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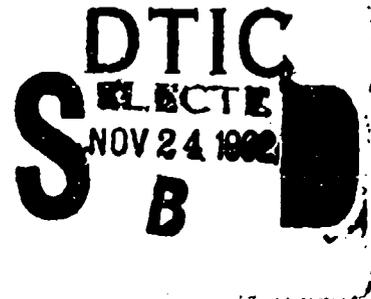
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U.S. Army Research Institute
for the Behavioral and Social Sciences

Research Report 1628

Battalion Commanders' Survey: Tactical Commanders Development Course Feedback

James W. Lussier and Douglas J. Litavec
U.S. Army Research Institute



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13. ABSTRACT (Maximum 200 words) For this report, researchers interviewed 48 battalion commanders to provide feedback for the battalion-level Tactical Commanders Development Course (TCDC), which is part of the program of the Command and General Staff College at Fort Leavenworth, Kansas. The interviews focused on training, preparing, and commanding a task force at a combat training center or in Operation Desert Storm. Topics included commander's intent, the planning process, decision support tools, rehearsal techniques, battle drills and formations, training, and leadership. Overall, the commanders rated TCDC very highly. They offered advice, described techniques they developed, and identified problem areas for which they still require guidance. The report should be of interest to battalion-level commanders and staffs and to those engaged in training tactical skills at this level.			
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Research Report 1628

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FOREWORD

The Fort Leavenworth Field Unit of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) supports the Combined Arms Command (CAC) by conducting research on human performance issues of command and control. In May 1989, the Tactical Commanders Development Course (TCDC) began training battalion commander designees in the techniques of synchronizing task-force-level operations. After these officers took command of a battalion, trained their units, and commanded through a rotation at the National Training Center or the Joint Readiness Training Center, they were in a good position to judge the value of the TCDC training. ARI interviewed these officers, as well as experienced battalion commanders who had assumed command prior to the advent of TCDC and, when the opportunity arose, officers who commanded battalions in Operation Desert Storm. In all, 48 commanders provided valuable insights into the business of tactical command--identifying what they want in a training course, how they go about training and preparing their battalions, and what techniques work and do not work at the training centers and in combat. This report represents a concise compilation of the commanders' views. It should be of great interest not only to TCDC but also to officers working at the battalion level and to those engaged in the art and science of leader development throughout the military services.

This research was funded under the task entitled Improved Methods of Command Group Training. It was initiated at the request of the Commander of the CAC. In August 1990, an interim report was provided to the CAC Commander, although few experienced TCDC graduates were available until after their return from the war in the Persian Gulf. Feedback updates were provided to TCDC periodically. This report was given to TCDC in March 1992.



EDGAR M. JOHNSON
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The authors wish to thank the 48 battalion and squadron commanders who generously gave their time, shared their experiences, and took care to make sure we understood them. Their insights helped the interviewers to a new and better understanding of the command process.

**BATTALION COMMANDERS' SURVEY: TACTICAL COMMANDERS DEVELOPMENT
COURSE FEEDBACK**

EXECUTIVE SUMMARY

Requirement:

The Commander of the Combined Arms Command requested that the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) interview graduates of the battalion-level Tactical Commanders Development Course (TCDC). TCDC, which is part of the School for Command Preparation at Fort Leavenworth, Kansas, is a 2-week course for officers designated to become battalion commanders. The purpose of the interviews was to provide information to TCDC to assess the effectiveness of the program and guide future course development.

Procedure:

Forty-eight battalion commanders were interviewed on their return from either the National Training Center, Joint Readiness Training Center, or Operation Desert Storm. Both graduates and nongraduates of TCDC were interviewed. At the time of the interviews, the commander had been in command for an average of 1 year. The commanders provided their overall assessment of TCDC's strengths and weaknesses and recommended course improvements. The commanders discussed problem areas in tactical command and control that they believed the course should address. Also, they provided advice and opinions about a variety of tactical issues, including commander's intent, the planning process, decision support tools, rehearsal techniques, battle drills, training, and leadership.

Findings:

The assessment of TCDC was very positive. Almost all believed it to be one of the best courses in the Army. The commanders described positive impacts the course made on their performance, whether at a combat training center or in combat. Some aspects of TCDC considered especially valuable were the classroom discussions, the interaction with other branches, the emphasis on how to speed up planning, the treatment of rehearsal techniques, and the course handouts and battle book.

Most of the recommended changes to the course involved expanding topics and including material that the commanders felt

was important but had not received enough attention in the course. Some of these topics are combat support service (CSS) functions, fratricide, psychological aspects of combat, monitoring and controlling execution, and planning and preparing when time is limited. Also, there was an overall desire to see the course lengthened by about a week (often at the expense of the Pre-Command Course). Two areas that drew some negative comments were the portion of the course on intelligence and use of the JANUS simulation. Overall, however, these two aspects were viewed positively more often than negatively. JANUS was called a great training tool by many of the officers, and several singled out the Intelligence Preparation of the Battlefield (IPB) and threat laydown as the most beneficial parts of the course.

Advice to TCDC and to new battalion commanders was offered on a variety of topics. The following are some examples of the advice. Commanders should concentrate training at the platoon level and personally conduct and verify the training. Playbooks of battle drills should be developed. Recommended "plays" include CSS activities, e.g., refuel and rearm during a firefight and recovery of damaged vehicle. The commanders emphasized the value of good rehearsals with strong commander involvement. They often mentioned the importance of sleep discipline, with the commander leading by example. Some commanders described useful "grass drills," in which crews could master the maneuvers before exercising in actual vehicles.

Utilization of Findings:

The report will assist the School for Command Preparation, Command and General Staff College, in assessing the effectiveness of TCDC and in guiding its future development. Additionally, the information in this report will assist battalion commanders in training and commanding their units.

**BATTALION COMMANDERS' SURVEY: TACTICAL COMMANDERS DEVELOPMENT
COURSE FEEDBACK**

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BATTALION COMMANDERS' SURVEY: TACTICAL COMMANDERS DEVELOPMENT
COURSE FEEDBACK

INTRODUCTION

This report provides the results of a series of battalion commander interviews conducted by the Army Research Institute from February 1990 through August 1991. In total, 48 commanders were interviewed. Two-thirds of the commanders were interviewed after they had commanded at a National Training Center (NTC) or Joint Readiness Training Center (JRTC) rotation, usually within 2 weeks of their return from the combat training center (CTC). The other one-third commanded battalions in Desert Storm and were usually interviewed within 2 months of their return to the United States.

The primary purpose of the interviews was to provide feedback to the School for Command Preparation, a directorate of the Command and General Staff College at Fort Leavenworth. In particular, the report is directed at the battalion level of the Tactical Commanders Development Course (TCDC). Participants were chosen to obtain the perspective from commanders who had not been through TCDC as well as from those who had this experience. All the participants were generous with their time; most appreciated the opportunity to pass on some of what they had learned during their command experiences. In addition to TCDC, the information they provide should be of interest to all new commanders and battalion commander designees.

A number of questions were asked of all commanders. For example, they were asked about how they trained and prepared their battalions and about what tasks they themselves found most difficult at NTC, JRTC, or Desert Storm. Other issues were brought up by the commanders. For example, they described techniques they had developed and wanted to pass on. When one or two commanders said "TCDC did not teach us how to do such and such, and we needed that...", there are several ways to interpret these remarks. It is possible that, if they had been asked the explicit question "Did TCDC teach you how to do such and such?", many would have agreed with the opinion expressed by the one or two. It is also possible that they would have disagreed. It may be expected that some of the material presented by TCDC was simply not heard or understood; even the most committed students in an optimal teaching environment will lose their concentration from time to time. We have included these comments for the readers' information, but caution that we are reporting opinions, not facts. It is also important to recognize that TCDC continues to evolve due, in part, to early feedback from this questionnaire and other attendee critiques. Issues raised by some respondents may have been valid comments concerning the TCDC that they participated in, but may not be relevant to today's TCDC. The

Director of the School for Command Preparation provided comments on many of the issues raised by the respondents, and these "TCDC Responses" have been integrated into this report. With the exception of the TCDC Responses and the Conclusions and Recommendations section, the information in this report comes only from the commanders interviewed; the researchers have avoided adding their own opinions to the body of the report.

