5 show that the outcome of battle is as often determined by differences in intangible factors—such as leadership, courage, skill and unit cohesion—as by numbers and mechanical factors. In the FM, it states:

The appropriate combination of maneuver, firepower and protection by a skillful leader within a sound operational plan will turn combat potential into actual combat power.

Leadership provides purpose, direction, and motivation in combat. . . . While leadership requirements differ from squad to echelons above corps, leaders must be men of character; they must know and understand soldiers and the physical tools of battle; and they must act with courage and conviction. The primary function of leadership is to inspire and to motivate soldiers to do difficult things in trying circumstances.

Leaders must set the preconditions for winning.

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As battle becomes more complex and unpredictable, decisionmaking must become more decentralized. Thus, all echelons of command will have to issue mission orders. Doing so will require leaders to exercise initiative, resourcefulness, and imagination—and to take risks.

FM 100-5 appropriately recognizes the crucial role of all leaders on the modern battlefield. Leadership has always been crucial. But there was a time in the history of war when a few outstanding leaders could single-handedly affect the behavior of many. Picture the 1st Duke of Wellington at the Battle of Waterloo personally encouraging his troops, and remember the difference Napoleon Bonaparte's presence made in the performance of his soldiers. Soldiers still need that kind of leadership except that the compartmented nature of modern war demands many and much more junior Wellingtons and Napoleons.

The requirements for dispersal and rapid concentrations, for high-speed attacks and for resolute defenses by scattered smaller units place much more em-

phasis on lower level leadership. We should recall that General S. L. A. Marshall's studies of the US Army in World War II and Korea revealed that a large number of soldiers became passive and ceased to fight when leaders could not or would not lead in person. The degrees of dispersion required today compared to then will increase this leadership challenge. Also, as units become more capital intensive-more heavy weapons per soldier-we must rely more heavily on the individual battlefield contribution of each fighting man. For these reasons, the quality of leadership at all levels may be the sine qua non on the next battlefield.

New and Unique Battlefield Conditions

The conditions of modern battle differ vastly from those of earlier wars. These new conditions are described succinctly in the new FM 100-5. We must be prepared to fight campaigns of considerable movement, complemented by intense volumes of fire and complicated by increasingly sophisticated and lethal weapons used over large areas. Air and ground maneuver forces; conventional, nuclear and chemical fires; unconventional warfare; active reconnaissance, surveillance and target acquisition efforts; and electronic warfare will be directed against the forward and rear areas of both combatants.

Such conditions are difficult to replicate short of actual combat against a major power. Neither field training exercises nor simulation-based command post exercises can acquaint us with all dimensions of modern battle. The full impact of these conditions, taken together, are difficult to imagine, much less to understand. But their study is imperative. In the next war, the advantage will go to the side which has best thought through the implications of such battlefield conditions and *best* prepared its force to deal with them. It is difficult to say which of the following characteristics of modern battle will prove to be the greatest challenge:

• Opposing forces will rarely fight along orderly, distinct lines. Massive troop concentrations or immensely destructive fires will make some penetrations by both combatants nearly inevitable. This means that linear warfare will most often be a temporary condition, at best, and that distinctions between forward and rear areas will be blurred.

• To fight and win under modern conditions, commanders and staffs must rapidly concentrate potent modern ground and air units at the decisive point from dispersed locations and disperse them again to avoid lethal counterstrikes.

• They must understand the capabilities and employment of complex surveillance, target acquisition and communications systems and their implications for both combatants.

• Nuclear weapons are proliferating to more and more potential adversaries. Our principal adversary, the Soviet Union, is likely to use such weapons in any major confrontation with the Western powers. This likelihood alone means that operations which ignore the effects of these weapons on battlefield schemes can no longer be conducted.

• The growing number of nations which can employ and are apparently willing to use chemical weapons forces us to face the stark realities of combat on a battlefield where chemical weapons have been used or are likely to be deployed. Commanders and staffs must understand chemical protective measures and countermeasures and the impact chemical weapons will have on military operations.

• Electronic warfare, the vulnerability of command and control facilities and

mobile combat will demand resiliency and flexibility of command and control means and methods and extreme resourcefulness of commanders and staffs at all levels.

• As combat in builtup areas becomes more unavoidable in Europe and combat in vast arid regions over extended frontages becomes more probable, new and different demands are placed on the skill, training and education of officers to deal with these environments.

