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*Keeping the Warfighting
Edge*

*An Empirical Analysis of Army
Officers' Tactical Expertise over the
1990s*

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Arroyo Center

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PREFACE

Because of high rates of deployments combined with other missions, some observers argue that today's smaller Army is becoming increasingly strained in terms of how much it can do while still maintaining unit training effectiveness and personnel readiness. Interviews conducted during RAND visits throughout 1998 and 1999 to most of the warfighting brigades in the continental United States indicated that some commanders expect an eventual degradation in the tactical competence of future leaders. This expectation was attributed both to shorter tenure in key developmental positions and fewer opportunities within those assignments to participate in field training. Others viewed the pace as quick but believed that their subordinates were being well-prepared for future responsibilities. This study examined empirically whether assignment length, tactical experience, and career patterns changed over the 1990s. The results presented here represent an overview of the project's most important findings from our empirical analysis of possible changes in the experience base of the current officer corps.¹ These findings should be of interest to those concerned with officer leader development and tactical training issues.

This research was sponsored by the Army Deputy Chief of Staff for Personnel and was conducted in the Arroyo Center's Manpower and Training Program. The Arroyo Center is a federally funded research and development center sponsored by the United States Army.

¹The complete analysis results and methodology are presented in the author's dissertation of the same title, DRR-2256-A (RAND: Santa Monica, CA) February 2000, to be superceded by RGSD-152 (RAND: Santa Monica, CA), forthcoming.

SUMMARY

Over the past decade, the U.S. Army has been profoundly affected by changes in military missions, repositioning and reduction of forces, and a heightened pace of deployments. This study empirically examined whether these changes, coupled with normal personnel movements through units, have limited opportunities for officers to develop tactical skills. This documented briefing provides an overview of our results testing three hypotheses: (1) whether the tenure of key developmental assignments became shorter between 1990 and 1998, (2) whether the content of those assignments also changed in significant ways over the 1990s, and (3) whether earlier shifts in career patterns and training meant recent officers arrived in key positions with less cumulative experience than their counterparts in previous years.

We find that while some assignments have become shorter, especially for platoon leaders, on average the length of most key jobs in 1998 was about the same as it had been in 1990. There is stronger evidence of significant shifts in the content of those assignments. Most notably, in 1998 key assignments for Infantry² and Armor officers involved less field training (much less in the case of Armor officers) than they had in 1990. Finally, there did not appear to be substantial changes in the overall career patterns of officers, except again in the case of Lieutenants, who showed a rising propensity to serve on staffs at the expense of time as platoon leaders. Taken together, these trends suggest that the tactical foundation of recent Infantry and Armor officers was weaker in 1998 than it had been in previous years. The effects of this degradation are probably most serious at junior levels,

²The results presented here relate to Infantry *officers* rather than to Infantry *units*. Many Infantry officers serve in different kinds of units, including light (airborne or air assault) and mechanized. Because field training in light units is cheaper and generally subject to fewer space constraints than for heavy units, the declines in field training for Infantry officers as a whole may be overstated for those who spent the majority of their careers in light assignments, and perhaps understated for those officers who were primarily assigned to heavier units.

because the effects suggest a more limited base of experience for them to take forward into future assignments.

Concurrent with apparent declines in tactical developmental opportunities, changes in the national security environment and the Army's resulting efforts to address these changes imply an increase in the scope of tactical skills that are required. We thus posit the existence of a tactical "gap" that, if not addressed, could persist or even grow larger.

Policy alternatives to increase tactical exposure include efforts to increase the amount of time that officers spend in key positions or to raise the rates at which units train. We did not explore such options in depth in this study, as a thorough treatment of these alternatives was beyond the scope of this effort. We do, however, identify some steps that can be taken within the parameters of existing personnel and training policies that may increase the levels of tactical expertise for combat officers. These include options to raise the developmental value of already scheduled training events and to increase the number of these events for individual officers rather than for full units.

We conclude by arguing that the most important action the Army can take to improve the development of its officers, not only tactically but in all areas of leadership interest, is to establish a mechanism to monitor the content of unit assignments. We identify a number of alternatives for collecting relevant data, both from existing sources and by establishing new systems. Whatever its eventual form, an improved, empirically based system to better understand the developmental opportunities the Army provides is crucial to ensuring the adequate preparation of the officer corps now and in the future.

ACKNOWLEDGMENTS

Thank you to all of the Army personnel who assisted with this research, including those personnel in field units who provided data and shared their time and those on various staffs who offered valuable insights, additional data, and constructive feedback.

Here at RAND, this study benefited immensely from the guidance of Mike Polich and Ron Sortor, as well as Chip Leonard, Jim Dewar, Mike Hix, and Michael Kennedy. Any errors remain the sole responsibility of the author.

Keeping the Warfighting Edge
An Empirical Analysis of Army Officers'
Tactical Expertise Over the 1990s:
Summary Briefing

This study examined the question of whether opportunities for Army (specifically, Infantry and Armor) officers to develop their tactical expertise declined over the 1990s. This documented briefing describes the background of the analysis, reviews the primary findings, and concludes with a description of policy options to increase officers' tactical developmental opportunities during their unit assignments.

Research Question

Have opportunities for Army officers to develop their leadership skills declined over the 1990s?

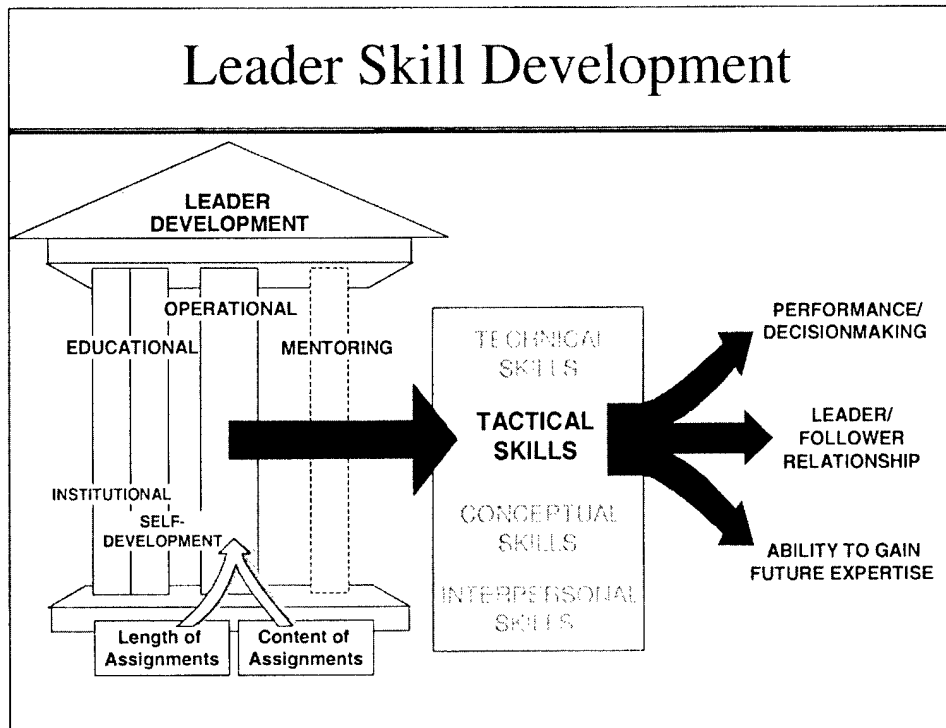
- Concern arose from interviews with field commanders, who perceived:
 - Reductions in tactical training opportunities
 - Less time in field units (changing assignment patterns)
- If these perceptions are correct, tactical abilities of officers could be undercut