SURVEY RESULTS OVERVIEW

The report is organized such that the material most relevant to TCDC comes first, followed by general interest material. This section contains a brief description of the commanders who were interviewed and gives their overall assessment of TCDC, which was very positive. More specific comments about TCDC are also contained in this section, as the commanders identified parts of the course that they believed to be most beneficial and least beneficial. Issues or areas that the commanders did not think they were prepared for at either the CTC or Desert Storm (i.e., issues that perhaps should have been addressed in the course and were not), are also identified in this section. Next, various recommended changes to the course are provided. Finally, comments on three specific aspects of the course, the instructors, the JANUS simulation, and the take-home packages are given.

Commanders' Demographics

Table 1 shows the distribution of commanders interviewed by branch and whether they were interviewed in connection with a CTC rotation or after commanding in Desert Storm. Commanders who attended TCDC are referred to as TCDC graduates and those who took command prior to the advent of TCDC are referred to as non-graduates.

The commanders were from units at 10 different forts: Stewart, Hood, Campbell, Riley, Carson, Drum, Polk, Bragg, Lewis, and Bliss. Infantry officers included commanders from light, mechanized, air assault, airborne, motorized, and combined arms maneuver battalions. At the time of the interviews, the commanders ranged from 1 to 26 months in command with an average of 12 months in command. Fifteen had never commanded a battalion at a CTC, 23 had commanded a battalion once, and 10 had commanded twice at a CTC.

Overall Assessment of the Course

The commanders were unanimously positive about the course. Almost all described it as "one of the best courses in the Army" and many felt that it was the best. TCDC was compared favorably to the Pre-Command Course (PCC), to the Command and General Staff Officer Course (CGSOC), and to branch school courses. Most of

Table 1. Distribution of Commanders by Branch and Experience.

	<u>TCDC Grads</u>	<u>Non-Grads</u>	<u>Total</u>
All Commanders	25	23	48
NTC	10	17	27
JRTC	1	4	5
Desert Storm	14	2	16
Combat Arms	19	14	33
Combat Support	6	7	13
Combat Service Support	0	2	2
Armor	8	4	12
Infantry	7	9	16
Aviation	4	1	5
Field Artillery	3	7	10
Air Defense Artillery	2	0	2
Engineer	1	0	1
Transportation	0	1	1
Forward Support Bn Cdr	0	1	1

the non-graduates had heard about the course and expressed regret at not having it with their PCC. The course was said to have "had a major effect at JRTC", "made NTC a much better learning experience", and was "the difference between success and failure in combat".

Commanders reported using the techniques they had learned in TCDC both at CTCs and in combat. As a result of the course, they made sure that rehearsals were conducted, improved both the intelligence preparation of the battlefield (IPB) and reconnaissance and surveillance efforts, and increased their synchronization and visualization abilities. They said they were more confident, comfortable, systematic, and better prepared in command. They had a better understanding of the planning process and were able to work better with other branches. Many used the battle book provided at TCDC, referred to as the "red book", and other materials in training and preparation for Desert Storm. They copied portions of the book and distributed them to their staffs. One commander said that TCDC was "the first course that prepared me for my next job". Another commander reported being able to see a big difference in brigade commanders with and without TCDC training.

As a rule participant ratings tend to be positively inflated, but the praise for TCDC was well beyond the routine. TCDC training was mentioned as a key training event for success

in the 101st Division's Desert Storm AAR and was, apparently, the only external-to-the-division event so mentioned. The Desert Storm briefing of 3rd Brigade, 1st Cavalry Division referred to TCDC as "one of the best exercises ever". Based on the participant response, there is no doubt that TCDC is a successful course.

A major source of the course's success is its focus on the practical, "nuts-and-bolts" level, techniques for synchronizing the resources available to the battalion commander. This material is vital to the commander's successful performance but is, evidently, not taught anywhere else. It was previously learned only through hard experience at the CTCs and in combat. Several commanders explained that their previous instruction at Fort Leavenworth and elsewhere had taught them to understand warfighting and to appreciate tactical considerations, but TCDC was the only course to teach them how to "make it happen" at the task force level. TCDC should continue to remain stressful and should maintain its focus on the "how-to" details of planning and conducting task force level missions.

Most Beneficial Course Areas

Almost all mentioned the group interaction with both instructors and classmates as a very beneficial part of the course. They included both the formal classroom discussions and informal off-line discussions. Many commanders recalled particular discussions that had been very valuable, for example, a discussion of breaching techniques by another attendee and an instructor-led group discussion of reconnaissance and counter-reconnaissance techniques. The course and working group composition helped many become more familiar with other branches. One field artillery officer said he became much more confident assisting the maneuver commander in decisions outside the FA realm.

The portion of TCDC on rehearsal techniques was also frequently mentioned as extremely beneficial, especially by the Desert Storm commanders. The commanders said they used the techniques extensively when preparing for combat, and also mentioned the rehearsal technique handouts as being useful. A later section of this report gives some specific information about rehearsals.

Another beneficial aspect that was mentioned frequently concerned the staff planning process. Commanders appreciated the planning and orders drill and many mentioned the drills for deriving a synchronization matrix as extremely beneficial. They said learning how to be faster, how to derive a synchronization matrix on the battlefield, and techniques to truncate the planning process were very important. Almost all of the commanders had very strong opinions on the staff planning

process. These opinions are described later in this report.

The course documents were praised as being very useful. Many commanders said they took the TCDC battle book (the red book) to Saudi Arabia and handed out parts of the book. The consumption factors section was a useful part of the red book.

Commanders were asked to rank order eight topics taught at TCDC from most important to least important. The results are shown in Table 2.

Table 2. Eight TCDC Topics Ranked by Importance (1= Most Important).

All Commanders: # = 48

Rank	Topic	Mean Rank	Number of 1st votes	Percent in Top Half
1	IPB	2.8	12	85
2	Synchronization	3.6	12	63
3	Mission Analysis	3.8	12	58
4	Battlefield Visualization	4.1	7	63
5	Recon and Surveill Planning	4.5	0	58
6	Rehearsal Techniques	5.1	5	35
7	Fire Support Planning	5.3	0	29
8	Obstacle Breaching	6.8	0	10

Mean rank is the average rank for each item over the 48 commanders. Number of times the item was ranked most important and percent of commanders who voted the item in the top 4 is also shown. There was fair agreement among the commanders on the above rankings. Both TCDC graduates and non-graduates agreed that IPB was the most important topic. Surprisingly, Rehearsal Techniques was not high ranked; it was 6th for graduates and 7th for non-graduates. Both groups, however, emphasized the extreme importance of rehearsals to success at the CTCs and in combat. Desert Storm commanders tended to differ somewhat from the rest, in that the four highest ranked topics were in order: Battlefield Visualization, Mission Analysis, IPB, and Rehearsal Techniques. Many commanders stated that all eight topics were important.