New Logistic Constraints

Commanders and staffs must understand battlefield logistics better than ever before. We will, in all likelihood, fight our next battles at the end of long, vulnerable lines of logistical support and against an enemy which outnumbers us and has much shorter supply lines. This greatly increases the requirement for skillful leadership and first-rate staff work in both combat and logistics units to compensate for this significant disadvantage.

Enlarged Battlefield Perspectives at All Levels

Battlefield perspectives have changed radically since World War II at every level of command. And with these changed perspectives have come higher expectations of officers at all levels:

• Corps operations today are more akin to World War II field army operations in both complexity and territorial dimensions. We have added the responsibility for logistic concerns. We have removed field army headquarters from most combat employment schemes and have tied corps directly into a joint or combined forces structure. We have added new command, control, communications and intelligence (C³I) capabilities and have made combat support organizations more potent. At the same time, the corps will enjoy less time to make decisions and execute them than World War II field armies. Corps are no longer mere "resource allocators" in the new US Army doctrine. They are fighting and maneuver headquarters which will plan and execute campaigns and also fight critical battles in a very complex and nonlinear battlefield environment. (

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• The place of World War II corps has been taken by our modern divisions. Modern division sectors are wider and deeper, and the range of current division responsibilities exceeds that of corps in most World War II circumstances. World War II corps rarely managed the complex logistical tail which is a characteristic of modern divisions. In all likelihood, divisions will operate with one or more attached brigades or regiments in addition to organic brigades. The division battle lines will be less distinct, and battle requirements will demand information gathering, analysis, decisionmaking, coordination and execution in less time.

While generally aware of the increased complexity and lethality of division weapons individually, few officers are acquainted with the impact of all of them together. Many new tools of battle have been added. We will see more divisionlevel, air-ground interface with the Air Force and between Army air and ground elements. We are just beginning to come to grips with some new challenges: new C³I requirements, increased capabilities, new functional elements, how to move the division rapidly over operational as well as tactical and strategic distances, and how to fight it effectively and maintain the synergism of its separate parts.

• The place of World War II divisions is taken by cavalry regiments and divisional and separate brigades. In the operational schemes of divisions and

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corps, these formations must do more with less men than was often done by World War II divisions. The relative shortcomings in foxhole strength must be offset by the proper employment of more lethal weapons within attached or organic battalions and squadrons.

Fast-paced, fluid situations dictated by modern battlefield conditions require more flexible tactics-more facile concentration and dispersion of battalions, more rapid maneuver and more violent concentrations of fires. While there is more potential combat power available to modern brigades and regiments than was available to World War II divisions, its effective and synergistic application relies on the command and control of a much higher order.

addition Implications of New Battlefield Conditions

attle re What all of this implies is that comrmation manders and staff officers at all of these making levels must know more and must discharge their combat functions much more icreased rapidly over wider areas with greater condivision sequences of failure by several orders of s are ac magnitude than their World War II of them counterparts. This means that today's tle have brigade S3s must be competent in more livision areas than World War II division G3s.

PRESENT PEACETIME TRAINING AND EDUCATION REQUIREMENTS

The need for more training and educaes, and tion to manage the Army's day-to-day aintain unit peacetime business is unassailable.

visions Day-to-Day Unit Resource Management

the Commanders and their staff officers In and manage resources many orders of magnitude greater and under much tighter tolerances than their World War II era counterparts. World War II era company commanders managed property worth thousands of dollars. Current company commanders are responsible for equipment worth tens of millions of dollars. Even taking inflation into account, this is a significant difference. Not only this, but current commanders also manage resources which were formerly merely issued and consumed. Even at battalion level, this includes food, ammunition, fuel and other training and maintenance funds in the hundreds of thousands of dollars annually.

The need to man a large, volunteer, peacetime Army; changes in Uniform Code of Military Justice procedures and processes; and the smooth implementation of social change in the institutions of the Army have demanded new knowledge, approaches and efforts by all officers. These and other peacetime administrative matters are an important aspect of an officer's daily life. Combined, they have had an unprecedented impact on an officer's training and education needs. Our focus on these concerns has tended to cause us to overlook other important new requirements.