Army DCSPER sponsored empirical examination of this issue

As a result of interviews with field commanders, our initial research question was whether the opportunities for Army officers to develop their leadership skills had declined over the course of the last decade. This concern, expressed repeatedly in interviews with commanders during the early stages of a larger RAND project addressing "TEMPO" issues, was attributed to two basic causes. First, unit commanders cited fewer opportunities for officers to engage in tactical training during their assignments to field units. Second, they perceived that officers were spending less time in those units, and in key developmental positions, than had been the case for their counterparts earlier in the 1990s. Their concern was that the effect of these changes would be a reduction in the tactical proficiency of the officer corps, both for today's officers as they continue to progress and for future generations of officers.

At the same time that many commanders we spoke with expressed this concern, others contested either or both aspects, claiming that levels of tactical training and/or career patterns were basically the same or even better than they had been during their own formative years. Given this disparity in the anecdotal evidence, the Army Deputy Chief of Staff

for Personnel (DCSPER) sponsored an empirical analysis of this important leader development issue, the results of which are presented here.



This chart depicts some of the basic relationships and theoretical underpinnings of our research. The broader psychological and sociological literature on learning and on the development of expertise indicates that there are three basic mechanisms through which skills can be fostered: education, "on-the-job training" (OJT), and mentoring. These mechanisms are generally reflected in the Army's leader development system as depicted in the figure on the left side of the chart above. The Army's system is also based on three "pillars," but they differ slightly from the three developmental mechanisms mentioned above. In the Army's leader development model, the pillars are institutional education (i.e., Army schools), operational experience (OJT), and self-development, or any actions that an officer might take on his own time to develop additional competencies. It may be more consistent with existing research to consider the Army's institutional and self-development pillars as subsets of a broader "educational" pillar, as shown above. Also, although the Army emphasizes the importance of mentoring throughout its leadership doctrine, it could be

formalized into a separate "pillar" to emphasize its critical developmental importance.

This research focused specifically on the operational experience, or OJT, pillar. We chose this focus because unit experience was the aspect with which commanders cited difficulties, but also because research consistently supports the benefits derived from putting theory into practice and learning in an applied setting. In the Army, this occurs primarily during officers' unit assignments, which also make up the majority of their careers (apart from time spent in schools, in transit, etc.). But time spent in unit assignments merely serves as a proxy for actual developmental opportunities; to more fully evaluate them, we looked both at time spent in various types of assignments and at what occurred during those assignments (their "content").

The box in the middle of the chart above shows the four areas of leadership skills (technical, tactical, conceptual, and interpersonal) that the Army's leader development system is intended to foster. Our research focused specifically on the tactical skills developed during unit assignments. Again, this was because tactical competence was the specific area of concern commanders focused on in our interviews, but also because tactical expertise is especially important to success in combat situations for at least three main reasons that are shown on the right side of the chart.

First, psychological research shows that people tend to revert to heuristic or intuitive models of decisionmaking when they are under stress, rather than on more systematic or rational processes. Given the high levels of stress associated with combat, it is therefore likely that officers will make decisions that rely heavily on what they have been exposed to firsthand. Providing the necessary depth and breadth of tactical experiences can therefore be expected to increase the likelihood of sound tactical decisions in high-pressure environments.

Second, studies have also shown the importance of expertise in establishing trust between leaders and their followers, and in bolstering commanders' credibility. Without a belief among soldiers that their commander is tactically sound, unit cohesion and discipline may be threatened during combat.

Finally, to some extent expertise begets expertise. That is, entering a new situation with a complex set of mental models allows new information to be processed more quickly, and to be stored with greater efficiency and relevance, which enhances the developmental benefit of that experience. Conversely, insufficient understandings slow the learning process, and an inadequate knowledge base may mean that officers would derive less benefit from future tactical opportunities. Thus, reaching the desired degree of expertise at each level in an officer's career ensures that effective development can continue in the future; if foundations are weak, however, later opportunities may be less useful.

Focus of Empirical Assessment

- Have opportunities for *Infantry and Armor officers* to develop their *tactical* skills declined over the 1990s?

Research Hypotheses:

- (1) Length of key assignments had gotten shorter
- (2) Tactical content of those assignments had declined
- (3) Incoming levels of expertise (i.e., career patterns) had decreased

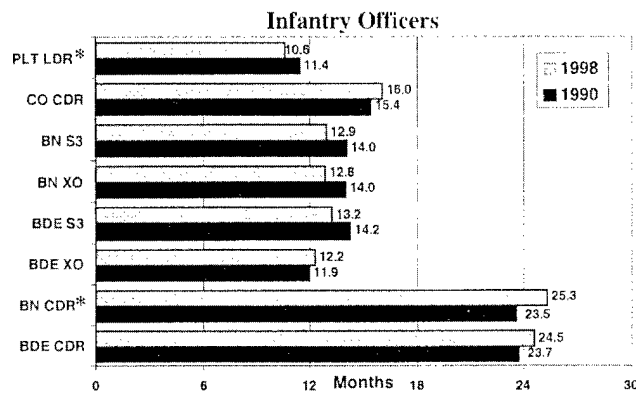
With this basic framework in mind, we turned to an investigation of the tactical developmental opportunities for officers over the 1990s. The magnitude of effort required led us to narrow our inquiry to officers in the combat arms branches, and specifically to Infantry and Armor officers. There were two reasons for the decision to focus on these branches: First, the concerns about tactical skill levels were most prevalent in combat arms units, and second, the implications of the perceived declines in tactical skills were thought to be most serious for these branches. This is because Infantry and Armor officers would likely be the commanders of combined arms teams at the battalion and brigade level during a wartime conflict, so their ability to effectively bring combat power from multiple branches to bear in a combat situation necessitates a firm tactical base. Thus while anecdotal evidence suggests that the trends we identify here probably hold across all combat arms branches, and perhaps for the entire officer corps as a whole, our analysis cannot be generalized to other populations without additional research.