Other items that were mentioned by at least one commander as being good topics in the course were:

- the threat laydown
- the IPB process, the analysis of the battlefield including named areas of interest (NAIs), target areas of interest (TAIs), decision points, and allocation of resources.
- mapboard exercise

- the emphasis on what the units on the ground were doing, focusing the commander on critical events
- backbriefs
- redundancy of reporting systems
- fire support
- armor versus mech time-distance factors
- the mix of aviation and heavy forces.

Least Beneficial Course Areas

Most of the commanders said there was no area that was not helpful - that no time in the course was wasted.

One area that received some criticism by about 5 or 6 commanders was the portion on intelligence. They said that too much time was spent on enemy equipment and arraying it on the battlefield, or that the OPFOR array was not valuable. Too much time was spent on terrain analysis to the neglect of execution. A couple of commanders suggested that TCDC needed the help of a good MI officer to redo that part of the course. It seems somewhat contradictory that IPE was ranked as the most important topic and was also the portion that drew some criticism as a waste of time. One commander believed that there was a widespread army problem of communication between the S-2 and the rest of the staff. Planners do not know how to use the information the S-2 presents. The commanders know that IPB is important but the traditional intelligence briefings both from their S-2 and in TCDC does not meet their needs.

TCDC does not agree that too much time is spent on the details of the IPB. A recurring problem at the CTCs has been lack of command involvement in IPB. Consequently, developing a thorough knowledge of the IPB process, its inputs, products, and importance in planning, preparing, and executing a synchronized battle plan is a terminal learning objective of the course. TCDC spends seven hours of the approximately seventy-six hours of classroom work on IPB, and requires attendee staff groups to prepare combined obstacle overlays, enemy doctrinal and situational templates, an event template, and a decision support template for each mission. To ensure understanding of the enemy organization and capabilities, TCDC lays out the enemy force on a terrain board or mock sand table using micro-armor models, and requires attendees to give short briefings on various enemy elements' doctrinal employment in order to emphasize the responsibility of all staff and special staff members to lend their expertise to the S-2 in analyzing their enemy counterparts. Although this level of detail seems unnecessary to some, it is,

in fact, the essence of the course. TCDC has added an MI officer from the Combined Arms Center Threats Directorate to the battalion TCDC faculty, and has revised the IPB instruction and threat organization.

A second area that had some complaints was the use of the JANUS simulation. This represented a minority opinion and is discussed further in a later section. Most commanders were very positive about the JANUS simulation.

There were a few other comments about areas of the course that were not helpful.

- the classroom exercises were on too small a scale for air defenders; it was not useful for those with a Patriot mission. TCDC agrees with this comment. Current Army policy has all battalion command designees in AR, IN, FA, EN, AD, and SF branches attend TCDC. A better criterion would be that all battalion command designees whose units will execute or directly support the brigade/battalion ground maneuver fight should attend. That criterion would not greatly reduce the number of attendees, but it would eliminate AD HIMAD commanders, aviation maintenance and transportation commanders, etc. Training battalion commanders should probably continue to attend, if for no other reason than to prepare them to conduct officer and NCO professional development classes in synchronization for their training cadre.

- too much time was spent on rehearsals, a comment that was not supported by the majority of commanders. TCDC requires attendees to do formal terrain board rehearsal of their plans, in order to teach rehearsal techniques and ensure knowledge of the plan before executing it with the computer simulation. Each rehearsal is scheduled for one hour, but at TCDC, as at the CTCs, rehearsals often start to become wargames as weaknesses in the plan become apparent. TCDC believes it is important for officers to experience that tendency to emphasize the importance of adequate wargaming during course of action development and the role of the commander in keeping rehearsals as brief as possible.

- One commander thought that whenever the whole class got together, it was a waste of time.

Issues Not Adequately Addressed

Graduates were questioned about what topics should have been covered in TCDC but were not covered, or were inadequately covered in the course. Also, in order to generate ideas, all commanders were questioned about what they were not prepared for either in combat or at the CTC.

Many of the comments concerned the planning process; for

example many felt they are not trained to plan and execute at the same time. TCDC agrees. For a given mission, the course teaches planning, preparation, and execution as essentially sequential steps. TCDC does discuss parallel planning, branches, sequels, and other contingencies, but does not attempt to plan and execute at the same time. TCDC believes battalion staffs do not have the depth to do detailed planning of one mission while executing another. The planning process is discussed in greater detail later in this report.

The psychological aspects of war were very frequently given as something for which their training had not prepared them. This includes emotional and leadership issues, young soldiers and officers facing the fear of death, and instances of atrocities. But, the officers ask, how can TCDC prepare one for this? TCDC agrees with this comment. The course focus is on teaching synchronization of the battlefield operating systems. Evacuation of casualties, civilians on the battlefield, POWs, fratricide, and sleep deprivation are discussed, but from an operational perspective, not a psychological one.

The possibility of fratricide was frequently mentioned by the Desert Storm commanders. It was difficult to know where all the friendly units were. Commanders felt "a tremendous burden not to fire on the friendlies". TCDC needs to teach specific techniques to prevent fratricide. "We talk a lot about it, but do not do a lot to teach techniques on how to prevent it." The techniques need to be reinforced better at NTC. TCDC responds that they do teach specific techniques. Direct and indirect fire planning and control procedures and measures, coordination and liaison requirements among adjacent and passing units as well as air and ground forces are discussed extensively and evaluated in after-action reviews (AARs). TCDC also discusses recognition signals, marking of lanes, points, engagement areas, target reference points, etc., and the effects of limited visibility and obscurants.

Desert Storm commanders were also especially likely to mention CSS which was "a major headache" in the desert. They did not know about brigade CSS functions or how to use them fully. They did not fully realize the value of CSS in resupply, recovery, or personnel. They were not prepared for the transportation, medevac, recovery of dead, and communication difficulties resulting from the vast distances and rapidly moving forces, nor for the massive humanitarian and civil affairs effort required. NTC commanders also occasionally mentioned some CSS functions. TCDC responds by pointing out that they address synchronization of the CSS battlefield operating system in the discussions of Task Force organization; assembly area activities; command and control; mobility, countermobility, and survivability; and maneuver. TCDC requires students to compute assets available and show that they are sufficient to meet the

requirements of their plans.

Light infantry commanders were not prepared for the speed of the battlefield with M1s and M2s.

TCDC needs to teach the importance of integrating the various MI assets such as GSRs and voice intercept. These are critical to the counter-reconnaissance effort. TCDC responds that they do teach use of these assets as well as countering the enemy's similar systems.

TCDC did not adequately address the aviation task force mission, i.e., how to integrate the attack, lift, cargo, and scout helicopter assets. TCDC disagrees with this comment. In the light battalion offensive scenario, lift assets (UH60s and CH47s) are available for use in a limited air assault and for limited air resupply. Course attendees are required to plan for use of these assets in support of the ground tactical plan. In both light and heavy scenarios, attack helicopter assets are available to the brigade commander (instructor). TCDC discusses possible employment of these assets in the battalion sector or zone, and the coordination, command and control measures necessary to employ them safely and effectively. Since aviation assets will not normally be employed under operational control of battalion level ground tactical commanders, TCDC does not analyze aviation operations.

Disengagement from enemy contact is one of the most difficult operations to conduct. Many commanders found it nearly impossible to conduct those operations successfully. TCDC responds to this comment as follows. In the battalion course disengagement of a committed force is attempted in almost every defensive battle, usually unsuccessfully. TCDC discusses the difficulty of breaking contact, especially within direct fire range. TCDC discusses techniques for establishing the conditions necessary to allow disengagement, and emphasizes the risks inherent in trying to disengage during a fight.