Impact of Technological Growth and **Rapid Rate of Change**

The difficulty of officer tasks in peace and war is increasing as we continually add new and more potent hardware. The Army is introducing 40 new major items of hardware and many more lesser items. This dynamism adds to an already complex problem. For an initial impression of the dimensions of this problem, one could start by comparing the contents of a World War II rifle platoon arms room with that of a modern mechanized pla-

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toon. As one proceeds from echelon to echelon, the contrast between the weapons and equipment of World War II formations and present ones is similarly striking. Officers must know enough about all of these items to ensure that they are properly maintained and effectively employed and that soldiers are properly trained in their use.

In essence, the effective employment of this equipment demands deeper and wider technical knowledge at lower levels. The increase in the variety of weapons at all levels also demands a higher order of knowledge at all levels to integrate them well and not waste potential capabilities. Not only this, but the continual introduction of new systems into units which must maintain constant readiness compounds the problem and adds many new challenges for the officer corps.

More Missions, Less Response Time and Greater Uncertainty About Conditions

One reflection of a potentially unstable world and the role of our nation in it is that our officers must be trained and educated to accomplish more missions. with less response time and under greater uncertainty than ever before. Officers must be trained in skills applicable to an entire spectrum of possible conflict and near-conflict situations-to which we have recently added peacekeeping. The range of missions of Army units is greater and is far more complex than it ever was before. This demands a much higher order of readiness in units. For instance, a World War II unit could expect months or weeks between notification of movement into battle and actual engagement with the enemy.

Today, both Continental United States (CONUS) and forward deployed forces must be prepared to deploy in hours. CONUS unit deployment plans, as well as those for forward deployed forces, are frequently exercised. This is further complicated for CONUS units by the diversity of their possible and likely missions. The Reserve components face similar problems compounded by their unique situations.

Units Must Be Trained to Do More, Better, in Less Time

Not only must officers know how to fight more effectively under most difficult and diverse conditions, but they must also learn to train their subordinate individuals and units to do more and better in far less available training time. The need to maintain a high state of readiness for combat and the high initial standard of performance required of units whose first battles may be the most significant of the next war raises the importance of high-quality training. We cannot afford a Kasserine Pass or Task Force Smith experience the next time we go to war. Precious training time must be well-used. To use time well, officers must know and use sophisticated modern training and training management techniques. Knowledge of this sort is also an important training and education requirement for officers.

EDUCATION AND TRAINING REQUIREMENTS OF THE FUTURE

Up to this point, we have merely catalogued the complexities and demands of the present. We must be mindful of the fact that the current crop of USACGSC graduates will probably experience more change in methods and conditions of warfare and preparation for war during the l as freomverons. ilar que

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atas of the SC ore varthe balance of their active military careers than has been experienced in all of the years since World War II. The task of maintaining the Army's effectiveness is becoming increasingly more difficult because we must make choices about change at an accelerating rate against a wide backdrop of uncertainties. As the conditions of warfare change, the methods and techniques of doctrine must evolve with them.

Hardware choices, which constitute considerable long-term investments. must be made more frequently as armies become more "capital intensive" and as the rate of technological options expands. The risks associated with these and other choices grow as the time between changes becomes compressed. We must become masters at integrating the right changes smoothly and effectively. Knowing what to change will be more difficult and risk laden as the rapid rate of technological innovation and the relative brevity of future high-to-mid-intensity conflicts combine to create a situation in which the consequences of peacetime choices can be irretrievable in war.

CONCLUSION: A SHORTFALL

Very few officers understand even the complexity of war under current conditions or how to prepare well for it. While the separate elements of this combat environment are easily pictured, their combined effect is difficult to imagine. Not being able to spend enough time in simulated combat situations to become comfortable with this increased complexity, officers yearn for formulas, recipes and safe engineering solutions to make order of potential chaos.

Another natural modern solution for

dealing with a complex environment which requires vast amounts of knowledge is to specialize-to compartment knowledge and those assigned to master it. This also poses new requirements. Specialization is necessary, but there is also an urgent need for some individuals to be broadly based and still maintain a degree of depth across that spectrum to be able to lead specialists and to integrate their work and yet not be led by them. Essentially, a key segment of the officer corps must know how to think about war in broad terms and not only what to think in terms of functionally defined doctrinal prescriptions. This is especially critical in an environment of rapidly changing parameters.