With the focus described above, the more precise form of our research question became whether opportunities for *Infantry and Armor officers* to develop their *tactical* skills had declined over the 1990s.

From this, we developed three specific research hypotheses to test empirically: first, that the length of key developmental assignments had become shorter over time; second, that the tactical content of those assignments, irrespective of their length, had declined; and third, that officers were arriving in key positions with less expertise in the late 1990s than had been the case earlier in the decade.

(1) Length of Key Assignments

- Data for officers leaving key assignments in TOE Infantry and Armor units in 1990 and 1998, drawn from Officer Master File
 - Platoon Leaders
 - Battalion and brigade S3 and XOs
 - Company Commanders
 - Battalion and brigade commanders
- Changes smaller than expected for average assignments



- No significant changes for Armor officers

* = statistically significant (p < .10)

To examine our first hypothesis, that the length of key assignments had gotten shorter, we focused on eight key positions that were derived from a review of Army documents and discussions with Army experts. These were platoon leaders, company commanders, battalion and brigade training and operations officers (S3s) and executive officers (XOs), and battalion and brigade commanders. These eight assignments were chosen because of their perceived importance to tactical (and leader) development.

To test whether the length of these jobs had become shorter over time, we analyzed data drawn from the Army's Officer Master File (OMF). This file contains all of the personnel records for officers in the force at a given point in time. From this larger file, we extracted records for any officer departing one of our eight key positions in a Table of Organization and Equipment (TOE) Infantry or Armor unit in

either calendar year 1990 or calendar year 1998.³ We then compared the average length of like assignments in 1990 to those in 1998.

This comparison revealed few statistically significant differences; for Infantry officers, there were only two. The average platoon leader assignment dropped from 11.4 months in length to 10.6 months, while battalion commands got slightly longer, from 23.5 months in 1990 to 25.3 months in 1998.⁴ For Armor officers, there were no statistically significant changes over time.

There did not appear to be much support, therefore, for the perception voiced by field commanders that key positions had gotten shorter over time. There are at least three possible explanations for this discrepancy. First, it may be that there were shifts in the length of key positions, but that they occurred between periods not represented in our data set (e.g., between 1994 and 1998). Second, the belief that things had changed may represent a narrow perspective: In general, officers tended to judge tenure relative to their own experiences, often with little or no knowledge of broader Army trends. Depending on what their experiences had been, this may have led them to over- or underestimate changes between their experiences in the 1980s or early 1990s relative to what they observed recently as more senior officers. A third, related possibility is that officers we interviewed were commenting on trends that were reflected in the *distribution* of assignment tenures, although the overall averages stayed the same. If

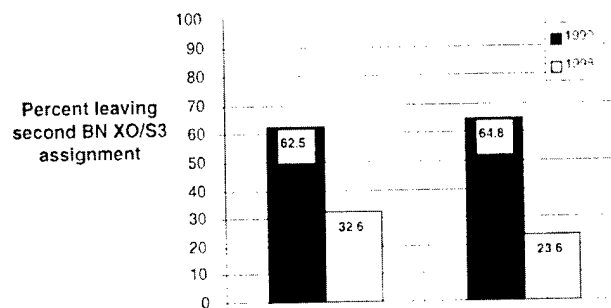
³We choose 1990 as our base year for comparison because the experiences at this point in time represent the experience levels of the set of officers who successfully prosecuted the United States' last major war. In choosing this year, we also hoped to avoid distortions that may have been caused by the stop-loss policies associated with the Gulf War. These policies were expected to have lengthened assignments for officers who would have left their jobs in 1991 and 1992, for the most part, the two years following the data we used here. As for 1998, we chose this because it was the most recent complete calendar year at the time we began our analysis.

⁴The difference in battalion command length, while statistically significant, is not considered to be of any practical importance. This result is due to the small number of officers (44 in 1990 and 32 in 1998), and a few aberrations in the length of second battalion commands in 1990. The average for first-time battalion commanders remained nearly identical between 1990 and 1998, averaging 24.7 months, which is typical.

some assignments had gotten shorter, but others had become much longer, then it is possible that the averages would have remained about the same but perceptions of shorter assignments, at least in some cases, would have been accurate. However, an analysis of the distributions showed that in almost every case they had become more narrow between 1990 and 1998 rather than more dispersed, so this possibility is not supported by the empirical evidence.

Greater Differences for Some Assignments

- Shorter first-time assignments for both IN and AR platoon leaders
- Large decrease in opportunities for repeat BQ assignments for Majors



Additional stratification of the overall averages showed that there were some other important differences not evident in the previous chart. First, platoon leader assignments for those officers leaving their first such position (i.e., who had not held at least one prior platoon leader assignment) got shorter for both Infantry and Armor officers between 1990 and 1998. For Infantry officers, first-time platoon leaders in 1998 spent just 11.4 months in that position, down from 12.7 months in 1990. First-time platoon leader assignments for Armor officers declined even more, falling from an average of 12.3 months in 1990 to 10.1 months in 1998. Further, less than half of all first-time Infantry and Armor platoon leaders in 1998 were leaving their second or more such assignment, suggesting that the majority of platoon leaders at the time were likely to serve in only one platoon leader position. This, coupled with shorter first-time assignments, means that more than half of the Infantry and Armor platoon leaders in 1998 could be expected to progress through the remainder of their Army careers with an average of less than 12 months of total time spent as platoon leaders.

In addition, there was a dramatic decrease in the opportunity for Majors to serve in repeat branch-qualifying (BQ) (i.e., battalion or brigade S3 or XO) assignments. Almost two-thirds of all Infantry and Armor officers departing a battalion S3 or XO position in 1990 had already held another BQ assignment as a Major. By 1998, this had fallen to about a third for Infantry officers and less than one-quarter for Armor officers. One of the specific aims of the Army's latest revision to its personnel management system, OPMS XXI, is to alleviate this problem by ensuring that all Majors who remain in the operational career field will serve at least 24 months in some combination of S3 or XO positions. However, even if this goal is achieved, our analysis shows that recent cohorts of Majors will have much less experience in these jobs than had been the case earlier in the decade. This shortfall will of course persist for this group of officers as they continue to advance.