Some NTC commanders said actions on contact are not adequately addressed. Units cannot fire and maneuver well at the same time. Some other commanders made this same point with regard to exploitation operations - the course did not teach us techniques to fight on the move. TCDC agrees with this comment. Actions on contact and exploitation considerations are discussed as part of the wargaming of the offensive mission, but they are not a major focus of the course.

NTC commanders often report that we are not prepared for the total threat - artillery, airplanes, rockets, dismounts, helicopters and tanks. They especially have difficulty countering OPFOR air and artillery prior to the direct fire fight, even in positive missions. One commander said in this

regard, "if real life is like the NTC OPFOR, we need to change intelligence doctrine, tactics and techniques as an army." How should commanders do repositioning, dispersion and then massing? TCDC needs to provide specific advice. We tend not to mass at critical points for fear of artillery. TCDC does not agree that this issue is not adequately addressed in the course. Protecting the force, security, and deception operations are discussed throughout the course. Air defense organization and employment, as well as small arms for air defense requirements are covered under the air defense battlefield operating system. The difficulty of massing forces under artillery fire without sustaining unacceptable losses is discussed in conjunction with obstacle breaching operations. TCDC discusses the importance of counterfire, even at the expense of close support. Short of destroying the enemy's artillery and air support there is no failsafe measure to avoid losses to artillery and close air support; vulnerability can be reduced but not eliminated.

How should the FIST be positioned? The FIST outruns his commo links at the NTC.

How should I set up a TOC? TCDC does not address this practical issue.

TCDC responds to the above two statements as follows. Questions on specific tactics, techniques and procedures are discussed as they come up in class. Recommendations come from instructors as well as other members of the class, depending on experience. TCDC has no "school solutions" for some of these issues, but the TCDC Battle Book provides much detailed information in each of the battlefield operating systems to help commanders solve these problems.

Finally, one commander said that the course did not prepare him to teach the material to his staff. He needed some thoughts or techniques at staff level to teach synchronization of different staff functions. This comment concerns TCDC. The course provides reference material, advance sheets, orders and overlays to attendees so they can begin staff training immediately upon arrival in their units. There is no specific block of instruction on the conduct of staff training, but that training is discussed with the staff planning process and the execution of the commander designees' plans.

Recommended Changes to the Course

Many commanders said the course should not be changed at all. Given the positive response to the course, it would clearly not be a good idea to make major changes. Nonetheless, most of the commanders did offer suggestions for improvement.

Many said the course should be lengthened by about a week,

or that PCC should be eliminated and TCDC lengthened. A few disagreed and thought the course was already "a couple of days too long". TCDC currently spends one week on a defensive mission and then one week on an offensive mission and concludes that it cannot do two missions in less than eight days and cannot do two missions in eight days without lengthening the days to about ten hours each. TCDC believes that two weeks is the right amount of time and lengthening the course would produce steadily diminishing returns.

Another very common suggestion was to include other officers, particularly CSS branches. Almost all of the Desert Storm commanders made this suggestion. "Your simulation wished away logistics" but "in the desert log drove everything". How do you synchronize logistics? TCDC had too much focus on maneuver; the CSS and commo difficulties were not addressed. The commanders made this point repeatedly - TCDC needs to address CSS and needs to have CSS officers in the discussions. Some commanders wanted signal and MI officers also to attend TCDC. TCDC responds that DISCOM and support battalion commanders currently attend the brigade level course, but believes they would contribute little to the battalion course. In the battalion level course, task force CSS is discussed as part of both the defense and offense. TCDC cannot focus any more specifically on synchronization of CSS activities without adding course time or dropping other instruction. Also, TCDC believes the ground maneuver fight is the appropriate scenario for teaching synchronization in PCC classes. Each of the attending commander's units will support that fight in some way, and they need to train their subordinates how to contribute most effectively to that fight.

Many commanders warned about being too narrowly focused on CTCs. Training centers are excellent training but the desert and woods are not the only mission areas of the world. At NTC there are no urban areas, no forests, no river crossings. One commander said NTC misses the "fear, bodybags, and recovery of wounded" that is part of combat. Another said the CTC focus neglected fratricide and the problem of "lost companies". There is a broader range of tactics than is used at the CTC. Most who cautioned about the CTC focus felt that NTC (or other CTC) was good as a model for the course but TCDC needed to be careful of NTCisms and to add discussions about aspects of combat that are missing at the CTC. TCDC responds as follows. TCDC can modify its instructional content to support unit collective training, for example, the brigade course has taught a scenario for an air cavalry brigade. The value of TCDC instruction is, in part, dependent on the familiarity of the instructors with the scenario they are using to support the instruction and with the base of technical knowledge and lessons learned that has developed at the CTCs.

Some commanders questioned training every officer as if he

were a maneuver commander. They recommended having non-armor/infantry commanders doing more things that would be applicable to their type of battalion. "Our jobs are too complicated to allow cross-training; everyone should do his own job." Others said the course should train the students to be commanders rather than S-3s or S-2s; "commanders do not need to write oporders - S-3s do". Still, a much larger number of students gave the exposure to other branches as one of the most positive things about the course. One commander said it is important to teach the commander to think first from the enemy perspective, to determine what the enemy was doing and would be doing, emphasizing that this was not just an S-2 function. He also advised that company commanders must learn to do IPB better. TCDC regards itself as a "train-the-trainer" course primarily. It requires the commander designees to perform most of the tasks they will have to train their staffs to perform in order to refresh them on the complexity and level of detail of the tasks and to demonstrate the total staff and commander effort required to develop a synchronized plan quickly. TCDC does, however, emphasize the commander's responsibilities throughout the planning process, and critiques in AARs the extent to which commander's guidance and intent is incorporated in the plan.

The presence of a brigade commander was also noted by several as something that was missing in the course. One commander suggested that TCDC find a way to integrate the brigade and battalion courses. The interface with the brigade commander's course would include receiving orders, briefback, interruptions during the battle, sitrep and other report requirements, and activities involving replacements, recovery and casualties.

Several commanders wanted an increased attention to execution techniques, expressing concern about the amount of attention given to planning versus execution. One wanted techniques on "how to track the battle". Also several wanted techniques for situations with limited planning and preparation time. Another wanted more time on how to build a synchronization matrix which would include more training on assigning decision points to NAIs and TAIs, engagement area calculus, and determining what and how many vehicles are expected in the engagement area. Another suggestion involved training on how to give good focused commander guidance. More information on the planning process is given in a later section.

Some commanders felt that the amount of time devoted to the JANUS simulation should be reduced.

One of the ADA commanders interviewed suggested dividing the ADA commanders, sending those with Vulcan or Stinger missions to the battalion course and those with Hawk or Patriot missions to higher levels.

Several commanders recommended additions to the course including:

- More time on wargaming. Teach specific techniques for wargaming and consider which techniques work and which do not.
- How to deal with Red reconnaissance. Be specific on use of reconnaissance and forward detachments, time-phases, purpose, and make-up.
- Add fire support planning instruction.
- Look at FIST-V being a combat system at task force level. A knowledgeable FA officer needs to discuss this.
- Add a new major emphasis on formations.
- More focus on use of matrix order.
- How to integrate ALO and FSO and where to put them.
- How to set up a TOC and how to integrate TOCs.
- How to fight on the move.
- How to use attack helicopters. They should be treated like a maneuver element. They can impact.
- Add section on leadership and technical aspects of psychology in combat.