It is my conclusion that it is not possible to meet the requirements of the present and future without fully supporting recent initiatives at the USACGSC. The Army has periodically reviewed its officer training and evaluation needs and made appropriate changes in its schooling system. Three recent external studies have examined the training and education of officers at Fort Leavenworth. These are the 1979 study, A Review of Education and Training for Officers, the 1982 Strategic Studies Institute study entitled Operation Planning: An Analysis of the Education and Development of Effective Army Planners and the 1982 report by Major General Guy S. Meloy III (Office of the Deputy Chief of Staff for Operations and Plans) to the chief of staff, US Army.

These studies and an examination of officer training and education implications of AirLand Battle doctrine—the need to do more with less, at a faster pace and under more dangerous battlefield conditions—caused the US Army Training and Doctrine Command leadership to conclude that what we were doing at Fort

June 1984

9

Leavenworth was not enough. While some improvements in the present 10-month Command and General Staff Officer (CGSO) curriculum are under way along the lines recommended by recent studies, internal evaluations of the curriculum suggest that room cannot be made to provide all of the educational needs identified in these studies—especially the time to study in-depth.

Today, in peace or war, our profession requires the mastery of a vast amount of knowledge—our business has just become too complex to really master in a one-year course. This led the USACGSC leadership to consider adding an additional year of instruction for some officers. We must provide more depth of knowledge in tactics and operations and how the peacetime Army works to those officers who have the greatest potential for future leadership.

The new Combined Arms and Services Staff School (CAS³) will soon be providing a firm foundation of basic staff skills and an awareness of Armywide problems to all senior captains. The USACGSC plans to build on this foundation as it upgrades its CGSO curriculum. However, the principal constraint to do more in the 10-month CGSO Course is *time*.

The current curriculum has evolved over many years in response to changing Army needs. What was done in two years from 1929 to 1936 was compressed into one year after World War II. Between then and now, the tactical and operational portion of the curriculum was compressed even more to make room for new required knowledge of a more complex Cold War environment; to keep units in an unprecedentedly, constant, high state of readiness; to manage more constrained resources; and to develop new officer skills pertinent to the modern military environment.

Specifically, the tactical and operational portion of the curriculum was compressed from 665 hours in 1951, to 582 hours in 1957, to 335 hours in 1968 and, finally, in 1974, to the present level of about 170 hours. The USACGSC has recently increased tactics instruction in the electives program and has added three, week-long, college-wide exercises, but we are still pressed for time to develop the higher order fighting skills we need. The decreased portion of the curriculum dealing directly with fighting has also had to cover more material as the means of waging war and sustaining operations has grown more complex. This has severely constrained the USACGSC's ability to do much more than is currently done in the 10-month course-providing preparation that is admittedly "a mile wide and an inch deep."

The recent addition of the Advanced Military Studies Program, currently finishing its pilot phase, promises to provide a leavening of broad-based individuals to fill key personnel, intelligence, operations and logistics staff positions in divisions, corps and subsequently at higher levels, who will be capable of leading the Army into the unknown and difficult future. Selected students-eventually 96 annually-will be retained at the USACGSC for another 11 months of more in-depth study in the science and art of preparing for and conducting war at the tactical and operational levels. This program will require a small but first-rate faculty. It will require protection until its graduates begin making a contribution in the field. It represents a long-term investment in future capability.

A similar investment in long-term schooling paid off for the US Army before World War I and World War II. In World War II, ultimately all divisions and corps were commanded by two-year men, and many two-year men designed and guided the near-miraculous, pre-World War II mobilization. Starting in 1904, selected officers attended two Fort Leavenworth courses: the US Infantry and Cavalry School (later designated the School of the Line) and the General Service and Staff College. These schools were interrupted during World War I but reopened and combined in 1919 under the name General Service Schools and continued until 1922. In that year, due to the pressure to train more officers (the World War I "hump"?), the course was temporarily reduced to one year in length.

Starting in 1928, the course was again extended to two years (then called the Command and Staff School). This course had a comprehensive curriculum which provided instruction in all military disciplines. The first year was primarily oriented on division-level tactics and logistics, while the second year concentrated on corps and army level. Courses were also conducted in strategy, war planning and military geography. Throughout both years, history, legal principles and leadership were also taught. Morning periods were devoted to "conferences and lectures." with afternoons set aside for study and research, map maneuvers, "tactical rides," terrain exercises and command post exercises. In 1936, under pressure for increased numbers of officers to man units and staffs, the course reverted back to a one-year curriculum again.