(2) Content of Assignments

- No existing data on what officers did during key jobs
- Sampled CONUS Infantry and Armor battalion and brigade
 - Commanders;
 - XOs;
 - S3s; and
 - One company commander per battalion
- Collected data from 203 of these 345 officers
- Analysis focused on assignments since 1990 in warfighting brigades

Our second research hypothesis was that the tactical content of key assignments had declined over the 1990s. Unfortunately, information about activities that occur during assignments did not seem well-suited to historical analysis for at least three reasons. First, information about these activities usually reflects scheduled events and therefore may not include last-minute changes. Second, such information is not maintained consistently over time. Third, this information is not centrally located to allow for a broad-based investigation. Given these limitations, we ultimately determined that the only possible source of information about the activities officers had participated in during their assignments was the officers themselves. We therefore developed a data collection form that asked about various types of activities, for all assignments to TOE units at brigade level or below.

Our target population included all battalion and brigade commanders, XOs, S3s, and one company commander per battalion who were serving in TOE Infantry or Armor units in the continental United States (CONUS). Of these 345 officers, we collected data from 203, or about 60 percent. With most, we also conducted a face-to-face interview, both to review the data collection form and to discuss developmental issues more broadly.

Although we collected data about some assignments that dated back to the 1980s (for the more senior officers), we did not have enough information to reliably estimate changes prior to 1990. Our analysis thus focused on changes in the content of assignments in TOE brigades that began in 1990 or later.

Example of Field Training Data

(Similar Forms for Simulation)

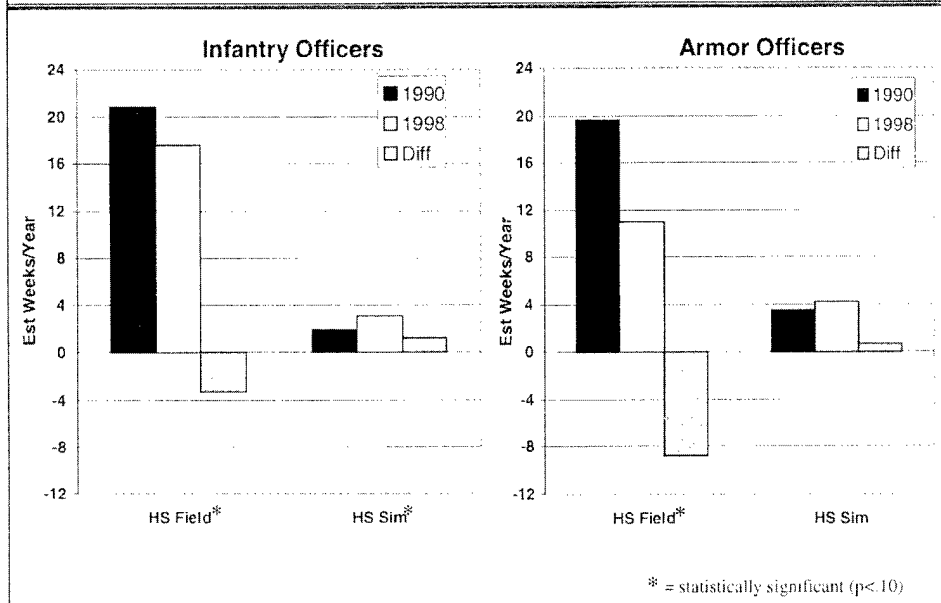
ASSIGNMENTS (in TOE Units)		FIELD TRAINING EVENTS (Total time spent -- in weeks)												
POSITION	Time in position (in MOY)	Table A/EM/1 OR LEX B/SM/5	PLT Level FTX	Other PLT Level Field Tag	CO Level FTX	CO Level CA/FTX	Other CO Level Field Tag	BN/DE Level FCX	BN/DE Level FTX	Other BN/DE Level Field Tag	OPFOR (Other that at CTC)	OPFOR (Other that at CTC)	CTC	CTC OPFOR
CO CDR														
BN S-3														
BN XO														
Other BN Staff ()														
BN CDR														
BDE S-3														
BDE XO														
Other BDE Staff ()														
BDE CDR														

- Estimated separate regression models to predict weeks spent in:
 - field training
 - simulation events
 } as a function of
 - (a) length of assignment
 - (b) year it began
 - (c) position type
 - (d) location

This chart shows an extract from our data collection forms. For each position held in a TOE brigade, the officer was asked to provide data on the number of weeks spent engaged in each of these field training events. Thus a battalion commander, for example, provided information about the content not only of his current command but for all previous command and staff assignments in TOE brigades earlier in his career. We also asked for similar information about simulation events and for deployments. The deployment data and resulting analysis are not included here, since our focus is on changes in tactical opportunities at home station, but can be found in the document referenced in the preface footnote.

We used these data, which (unlike the data from the OMF) represented not only 1990 and 1998 but also all intervening years, to estimate a series of regression models that predicted the average amount of time officers spent engaged in field training and simulation events over the 1990s. The model predictions were based on how long officers served in a given assignment, the year it began, the type of position, and location of the assignment (e.g., CONUS or Europe).

Clear Declines in Field Training



The bar charts above illustrate the results of our analysis of home-station training activities. Even after controlling for the factors mentioned above, we found strong evidence that the content of the average assignment for both Infantry and Armor officers had changed over the 1990s. For both branches, the amount of time spent during an average 12-month assignment engaged in field training was estimated to have fallen continuously over the 1990s. For Infantry officers the total decline was about three weeks over the nine-year period, falling from an average of almost 21 weeks annually in 1990 to 17.6 weeks in 1998. For Armor officers, field training time was estimated to have fallen by almost half, from an average of almost 20 weeks per year in 1990 to just under 11 weeks in 1998.

For Infantry officers, time spent in simulations increased from about two weeks per year in 1990 to over three weeks annually in 1998. There was no statistically significant change in the amount of time Armor officers spent in simulation training, which remained fairly constant at around four weeks per year throughout the 1990s.

Overall, then, it appears that an average year in a TOE brigade in fact involved increasingly less field training over the 1990s, especially for Armor officers. Infantry officers supplemented their field training with slightly more simulation, though Armor officers used simulation at about the same rates over time. By inference, officers had fewer opportunities to practice fieldcraft and to develop their tactical competence. This does not necessarily mean that they are not tactically competent, only that they had fewer chances to engage in applied learning than had like officers earlier in the decade.

(3) Changes in Cumulative Experience

- Evaluated OMF records of officers' complete assignment histories (for officers who left key assignments in 1990 or 1998)
- Looked at total time in assignments, TOE vs. TDA time, leadership vs. staff time
 - For Majors and above, also total MAJ BQ time
- Judged TOE, leadership and BQ time as better for tactical purposes

The third hypothesis we tested was whether officers were arriving in key positions with different career histories than had been the case earlier in the decade. Some commanders reported that incoming officers had lower initial levels of tactical expertise than had been the case for like officers earlier in the 1990s. In many cases, commanders attributed this decline to officers' having spent time earlier in their careers in units and/or jobs that had not allowed them to engage in enough tactical practice.