In regard to the additions suggested above TCDC responds that, after the course's first year the emphasis on wargaming and techniques for making it effective was increased. Also there is a one-hour block of instruction each week of the course on fire support synchronization. Adjustment of higher headquarter's fire support plans, commander's guidance and intent for fire support, the role of the FSO in wargaming and course of action development, use of FISTs and COLTs, guided munitions and their planning considerations, marking of trigger lines and points, use of smoke, etc. are all discussed. TCDC believes the fire support instruction is sufficient. TCDC agrees that employment of attack helicopters does not receive much emphasis in the course. Doctrinally, attack helicopters will not be employed under the operational control of a ground maneuver battalion commander. They will be employed by brigade and higher level commanders as separate maneuver elements to accomplish a particular tactical mission. For that reason, TCDC does not spend much time discussing attack helicopter operations. In each of the TCDC scenarios the brigade commander (instructor) has attack helicopters OPCON for a particular task. Control measures, coordination requirements, and communication procedures necessary

to employ the helicopters effectively and safely in conjunction with the ground maneuver forces are discussed.

One commander said it was very important to determine pre-course requirements, to get the read-ahead package out in plenty of time, and to correct and return the pretest.

Finally, two other recommended changes were to reduce the amount of reading, and to change the uniform to BDUs.

Course Instructors

The commanders gave the instructors most of the credit for the course's success. Many stressed that in order to maintain the quality of the course it is vital to continue to get the right people as instructors. One commander warned that even ex-battalion commanders would not be guaranteed to be good instructors; they had to be good facilitators too. Since the group discussions were considered by most to be the backbone of the course, the highest priority should go to obtaining and developing the instructor staff.

One commander was somewhat negative about the instructors. He thought it was not a good idea to have any majors as instructors because the students outranked them.

The JANUS Simulation

All commanders were asked about the JANUS simulation. Most were very positive, calling it a great training tool. They said it was much better than JESS or ARTBASS. It should be the battalion level training system. It trains the staff, company commanders, executive officer, and platoons. JANUS can train platoons and squads but ARTBASS only trains the battalion staff. Many said they wish they could use it in their home station training. A few commanders were not so positive saying JANUS was just about as good as ARTBASS, and one commander said ARTBASS has good resolution and JANUS has too much detail. One said the fire support part of JANUS must be fixed and another said JANUS does not deal appropriately with the division cavalry squadron.

Approximately one-fourth of the graduates interviewed, although generally positive about the simulation, tended to be negative about the use of JANUS in the course, for example, saying that JANUS took too much time, "we lost a lot of time watching JANUS", or JANUS was not necessary to the course. One commander warned - the course tends to get "wrapped around the computer - be careful". Another commander recommended running JANUS only at night. (He also wanted a week added to TCDC overall.)

Overall, commanders were more positive than negative about

JANUS. In comparison with the instructor-led discussions, however, the time on JANUS did not seem as worthwhile. Recently, TCDC has decreased time spent on the computer simulation in order to provide increased emphasis on other topics.

Take-Home Package

The TCDC Battle Book, the "red book", received many favorable comments. It was useful both at CTCs and in Desert Storm.

Commanders were asked what additional materials would be useful to them. Almost all of the commanders discussed the difficulty of passing the TCDC training along to their staffs. They thought that some basic instructional material, either written or computer-aided, on basic staff skills involved in task force level missions would be extremely useful, for example, individual own-pace training in how to build a synchronization matrix. Some said training for the S-2 or intelligence function training for the entire staff was most needed. The essential problem is the high staff turnover rates and great variability in preparedness of new staff members. Some commanders disagreed, saying that such training modules would generally not be used.

Some other suggested take-homes were:

- videotapes of NTC terrain. (One commander had made some in the past and found them very useful.)
- sets of brigade orders with overlays to be used in orders drills.
- copies of the book Defense of Hill 781. It should be issued at CAS3 and made required reading prior to a NTC rotation.

TACTICAL PLANNING AND PREPARATION

This section contains information on topics that repeatedly arose in the interviews. These topics are: commanders intent, the staff planning process, decision support tools (e.g. synchronization matrix), rehearsal techniques, battle drills and formations.

Commander's Intent

Interviews with both Desert Storm and CTC commanders confirmed the importance of commander's intent. Desert Storm commanders especially relied very heavily on their interpretation of higher commander's intent in their planning. The major focus of advice, which many commanders mentioned, was that the use of terms was highly variable. They recommended that TCDC spend some time trying to define and establish standardized use of terms

like blocking, fixing, and turning in order to assure understanding of doctrinal terms. Other examples are: defend in battle positions (Does that mean you have to occupy the area you're defending?) and destroy the motorized rifle company (What defines success here?). Many commanders felt that TCDC should deal with both graphics and terminology to help standardize meaning.

TCDC agrees that some terms used in unit operation orders have no clear or standard meaning. The terms used in the course are defined in accordance with FM 101-5-1 or other official Army publication, although not all Army publications agree on definitions. TCDC emphasizes, during the course, the need for commanders to insist on clear definition of the terms they use within their commands, to question unfamiliar terms used by commanders above them, and to avoid the temptation to coin their own clever terms.

One commander recommended a 3-sentence intent: the expected endstate, what's important in getting from here to there, and how the commander defined success. Another commander said intent needs to cover all battlefield operating systems not just maneuver; the commander should give intent for fire support, engineer, etc., outlining all systems. Finally, another commander warned not to assume that intent is understood when giving or receiving. No matter how clearly intent is stated, an immediate briefback will prevent serious errors.

Staff Planning Process

Almost all commanders were adamant that the Army's decision making process was too ponderous for use in limited time situations, and to attempt to use this process in those situations was a mistake. The process was workable and beneficial in the Desert Shield preparation phase; however once Desert Storm began, it was not. Most commanders indicate that not only was the staff estimate and decision making process not used, but neither were operations orders in general - only commander's intent and fragmentary orders. The same conclusion is drawn by commanders with CTC experience. The "Leavenworth" process, as they call it, is good for teaching purposes only. One commander called orders preparation an NTCism!

Commanders distinguish two situations: limited time situations, with only a few hours of planning time available, and execution situations, where mission planning is occurring at the same time as execution. In the latter case, the changing tactical environment makes the doctrinal decision making process even less applicable. Commanders know they must truncate the process. Most commanders believe they are not given much doctrinal help in doing that truncation; each must develop his own techniques and planning processes. If the Army cannot come up

with good, workable processes for these important situations, TCDC needs to develop and teach techniques for truncating the process.

In the case of limited time planning, commanders generally adjust by giving much more focused guidance to begin staff planning. One commander recommended starting by giving the staff a course of action to look at - the staff must make a yes/no/change recommendation. Another eliminated staff estimates - the staff looks for stoppers only. Another commander had his S-3, S-2, FSO, and engineer with him when he received the brigade order. They did a quick mission analysis and IPB, developed a course of action and briefed the brigade commander immediately to catch major disconnects. Then, as the staff began to plan, the commander went to his company commanders to start preparing positions and obstacles, maximizing preparation time. Other commanders said they must just bite the bullet and decide quickly. They emphasized that the important thing is how well planned and executed the mission is, not which course of action is chosen. A suboptimal plan (some commanders refer to this as a 60% plan, others more optimistically as an 80% plan) that is well executed is much better than a perfect plan that arrives too late. Increased decision making time directly reduces planning time, rehearsal time and subordinate planning and preparation time. These latter activities have much higher payoff than the possibility of arriving at an incrementally better course of action. One commander added that when the mission changes, subordinates need more than 2/3 of the time. Subordinates need to start moving almost immediately to be in position to execute the next mission with reasonable preparation. Also one commander recommended the article "Fast" by Major James Dunn, Jr. which was in the Sept-Oct 1986, Infantry journal.

While increased focus and guidance is one key to truncating the planning process, most commanders feel that this is generally an army weakness; commanders do not know how to give good staff guidance. It is not enough to tell commanders they must give more focused guidance; they need to be given deliberate specific techniques by TCDC.