The officers produced during the period from 1929 to 1936 had an underiable impact on World War II. General Omar N. Bradley wrote in his book, A Soldier's Story:

While mobility was the 'secret' US weapon that defeated [Karl] von Rundstedt in the Ardennes, it owed its effec-

Two-Year-Class Gradu	ates		
	Class of		
Leonard T. Gerow	1931		
Jonathan M. Wainwright	1931		
George E. Stratemeyer (Air Corps)	1932		
Joseph L. Collins	1933		
Ernest N. Harmon	1933		
Manton S. Eddy	1934		
Mark W. Clark	1935		
Matthew B. Ridgway	1935		
Maxwell D. Taylor	1935		
Lucian K. Truscott	1936		
Albert C. Wedemeyer	1936		
Figure 1			

tiveness to the success of US Army staff training. With divisions, corps, and Army staffs, schooled in the same language, practices, and techniques, we could resort to sketchy oral orders with assurance of perfect understanding between US commands. (Emphasis added.)

A quick review of the rosters of the twoyear classes reveals the names of the wellknown graduates listed in Figure 1. While these names are primarily those of combat commanders (and several of them served under Bradley as corps commanders during the period he discusses), many other graduates of that period attained general officer rank or served as colonels in key staff positions throughout the US Army of World War II. For example, Charles A. Willoughby, class of 1931, remained on the USACGSC faculty and wrote a classic textbook entitled *Maneuver in War* which is still useful

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	1930	1931	1932	1933	1934	1935	1936
Class Strength	57	126	116	125	118	121	121
General Officers	33	36	21	43	51	62	47
Brigadier Generals	21	24	16	24	35	42	37
Major Generals	9	11	2	17	12	16	8
Lieutenant Generals	3		2		4	ing calcord	1
Generals		1	1	2		4	1
Division Commanders	8	9	2	13	11	8	6
Corps Commanders	1			3	3	2	2
Army Commanders			1			4	1
Army Corps Commanders						1	
Chiefs of Staff			VCSA*	1		2	
Theater Commanders		1				a since	
*Vice Chief of Staff, US Army							

today. He later joined General Douglas MacArthur's staff in the Philippines in 1939 and served as his G2 throughout both World War II and the Korean War. The achievements of the two-year class graduates from 1930 to 1935 are summarized in Figure 2.

We do considerably less officer schooling than other modern, first-rate armies. Staff college training, which occurs in all of these armies at about the same career point as it does in ours, is illustrative of our relative austerity. The Israelis send their staff college selectees to 46 weeks of school, supplemented with nine additional weeks for those chosen to command battalions. The Canadians send all officers to a 20-week staff course and a selected minority to 45 weeks of preparation for service on higher level staffs. The British and Germans each devote about 100 weeks, while the Soviets put their potential general staff officers through an astonishing 150 weeks of intensive education.

In sharp contrast is the United States modest 42 weeks of instruction. Historical experience underscores the fundamental truth that an army which must fight outnumbered, under difficult circumstances and with limited resources, must rely heavily on the professional excellence of its officer corps. Therefore, it must place a high priority on the excellence of its officers' professional training and education. Military excellence has always depended upon an officer corps which could think ^a creatively about

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war—one which understood principles and theories of war.

If we desire to field an effective Army—one that can win—we have little choice but to agree that there exists a gap between the competency levels we can now achieve with current programs and those which we will need to achieve to continue to maintain an effective Army. The key question is whether this Army is willing to commit the resources and undertake the revisions required to meet this goal. The best place to begin is at the USACGSC because it is the intellectual hub and heartbeat of the Army. Recent reforms which have been undertaken at the school, if fully supported by the Army and carried further, can pay great dividends in the future.

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Army Pursues Computer Image Generation (CIG) Applications. Recent advances in CIG have demonstrated the potential for a new class of military terrain products exploiting digital map data. The Army is working with the Defense Advanced Research Projects Agency to support the final phase of an advanced CIG research program with the goal of inserting this emerging technology in Army programs such as the Digital Topographic Support System and the All-Source Analysis System.

Army participants in the project include the US Army Engineer Topographic Laboratories, the US Army Intelligence Center and School and the Army Research Institute. Department of the Army staff members are coordinating the project. —*Tech-Tran*.