To test this hypothesis, we again relied on the Officer Master File, but used the entire, cumulative career histories for the officers who had left key jobs in 1990 or 1998 rather than only their most recent assignments. Evaluating each officer's career as a whole, we looked at three basic categories of time. First, we compared the total amount of time that officers had spent in unit assignments to determine whether they were arriving in key positions earlier in their careers (as some had claimed) than they had in the past. We then looked more in depth at the type of unit assignments that composed the overall totals. We divided the total time into two basic categories: first, time spent in TOE units versus time spent in Table of Distribution and Allowances

(TDA) organizations, and second, time spent in leadership (i.e., command and platoon leader) assignments versus time spent in staff positions. For Majors and above, we further examined a subset of staff time--that spent in battalion or brigade S3 and XO assignments.

We compared the overall averages in these categories in 1990 with those in 1998. We judged time in TOE units to be more tactically beneficial than time in TDA organizations. Time spent in leadership and Major BQ positions was also presumed to be more tactically rich than other staff positions.

Fewer Changes Than Expected

- For IN, platoon leaders worst off, most more-senior officers arrived into latest key assignment with equal or "better" experience

IN	TOT Time	TOE	TDA	LDRSHP	STF	MAJ BQ
PLT LDR	-					
CO CDR	+	+		+		
BN S3		+	-			
BN XO	-		-			
BDE S3		+	-			
BDE XO	-		-			
BN CDR	-	+	-	+	-	+
BDE CDR			-			+

- For AR, same trends for platoon leaders, few other changes

AR	TOT Time	TOE	TDA	LDRSHP	STF	MAJ BQ
PLT LDR						
CO CDR		+		+		
BN S3						
BN XO						
BDE S3						
BDE XO	-					
BN CDR		+	-			
BDE CDR						

<input type="checkbox"/>	= more tactically useful time in 1998
<input checked="" type="checkbox"/>	= less tactically useful time in 1998
<input type="checkbox"/>	= no significant change

In general, we found fewer changes in officers' career histories than anecdote had led us to expect. In the charts above, cells with a "plus" or "minus" sign indicate a statistically significant change between 1990 and 1998; that is, a "minus" sign for Infantry platoon leaders in the "TOE" column indicates that platoon leaders in 1998 had spent less cumulative time in TOE unit assignments during their careers (through the end of their most recent platoon leader assignment) than had like platoon leaders in 1990. Blank cells indicate no significant difference between 1990 and 1998.

For Infantry officers, the largest changes were evident for platoon leaders, who in 1998 left their platoons having spent less time overall in units, and more of their unit time in TDA and staff positions than had like officers in 1990. Company commanders in 1998 had actually spent more time in units, because of more time in TOE and leadership (in this case, platoon leader) assignments, than had outgoing commanders in 1990. The primary difference for battalion S3s and XOs was less time spent in branch-qualifying assignments.

Perhaps most surprisingly, we did not find evidence that Majors in 1998 had spent significantly more time in TDA positions than had Majors in 1990. Because of reported increases over the 1990s in requirements for post-company command Captains to serve in TDA positions (e.g., as Reserve Component advisors and in Recruiting command), we expected that Majors in 1998 would have spent much more time in TDA assignments than had like officers in 1990. Our data did not support these expectations: Instead, more recent Majors had spent significantly *less* time in TDA positions when compared with earlier officers.

There are a number of possible explanations for this result. One is that the purported increases in TDA demand may have been recent enough that they would not be evident in career histories of the group of officers who entered an S3 or XO position in 1996 or 1997 (and thus who exited in 1998). After accounting for other changes in force structure, manning, etc., it is also possible that the TDA burden has either not shifted that substantially, or that any increases were principally borne by those officers who did not later go on to get an XO or S3 assignment in an Armor or Infantry unit. Our data did not allow us to test these ideas. However, additional data provided by the Army's Personnel Command show that the number of Captains serving in TDA positions has remained basically constant in percentage terms over the 1990s.

Contrary to widespread belief in the Army, it does not appear that the relative burden of TDA assignments has increased, at least since 1993 (the earliest year for which data were available). The most plausible explanation for this misconception may be that perceptions of greater demand for BQ Captains are based on a *shift* in how those positions are allocated, rather than on a rise in the overall level. The number of authorized positions for BQ Captains far exceeds the supply, and has for a number of years. Because not all positions can be filled, the Army's Personnel Command must generate a prioritized plan to distribute the available post-command Captains across those authorized positions. Some of the more recent TDA requirements, such as support to Reserve Components, are congressionally mandated and must be manned at 100 percent of the authorizations. Thus it may be that although the

overall percentage of TDA assignments has remained constant over the 1990s, an increasing proportion of assignments has been allocated to Recruiting Command or the Reserve Components, for example, while fewer have been allocated to TDA organizations that traditionally received a higher percentage (e.g., Active Army support command staffs).

Armor officers showed evidence of the same basic patterns, but with even fewer significant changes. Again, platoon leaders in 1998 had spent more time in TDA staff positions, although these increases were not large. Declines in BQ time for Majors were not apparent for any group except battalion XO's, which suggests that the declines in opportunity for repeat BQ positions occurred later for Armor officers (and were thus not evident in this cohort of officers) than was the case for Infantry officers. And, like Infantry officers, there was no evidence of increases in the amount of time Majors had spent in TDA assignments after their company commands. There were few changes at more-senior levels, although battalion commanders had spent more time overall in TOE positions and less in TDA organizations.

Synthesis: Infantry Officers¹

	Length of Most Recent Assignment	Content of Most Recent Assignment	Time in Prior Assignments	Content of Prior Assignments	Likely Net Effect on Tactical Expertise
PLT LDRs	↓	↓	↓	↓	↓
CO CDRs	↔	↓	↑	↔	↔
BN S3/XOs	↔	↓	↑	↑	↓
BDE S3/XOs	↔	↓	↑	↔	↔
BN CDRs	↑	↓	↑	?	↑
BDE CDRs	↔	↓	↑	?	↑

- Overall, likely declines in tactical expertise for platoon leaders and Majors

¹ Width of arrows in table varies to indicate relative weights

This chart synthesizes the information presented earlier about our three research hypotheses for Infantry officers and attempts to draw overall conclusions about the likely effects of any changes over time on the tactical expertise of the officers who left key assignments in 1998. In general, it suggests that relative to 1990, the most serious problems in terms of tactical expertise relate to platoon leaders, and, to a lesser extent, battalion S3s and XOs. There is no clear evidence of declines in the average levels of tactical expertise for company commanders or brigade S3s and XOs, and battalion and brigade commanders may actually be more tactically skilled than were like officers in 1990.