A second key to shortening the planning cycle is simplicity. Many commanders emphasized the benefits of simple plans. In the desert, for example, commanders made all phase lines either east-west or north-south on gridlines. Also, several commanders warned against making 11th hour changes to the plan. After an order has been given to the companies, commanders should be very cautious about making changes to the plan even though the changes are clear improvements. Sometimes changes are inevitable, for example if the enemy situation was misinterpreted. On a lot of occasions, however, the commander must make a decision not to make changes. He must understand the impact of last minute changes at the soldier level.

If planning is being done during execution in a changing environment, the decision making process must be abbreviated even further. This is a problem, commanders admit, with which they generally have not coped well. Often they do not look out ahead at all but deal with events as they happen. They decide and execute or use a crisis-action decision cycle. The key to success here, the commanders agree, is a set of well rehearsed battle drills. The commanders views on battle drills are discussed later in this section.

Some commanders indicate that TCDC generally does show awareness of the need for more rapid planning, and does discuss truncating the process. The TCDC exercises, however, do not reinforce the training. TCDC should develop exercises that give the commander brigade orders and require him to develop commander guidance, holding him to a short fixed time constraint, and providing instructive feedback.

TCDC disagrees with the battalion commanders surveyed in regard to this issue of techniques for truncating the decision process. TCDC believes this comment means "the process takes too long; throw it out and give us another process." The CTCs on the other hand indicate that when units "throw out" the process they have great difficulty developing a feasible, to say nothing of synchronized, plan. TCDC teaches the steps of the doctrinal decision making process so that commanders can teach them to their staffs. TCDC teaches that the way to truncate the process is to shorten the steps rather than overlooking them, and the best way to shorten the steps is to increase the amount and specificity of the commanders's guidance, thus more narrowly focusing the staff's effort.

Decision Support Tools

Commanders were asked to rate the usefulness of the synchronization matrix, execution matrix, decision support template (DST) and matrix operation order. The following choices were used.

5. Extremely useful 4. Of Moderate Use 3. Of Little Use
2. Of No Use 1. Harmful to Use 0. Did not Use

The execution matrix was highest rated. 89.6 % of the commanders had used an execution matrix. Of those who used it, 93 % considered it extremely useful and 7 % considered it of moderate use. A synchronization matrix had been used by 87.5% of the commanders and was rated extremely useful by 54.8%, of moderate use by 42.9% and of little use by 2.4% of those who used it. The decision support template was viewed similarly to the synchronization matrix. It was used by 87.5% of the commanders; 45.2% rated it extremely useful, 45.2% rated it of moderate use, and 9.5% rated it of little use. Finally, only 75% of commanders

had used a matrix operation order. It generally received better support than the synchronization matrix and decision support template but was not judged as useful as the execution matrix. Of those who used the matrix operations order, 72.2% rated it extremely useful and 27.8% rated it of moderate use.

A higher percentage of TCDC graduates reported using the synchronization matrix and decision support template than non-graduates. For both the synch matrix and DST, 96% of graduates reported using them and 78.3% of the non-graduates reported using them.

Of those who used synchronization matrices, TCDC graduates and non-graduates rated the technique about the same. Combat arms officers, in general, rated it lower than non-combat arms officers as shown in Table 3.

Table 3. Ratings of Synchronization Matrix by Commanders Who Used the Technique.

	Extremely Useful	Of Moderate Use	Of Little Use
TCDC Graduates (#=25)	50.0%	45.8%	4.2%
Non-graduates (#=23)	61.1%	38.9%	0.0%
Combat Arms (#=33)	43.3%	53.3%	3.3%
CS & CSS (#=15)	83.3%	16.7%	0.0%

The decision support template was reviewed more favorably by non-graduates than it was by TCDC graduates, more favorably by combat arms commanders than by combat support and service support

Table 4. Ratings of Decision Support Template by Commanders Who Used the Technique.

	Extremely Useful	Of Moderate Use	Of Little Use
TCDC Graduates (#=25)	33.3%	50.0%	16.7%
Non-graduates (#=23)	61.1%	38.9%	0.0%
Combat Arms (#=33)	56.7%	33.3%	10.0%
CS & CSS (#=15)	16.7%	75.0%	8.3%
Desert Storm (#=16)	26.7%	53.3%	20.0%
CTC (#=32)	55.6%	40.7%	3.7%

commanders, and more favorably by CTC commanders than by Desert Storm commanders, as shown in Table 4.

Non-TCDC trained commanders were fairly rare in Desert Storm, so that more of the non-graduates (21 of 23) were interviewed in connection with a CTC rotation. TCDC trained commanders in the survey were more balanced with 14 from Desert Storm and 11 from a CTC. Differences in regard to ratings of usefulness of the DST are probably more the result of the Desert Storm/CTC factor than the TCDC/non-TCDC factor. The DST was less useful in Desert Storm because there was less tactical intelligence provided to the units there. (See the subsection Intelligence later in this report). Ratings of the execution matrix and matrix operation order did not vary based on either TCDC training or branch.

There is some confusion about the various decision support tools among the commanders. There are not standard definitions available and different officers use the terms differently. Some officers spoke of a movement matrix, in addition to the other matrices mentioned above.

One problem with the tools relates to the time factor, as was discussed previously. The training center teaches the Dragon Overlay technique, TCDC teaches a synchronization matrix, and doctrinal publications (e.g., FM 101-5, Staff Organization and Procedures) teach a staff estimate process involving comparison of several different courses of action. Add in briefbacks, wargaming, rehearsals, execution matrix, etc. and there is too much for the commander and staff to do. All these techniques need to be carefully considered. Doctrine (or TCDC) should provide a standard timeline describing what must be done and what can be dropped, including some guidelines on how much time should be spent on each product or activity.

Additional advice on decision support tools includes:

- Make sure timelines carried on the synchronization matrix show what is daylight and what is dark.
- Do not finish the execution matrix until after rehearsals. This gets rid of glitches in the matrix.
- DST and synchronization matrix should be developed after the order is published.
- Insure total staff involvement in DST.
- Don't synchronize by time but by effects, concentrating on the time relationship between activities not clock time.
- Concentrate on the synchronization of effects and time, e.g.,

if you knock out artillery 6 hours prior to LD time the enemy has ample time to reconstitute.

Rehearsal Techniques

Commanders agree that rehearsals are very useful. What is not rehearsed is done poorly. Desert Storm commanders described rehearsals that ranged in scale from mapboards, to sand table and rock drills, to floor size with grid squares drawn on the ground, to football field sized and even larger areas. In all cases, the commanders felt such rehearsals were mandatory for success. The commander's intent can only be fully understood based on the interaction at the staff and subordinate commander rehearsal. In combat, synchronization matrices were verified with a dress rehearsal. These were said to be of great benefit particularly in regard to when to phase in artillery and close air support.

Commanders were asked to rate the usefulness of the staff rehearsals. The results are shown in Table 5. As can be seen, the rehearsals were especially highly rated by the Desert Storm commanders. It is likely that the CTC and Desert Storm commanders are not referring to the same type of rehearsal. The Desert Storm units conducted extensive rehearsals during the training period in the desert before the war commenced. It is probably the value of these that they are rating. In fact, many commanders indicated that they only used briefback rehearsals once the war began. The CTC staff rehearsals were still rated fairly positively with approximately 2/3 of the commanders judging them to be extremely useful.

Table 5. Ratings of Value of Staff Rehearsals.