In this chart and the one that follows, a downward arrow indicates a negative (in terms of tactical utility) trend between 1990 and 1998, a double-sided arrow represents no significant change over the 1990s, and an upward arrow represents a positive trend. Further, the width of the arrows represents a subjective judgment about the weight of the changes over time; for example, a wider downward arrow suggests a stronger decline than a more narrow downward arrow.

The first column in the chart above summarizes the results of hypothesis 1, that key assignments had gotten shorter between 1990 and 1998. The second column reports the findings of hypothesis 2, that assignments involved fewer tactical training opportunities over the 1990s. The third column shows the findings from hypothesis 3, that officers' cumulative careers at entry into key positions involved less "tactically beneficial" time at the end of the 1990s than they had earlier. The fourth column shows the expected changes in the content of these earlier assignments, based on when during an officer's career those assignments would probably have been held and the estimated levels of training that prevailed at that time based on analysis for hypothesis 2. For example, Infantry company commanders in 1998 had likely been platoon leaders in the mid-1990s. Given downward trends in field training levels, however, their longer platoon leader assignments probably offset these declines, so the net effect is judged to be about equal. The last column shows the expected cumulative effects of all of the changes described in the preceding columns on the overall levels of tactical expertise for officers in 1998 relative to their peers in 1990.

As mentioned above, platoon leaders appear to be the greatest cause for concern. Their assignments got shorter and involved less field training, more of their earlier careers had been spent in TDA and staff positions, and the additional time they had spent in TOE units (not as platoon leaders) was likely to have been recent (in times of reduced field training). Therefore, it appears probable that the tactical foundation of recent Infantry platoon leaders is more shaky than that of like officers in 1990.

Company commanders may not be as severely affected by training declines, since there was no large change in the length of their company command assignments and they had spent more time in TOE and leadership (platoon leader) assignments earlier in their careers. Although the length of battalion S3 and XO assignments did not change significantly for Infantry officers, the large decline in opportunities for a second branch-qualifying assignment does suggest that these officers are likely to develop less expertise in higher-echelon operations than did earlier Majors. On the positive side, however, recent S3s and XOs had spent

more time in TOE and leadership positions prior to their BQ jobs. Some of these assignments were likely to have been in tactically intense times (e.g., as company commanders around the time of the Gulf War), and the content of these assignments was thus likely to have helped them to establish a sound tactical foundation. Overall, then, these Majors are probably less adept at battalion- and brigade-level operations than were earlier Majors because of declines in total BQ time, but the effects of these decreases may be mostly mitigated by a strong base in tactical knowledge developed earlier.

Brigade S3s and XO's and battalion and brigade commanders all saw either no change or a slight rise in the length of their most recent key assignments. They also experienced fewer opportunities to engage in field training than did earlier like officers, but these decreases came primarily in time spent in lower-echelon (i.e., platoon- and company-level) events rather than higher-echelon exercises. Thus, the principal effect of these decreases in field training may in fact have been to deprive more-junior officers of real-time guidance from more-experienced commanders, rather than a decrease in opportunities for these more-senior officers to practice battalion- and brigade-level tasks. But overall, there is little evidence to suggest that senior Majors are any worse off than they had been in the early 1990s. As for battalion and brigade commanders, these changes suggest that these officers may in fact have had slightly more tactical practice over the course of their careers than did similar commanders in 1990.

Synthesis: Armor Officers¹

	Length of Most Recent Assignment	Content of Most Recent Assignment	Time in Prior Assignments	Content of Prior Assignments	Likely Net Effect on Tactical Expertise
PLT LDRs	↓	↓	↓	↓	↓
CO CDRs	↔	↓	↑	↔	↔
BN S3/XOs	↔	↓	↔	↔	↓
BDE S3/XOs	↔	↓	↔	↔	↓
BN CDRs	↔	↓	↑	?	↓
BDE CDRs	↔	↓	↔	?	↓

- Platoon leaders worst off
- Declines in BN/BDE-level exercises also affect proficiency in higher-echelon operations for more-senior officers

¹ Width of arrows in table varies to indicate relative weights

For Armor officers the trends are more daunting, primarily because of the large declines in unit field training over the 1990s. This decline occurred about equally in both small-unit and larger-echelon training, which suggests that irrespective of prior experience, battalion- and brigade-level commanders and staffs in 1998 would be less proficient in large-unit operations than were like officers in 1990.

The training declines are also likely to have their largest effects for the youngest officers, because they would have had little or no exposure to times when opportunities to engage in tactical practice were more plentiful. This, coupled with shorter platoon leader assignments overall, which appears to have occurred because more time was devoted to TDA staff positions, suggests that the tactical foundations of Armor platoon leaders are likely to be much weaker than they had been earlier in the 1990s.

Trends for company commanders are less negative. The average length of their commands did not change, and, although these assignments involved less tactical training, more time spent in earlier TOE and

leadership positions (at a time when training occurred with greater frequency) may have offset some of the unit declines during these officers' most recent commands. Thus, the cumulative effect of these changes does not imply a major change in the level of tactical exposure for this group of officers when their careers are taken as a whole.

As with Infantry officers, the large decline in opportunities for repeat BQ assignments for battalion S3s and XO's suggests that even though the average length of *each* assignment remained roughly constant, *total* BQ time is likely to have decreased. This trend, coupled with lower training levels in recent years, suggests that these officers will be less proficient in battalion- and brigade-level operations.

At more-senior levels, there were no large changes in terms of the length of assignments or in opportunities to hold such jobs more than once. Nor were there major shifts in how their time in tactically useful jobs over the course of their careers had been spent, except for battalion commanders, who in 1998 had spent more time in tactically beneficial positions than had earlier commanders. Again, because more-senior officers would have served in most of their earlier key developmental positions in the early to mid 1980s, a time period for which we have no information about unit training rates, it is difficult to know whether the content of these assignments differed significantly from the experiences of commanders in 1990, who would have held similar jobs even earlier, in the early to mid 1970s. However, large decreases in training over the 1990s, declines that occurred about equally between platoon- and company-level and battalion- and brigade-level training, suggest that more-recent commanders are likely to be less proficient in maneuvering and synchronizing combined arms teams. Thus, these officers might be less adept should they be called upon today to serve as task force commanders than were like officers during the Gulf War. In addition, the subset of this group that will eventually go on to Division and Corps command may be less able to effectively mentor their subordinates in battalion- and brigade-level operations, perpetuating the negative effects of recent declines.

Are Changes a Problem?

- Measured changes less dramatic than anecdotal evidence led us to expect
 - Most changes are recent
 - But these changes, if compounded over time, suggest tactical shortfalls will become larger in the future
- Determining whether changes require action essentially a question of adequacy - does tactical exposure meet tactical requirements?
- Requirements, if anything, have risen since end of Gulf War
⇒ Trends moving in opposite directions: suggests "tactical gap"

Do the results presented above necessarily imply a problem? The good news is that many of the changes that anecdotes had led us to expect were not in fact apparent. For example, there does not appear to be significant cause for concern about the tactical expertise of Captains and more-senior officers, at least at the aggregate level, relative to similar officers who proved effective in our last major ground war. However, we did find evidence to suggest that many of the anecdotal concerns expressed in the field may hold for more-junior officers. This implies that the tactical worries expressed by some may in fact become even more serious and/or widespread in the future.

This judgment is based on a comparison relative to 1990 (and is based on the assumption that the "supply" of tactical skills that officers possessed at that time was sufficient to meet what was required, as evidenced by the successful prosecution of the Gulf War). However, the determination of whether the changes described here represent a problem must be based on an evaluation of the adequacy of tactical skills relative not to earlier standards, but to tactical requirements for the present and future.

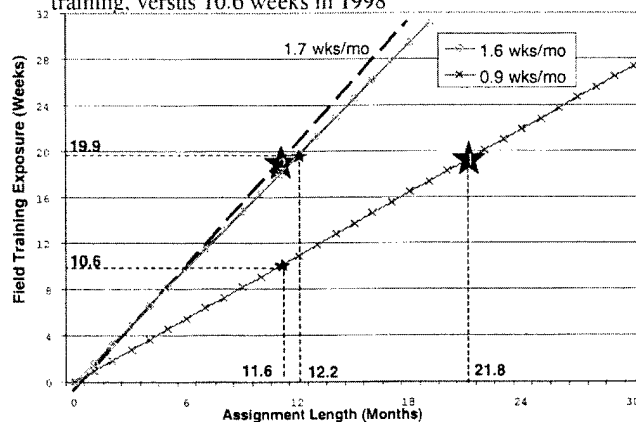
Unfortunately, trends suggest that the need for officers to engage in practice of tactical skills has probably expanded over the 1990s, for

two main reasons. First, the Army is now preparing more deliberately for the "full spectrum" of operations, and additional missions presumably require officers to be more proficient across a broader range of tactical skills. Second, at one end of that spectrum, the warfighting mission in particular has become increasingly complex and now incorporates asymmetric threats, intermingling of civilians and combatants, chemical and biological weapons, etc. This complexity also implies that officers will have to master additional tactical skills, and be more adaptable, a quality which rests heavily on a sound tactical foundation. Further, these trends that imply rising tactical requirements are likely to continue into the foreseeable future as the Army adapts its training strategies, personnel policies, and force structure and organization to accommodate these realities.

This divergence--decreasing opportunities to develop tactical competence concurrent with rising requirements for such expertise--strongly suggests the existence of a tactical gap. Without intervention, this gap can be expected to persist into the future.

Framework Suggests Two Policy Levers: Increase Assignment Length and/or Unit Training Rates

- Implied changes could be quite large
 - For example, Armor PLT LDRs in 1990 spent 19.9 weeks in field training, versus 10.6 weeks in 1998



Many factors affect both areas, and interactions may lead to unforeseen results

What then can the Army do to address the hypothesized gap? The framework employed in our analysis suggests one of two possible interventions, either (1) increase the amount of time that officers spend in key assignments or (2) raise the rates at which units train.

However, pursuing either option could involve significant departures from current practices. The chart above demonstrates the magnitude of the changes that might be required, for example, for Armor platoon leaders. In 1990, these officers are estimated to have spent a total of 19.9 weeks in field training during their platoon leader assignments, compared with just 10.6 weeks of total field training by 1998. These estimates are a function of the length of the platoon leaders' assignments and the rate at which their units trained. In 1990, the average platoon leader assignment was 12.2 months, and the average unit was estimated to have spent just over a week and a half of each month engaged in field training. By 1998, assignments were slightly shorter (11.6 months, on average), and the unit training rate had fallen by almost half to under one week per month.

If the Army determined that platoon leaders should in fact get no less than 20 total weeks of field training (i.e., return to 1990 levels), reaching this objective would require nearly doubling the length of platoon leader assignments to 21.8 months (if unit training rates were held constant), or increasing the unit training rate to 1.7 weeks per month (if assignment lengths did not change). Some combination of longer assignments and higher training rates could also be pursued, but the bottom line is that overcoming some of the decreases in tactical opportunities described here could require significant shifts in current practices.

Further, both personnel and training policies are designed to meet numerous and sometimes competing objectives. Making such large changes for leader development purposes might lead to suboptimization in other areas (e.g., longer command tours could lead to shortfalls of experienced officers to meet needs elsewhere in the Army, or higher training rates for some units could hypothetically divert funds away from modernization). Finally, the Army is currently undergoing a number of large changes that can be expected to affect career patterns and training, such as the initiative to fully man all divisional units and the fielding of a new training strategy. Many of the details for implementing these new policies have not yet been fleshed out; determining whether any additional changes might be warranted for leader development purposes in the face of this uncertainty could be a sizable challenge. Thus, meeting all of the Army's diverse needs further complicates finding an effective solution to developmental problems, at least in the short term, through large changes in personnel and/or training policies.

Alternatives Within Existing Constraints

- Increase developmental quality of existing events
 - Strengthen mentoring through better instruction, with feedback (at schools, home station, CTCs)
 - Re-emphasize training doctrine, esp. preparation and recovery/retraining phases
- Increase exposure for individual officers, even if units can't train more
 - Staff exercises, ride-alongs, OPFOR, O/Cs, etc.
 - Stress application of tactical skills in unit Leader Development Plans
- Special efforts to redress "experience trough"
 - Add exercises at CCC, maybe CGSC
 - Increase training assistance available at home station

Despite these constraints, there are options, at least in the short term, that the Army can pursue to try to increase tactical expertise. First, efforts can be made to increase the developmental quality of already-scheduled training events. Our interviews, along with other research, indicate that the concept of mentoring (and more specifically, coaching, which would likely be most useful in this context) is poorly understood by most officers. Rather than merely re-emphasizing the importance of mentoring, the Army may need to be more deliberate in instructing its officers how to coach effectively. Efforts to reinforce this instruction with feedback about capitalizing on coaching opportunities and the quality of coaching--provided at schools, in units, and at places like the Combat Training Centers (CTCs)--could enhance the transfer of tactical knowledge from older to younger officers and make existing training events more developmentally useful.