	Extremely Useful	Of Moderate Use	Of Little Use	Of No Use	Not Used
Desert Storm (#=16)	93.8%	6.2%	0%	0%	0%
CTC (#=32)	65.6%	12.5%	9.4%	0%	12.5%

Some advice about rehearsals includes:

- The commander should be in charge of all rehearsals.
- Understand the difference between rehearsals and backbriefs.
- Introduce special circumstances and contingencies in rehearsals, for example, women and children on the battlefield.
- Fire support and combat service support must rehearse also.
- Rehearsals are even more valuable in night operations.

Fire support cannot always do sand table rehearsals. Some commanders discuss FM radio rehearsals for fire support but have not developed many techniques for this. One commander said the FM rehearsals should take place prior to change of frequency at 2400 and should include company FSO and Bde S-3.

Once mission execution began in Desert Storm, the commanders generally executed missions only on briefback rehearsals. The prior rehearsals and emphasis on battle drills was key to mission accomplishment. Successful missions were executed on well rehearsed battle drills.

Battle Drills and Formations

Commanders emphasized that they often lost control of the operations after the first round was fired. They said that the key to their strength was the first positioning of the units and their extensive battle drill training. Each tank and Bradley was almost like a separate island fighting the battle.

During the training period prior to Desert Storm, commanders developed playbooks of 6 or 7 plays. This gave them the ability to command when time constraints did not allow them to either develop written orders or even to do a lot of talking. Units practiced the battle drills during movement between locations. Many of the drills developed had a CSS focus, for example, rearm/refuel during a firefight, recover damaged vehicle, and casualty evacuation were all drills that were developed in the desert. Flexibility comes from planning contingencies and having good battle drills; it does not come from a commander arriving on the scene and making decisions.

Many commanders had basic questions about formations, e.g. How do you deploy a battalion in an attack? Do you deploy at LD? Why? How do formations differ in exploitation operations from other attacks? TCDC needs to provide guidance.

The Army has taught commanders to lead with infantry on most occasions and save the armor for breakthroughs and deep penetrations. In the desert this was not the case. The commanders that led with Bradleys sustained more casualties than the commanders that did not. The Army needs to develop guidance to assist commanders in determining when to lead with armor.

One problem that occurred in the desert was that mine plows made a significant obstacle for wheeled vehicles, one that HMMWVs could not traverse. Commanders reported tying up engineer assets to make a trail for HMMWVs. One commander used a diamond formation with artillery up behind the diamond in front of the engineers to avoid the problem with mine plows. But he asked, "where should the infantry and ADA go?" Use of one basic formation was judged to be helpful in avoiding fratricide.

TRAINING

Training and preparation for either combat or a CTC rotation forms the basis of this section. The first subsection concerns what the commander should emphasize in training his unit, the next subsection concerns methods of training, and the last subsection addresses the commander's own training needs.

What to Train

General advice from the commanders about training can be confusing. Some commanders say train everything. A battalion executes as it trains. If some area is missed, it shows up as an obvious weakness at NTC. Others say training time prior to rotation will be distracted by numerous unknowns. Accept it, keep your priorities, and train as much as you can. Don't shorten training time on a task to accomplish more tasks. Go for mastery of each task before progressing. Commanders do generally agree that the commander should personally train the platoons, allowing company commanders to be the crew level trainers and should check to insure training is effective.

Commanders believe the focus of training should be at platoon level. This was an extremely consistent opinion across all the commanders. The platoons are the "granite building blocks" of operations. If platoon and squad actions are not well trained you will surely fail at NTC. But if platoons can execute then companies can execute and battalions can win the battle. When asked to estimate the amount of time devoted to training at various levels, the commanders generally reported spending the most time on staff training. Table 6 shows the percentage of training time reported at each level.

Table 6. Percent of Training Time by Level.

All Commanders. # =46

<u>Level</u>	<u>Average Percent</u>
Staff	22.38
Individual	17.97
Company	17.25
Platoon	16.42
Battalion	13.39
Squad	12.58

Note: Two commanders could not make the estimates.

The above percentages were consistent for combat arms and non-combat arms, Desert Storm and CTC train-ups, TCDC graduates and non-graduates, and for armor, infantry, aviation, and field artillery commanders. When asked if they would allocate the time differently if they could, the commanders said they would place

more emphasis on platoon level training. One commander thought 60% of training time should go to platoon or lower, 25% at company or battery level, and 15% for battalion level training.

Commanders were asked to estimate how they had allocated training time by operating system. Table 7 shows the results. The responses from Desert Storm and CTC commanders were virtually identical, as were those from TCDC graduates and non-graduates. Maneuver, field artillery, and CSS commanders each tended to do more training in their own battlefield operating system (BOS), although command and control training was still given the most training time. Commanders were generally satisfied with these allocations.

Commanders were asked to assess what areas their staffs were weakest in. Table 8 shows the results. The judgments in Table 8 are for the staff as a whole, rather than for the individual responsible for each functional area.

Table 7. Percent of Training Time by Operating System.

All Commanders # = 46

<u>Operating System</u>	<u>Average Percent</u>
Command and Control	18.80
Combat Service Support	18.26
Maneuver	17.00
Fire Support	15.04
Intelligence	12.68
Mobility-Countermob.-Survivability	10.43
Air Defense	7.78

Note: Two commanders could not make the estimates.

Table 8. Areas in Which Entire Staff Needs More Training
(1 = means most in need, 10 = least in need).

All Commanders: # = 48

Rank	Topic	Average Rank	Number of 1st votes	Percent in Top Half
1.	Time-Distance-Capability Factors	4.13	9	81
2.	Mob.-Countermob.-Survivability	4.88	5	63
3.	Intelligence	4.88	7	56
4.	Fire Support	5.10	6	50
5.	Combat Service Support	5.42	4	50
6.	Command and Control	5.54	5	48
7.	Air Defense	6.06	3	44
8.	NBC	6.17	3	40
9.	Maneuver	6.27	1	38
10.	Unit SOP	6.77	5	31

The need for staffs to learn time-distance-capability factors was ranked first by both Desert Storm and CTC commanders, especially those in the combat arms. Combat support and combat service support commanders viewed their staff training needs somewhat differently, with Intelligence finishing as a clear first for being most in need of training. For these branches (FA, EN, ADA, TR, and OD), Time-Distance-Capability, and Mobility-Counter-mobility-Survivability finished back in the pack. Maneuver training was also generally high ranked by the CS and CSS commanders.

There were many additional comments on what to train. Many commanders emphasized the need for more live fire training especially night gunnery training. More maneuver training including maneuver with trucks was needed. Also mentioned by several commanders was the need for more land navigation training, especially at night, and training in the use of land navigation aids. Desert Storm commanders especially identified land navigation as a tremendous weakness. Commanders advised insuring the FIST and key CSS vehicles especially should have land navigation aids. Additionally, squad/platoon battle drills, squad dismounted operations by mechanized infantry units, and battalion level obstacle breaching exercises were recommended as needing increased training. Desert Storm commanders reported that company commanders and staffs were very poor at accurately reporting battle damage and recommend training in battle damage assessment. One commander said the object of training is to put bullets on the enemy. Concentrate on scanning, acquiring, and engaging the enemy; this is the fundamental building block to execute. Finally, emphasis on MILES system training at home station will yield a big payoff at the CTC as the unit becomes better at troubleshooting and using the system.

One other comment concerned the importance of physical fitness training. At the NTC, a fit unit has more endurance and stamina, can be pushed longer and harder and can recover quicker. Overall performance in combat or at the CTC will be greatly enhanced in a physically fit unit.

How to Train

Commanders were surveyed as to how they accomplished training. Table 9 shows commander's estimates of percentage of the training time allocated to various types of training events.