Another key aspect of training quality relates to the full execution of training doctrine. Again, our interviews indicated that in some cases, units do not have the time to fully prepare for, recover

from, and integrate lessons from some exercises, and instead focus solely on the execution phase of training. Fully addressing this problem may require alleviating time constraints, through concerted efforts on the part of senior leadership and/or by increasing funding for programs that would reduce training distractors. If such relief is not forthcoming, commanders may need to take unorthodox steps to ensure that officers are exposed to the full training cycle. For example, if the commander does not have time to take a group of platoon leaders out on a terrain walk prior to a field exercise, this could perhaps be done with another experienced officer or noncommissioned officer instead. These types of work arounds may become increasingly important to preserve the long-term integrity of the Army's training management system.

Second, even if units cannot train more, it may still be possible for commanders to increase individual officers' exposure to tactical events. This may require departures from current practices, the practicality of which would have to be assessed in greater detail. Options include increasing the number of ride alongs, check rides, and Observer/Controller (O/C) and/or Opposing Force (OPFOR) opportunities, to raise exposure levels by "piggybacking" on other units' events. In addition, adding field exercises for junior officers on unit staffs could be done fairly inexpensively in light infantry units (but would obviously cost more for units with heavier equipment). These costs may be warranted by the opportunity to increase the tactical exposure for young officers who may not be getting as much tactical practice as they should. Another key step could be to increase the emphasis on "real practice" in unit Leader Development Plans (LDPs), shifting the plans' focus from study or reading and discussion to Tactical Exercises Without Troops (TEWTs) or other events that are more applied in nature.

Finally, recent declines in tactical exposure may also mean that current junior officers are not as well-prepared to guide future subordinates as might be desired. A basic assumption imbedded in the nature of the Army's closed labor market is that today's trainers (i.e., more-senior officers) are sufficiently tactically proficient to provide meaningful guidance to more-junior leaders. The results presented

earlier suggest that this assumption may have become more tenuous in recent years, especially for Lieutenants (and to a lesser degree for Majors). Thus some additional, short-term actions might be required to specifically address the "experience trough" for these officers. Options include increasing opportunities for tactical practice at the Captains Career Course (CCC), and perhaps at the Command and General Staff College (CGSC), by adding lower-echelon field and/or simulation exercises. Another alternative is to more deliberately supplement the experience of junior officers with the expertise of more-senior (presumably more tactically sound) officers, e.g., by increasing local oversight of unit training and LDPS.

Improved Monitoring of Developmental Opportunities Key To Effective Leader Development

Two possible approaches:

(1) Monitor "exposure"

- Improve "usability" of personnel files, either at unit or PERSCOM level; and
- Track activity rates (either at unit or individual level)
 - E.g., centralize collection of training briefs/schedules, monitor training/budget data on executed miles or ammo expenditures, survey officers or commanders, include tear-off sheet on OERs

(2) Monitor demonstrated expertise

- Assess field exercises at schools
- Evaluate trends in unit performance at CTCs
- Sample commanders about tactical acumen of subordinates

Although any or all of the aforementioned options could be pursued to increase officers' opportunities to develop tactical expertise during their unit assignments, there is a larger, more systemic issue the Army should address. Effective operation of its entire leader development system is likely to remain a challenge in light of the fluid environment both within and outside the Army. Meeting this challenge requires a more robust system of monitoring and feedback, especially of the content of unit assignments.

This could be accomplished in one of two ways. One option is to monitor "exposure," or the amount of time spent in various activities, as was done in this study. This would require improving the quality of personnel data (either by passing the burden for greater specificity and consistency to unit personnel clerks or by dedicating staff to this effort at the Total Army Personnel Command) and marrying this improvement to additional data about training levels.

Gathering training data could be done either for units or, more ideally, at the individual officer level. For units, options for understanding trends include monitoring executed training miles and ammunition expenditures (although this metric is obviously more

appropriate for unit types whose training is closely tied to weapons systems), expanding and standardizing the data collected about unit train-ups for the Combat Training Centers, or developing a centralized database using unit training calendars and Quarterly Training Briefs (QTBs). At the individual officer level, options include surveying officers directly about their experiences, surveying commanders about the experiences of their subordinates, or creating a "tear-off" sheet that could be submitted (anonymously) with an officer's Officer Evaluation Report (OER).

A second set of options for assessing the developmental content of unit assignments includes trying to measure expertise more directly, rather than relying on exposure as an approximation. This could be done by expanding existing efforts at Army schools to include a rated field exercise (to indicate cohort trends over time); analyzing unit performance data collected at CTCs (although obtaining reliable indicators of officers' performance, separate from their units, may be difficult); or by sampling local commanders about the tactical acumen of their subordinates with assessments based on exams, apprenticeships, actual demonstrations of ability, etc.

Conclusions

- Analysis indicates potential decline in tactical expertise, most pronounced among the more-junior officers
 - Trend more noticeable for AR officers than for IN
 - Many changes appear recent
 - May mean problems will intensify in the future, both in ability to operate and to mentor effectively
- Given growing tactical requirements, any “gap” is likely to persist and perhaps grow larger in the absence of any action
- Options are available to address this, at least in part, without major disruptions in other policy areas
- Most important step is to develop and implement monitoring system to ensure developmental goals continue to be met

To summarize, our analysis indicates that there is some evidence of declines in tactical expertise, although these declines are most pronounced among Lieutenants. These trends appear to be more serious for Armor officers than they are for Infantry, and to be more recent than some anecdotes from field commanders led us to expect. Although this implies that the tactical abilities of most Captains and above may be less reason for concern than some perceive, at least in the aggregate, it also suggests that the declines for Lieutenants in some sense represent the “tip of the iceberg.” That is, if the youngest officers today are less able to establish a firm tactical foundation, small-unit commanders might be less proficient in warfighting skills in the event of an immediate conflict. And perhaps equally if not more important, they may not be able to effectively develop the officers who will come after them.

Further, the declines in tactical exposure are occurring at a time when logical argument indicates that tactical requirements are rising.

Thus, any resulting tactical "gap" can be expected to persist and perhaps grow larger in the absence of concerted action.

This documented briefing outlined some options available, at least in the short term, to address this issue, without drastic changes to either personnel or training policies. Such changes may in fact be warranted, but would require more-detailed assessment to examine their full implications.

Finally, we argue that the most important step the Army can take to ensure its objective of continuing to develop high-quality, tactically competent leaders is to establish a monitoring system to ensure developmental goals continue to be met. Such a system would allow for more-immediate oversight of officers' experiences in their unit assignments, which in turn would allow for more-informed decisions about adjustments to developmental responsibilities during either assignments and/or formal schooling. Such information about the developmental opportunities the Army provides to its officers would greatly enhance its ability to achieve its leader-development goals.