The estimates in Table 9 were fairly consistent across branch, for TCDC graduates and non-graduates, and Desert Storm versus CTC train-ups except that the Desert Storm units did not have the MILES and UCFT availability. The majority of Desert Storm commanders wanted such training devices very much when they were in the desert. The units trained without the use of these devices and one commander used vehicles with blinking headlights

as a form of force on force. Commanders used what assets they had to do the best training they could.

Table 9. Percent of Training Time by Type of Training.

Type of Training	Average Percent
FTA	26
SQT	14
CPX	12
Seminar	11
MILES	10
Mapex	10
TEWT	7
CFX	5
UCOFT	5

Note: Two commanders could not make the estimates.

Several commanders said orders drills were very useful. Starting with an old NTC brigade order, the staff is drilled in the planning process, culminating in a full up task force orders brief. When possible, get the brigade commander to comment on the output in order to learn how he fights. Most staffs are too slow in producing and wargaming courses of action. In the orders drill it is important to hold the staffs strictly to time limits. Some commanders believe such orders drills are more beneficial than CPXs.

Use of ARTBASS and JANUS are very valuable as staff trainers. When using these exercise drivers, it is important to insure that all battlefield operating systems are represented. Training without all elements leaves holes in coordination and can lead to coordination oversights later. SIMNET was mentioned by one commander as a very useful training device for an armor battalion. He said it was good on offense, bad on defense and had great CSS play.

Some commanders devised "low-tech" exercises and "grass drills" that tried to isolate key points. One commander had tank crews hold broomsticks (to represent their tanks) and had them walk their maneuvers and formations on a practice field. He admitted that it sometimes looked a little silly but believed that if the crews could not do the maneuvers well under these conditions they could definitely not do them in their tanks. Another commander did a very similar drill but used HMMWVs. The basic idea was the soldiers learned the maneuvers in a situation where they could see the other "tanks" and learned to appreciate how their vehicle fit in the formation. Also, the troops were required to earn the right to train in their tanks by mastering

skills in the "hands-off" mode.

Habitual relationships with supporting units such as aviation and fire support greatly enhance effectiveness. Commanders were definite about the value of task organizing as early as possible. After deploying to the desert prior to Desert Storm, staff turnover was virtually stopped. Commanders trained their staffs to a degree that they felt they were prepared. All staffs were focused and all supporting arms in the synchronization process were always present. Commanders judged this as an important factor in the success of the training prior to the war.

There were two other training comments. One commander said increased seminar participation by junior leaders (E5-E6/LT) was very beneficial. The junior leaders had to prepare presentations with detailed examples on required topics. The second comment was that lots of multiechelon training is a key to success.

Commanders' Training Needs

Commanders were asked to identify one specific area about which they wish they had more knowledge. The most common answer

Table 10. Topics That Commanders Wanted to Know Better.

<u>Topic</u>	<u>Number of Commanders</u>
- Intelligence or related topic, e.g., enemy wpns effects, enemy NBC capability, enemy order of battle, reconnaissance	21
- Command and Control or related topic, e.g., battlefield visualization, synchronization, time management	8
- Time-Distance-Capability Factors	6
- Mobility-Counter mobility-Survivability or breaching operations	6
- Combat Service Support including replacement, recovery, and casualty ops	6
- Fire Support	2
- Unit SOP	2
- Maneuver Tactics	1

Note: Some commanders gave two answers so the total is more than 48.

was intelligence or an intelligence-related topic, especially by field artillery commanders. The commander's responses are shown in Table 10.

Commanders were also asked to rank order 10 tasks from most difficult to least difficult for them at either NTC, JRTC, or Desert Storm. The overall results for all 48 commanders are shown in Table 11.

Table 11. Commander Tasks Ranked by Difficulty.

(1 = most difficult)

All Commanders #=48		Avg	# of 1st	% in
Rank	Task	Rank	votes	Top Half
1.	Completing tasks in allotted time	3.88	9	71
2.	Synchronizing the operation	4.13	10	71
3.	Allocating own time & concentration	4.92	6	58
4.	Integrating the bn staff operations	5.35	1	56
5.	Meeting brigade requirements	5.44	5	54
6.	Visualizing the battle	5.54	6	54
7.	Monitoring the execution	5.83	4	40
8.	Communicating concepts to subords.	6.10	1	44
9.	Dealing with uncertainty	6.42	4	35
10.	Deciding on a course of action	7.46	2	17

There were some differences between groups in regard to the rankings. The most striking concerned the item "synchronizing the operation". The Desert Storm commanders evaluated this item as the easiest (ranked 10th). "Synchronizing the operation" is second on Table 11 because the CTC commanders ranked this item as a strong 1st, i.e., most difficult. The reason for this great difference between Desert Storm and CTC commanders is unclear, however, it is possibly related to the amount of preparation. Desert Storm commanders did not indicate that they had much control over their forces during the battle. They positioned their forces and relied on the well rehearsed battle drills. CTC commanders may be attempting to achieve a synchronized effect with much less preparation and by controlling forces during execution, and consequently they found the task much more difficult. Another possibility is that the skilled actions of the CTC OPFOR may significantly disrupt the commander's attempts to achieve synchronization but the Iraqi enemy could not do this.

The item "completing tasks in allotted time" was generally considered among the most difficult regardless of branch or whether the commander was referring to the CTC or to Desert Storm. "Allocating you own time and concentration" was judged

difficult especially by combat arms officer but artillery commanders, as well as CS & CSS commanders in general, did not rate this item among the most difficult, placing it at 8th most difficult. Items 9 & 10, "dealing with uncertainty" and "deciding on a course of action" were judged among the least difficult by all groups but "communicating concepts to subordinates" was considered more difficult by combat support and service support commanders than by those in combat arms. The items rank 4 to 7 above generally fell in the middle for most groups with the following exceptions: Desert Storm commanders judged "integrating the battalion staff operations" as the 2nd most difficult task, those in the aviation branch found "visualizing the battle" easiest (ranked 10th) but "meeting brigade requirements" was 2nd most difficult for them, and infantry commanders found "monitoring the battle" easier than others, ranking it 9th most difficult.

LEADERSHIP AND COMMAND

This section contains general advice about leadership and about what commanders should do either at the CTC or in combat.

Leadership

A number of leadership issues arose. One commander advised that, at the CTC, be sure to use the enlisted men as warriors, not training aids. Make sure they know their role and the outcome of the battle. Feedback is important to the soldiers. Every soldier wants to know "Did we win?". The commander must be careful not to get into the "Well, we improved" attitude. The commander must keep his spirits up, even in adversity, but tell the soldiers exactly what happened. They aren't stupid and will know who won and lost.

Commanders must make decisions quickly and have everyone on track when a course of action decision is made. They must have trained their staffs to support and not to second-guess the decision. The commander sets a time schedule and the staff must stay with the schedule and support the decision. Commanders also must learn to have confidence in the subordinates they have trained. If he has confidence that the subordinates will execute his plan to the best of their abilities, he will instill confidence in the command. The staff must be trained to make decisions in the commander's absence. Initiative in this case is defined as doing what the commander would do if he were making the decision. Train your staff, build confidence in them, and replace staff officers that do not make decisions in your absence.

Many commanders spoke of the importance of following the sleep plan. No matter how tough and competent you are, if you go without sleep too long you will make bad decisions. Commanders

should not let their big egos lead them into thinking they can resist the deficits of sleep deprivation. The commander must have enough confidence in his staff to get 5-6 hours of rest each day, using daytime lulls to get sleep. Sleep discipline is only accomplished if the commander leads by example. Junior officers should be able to tell the commander when he has gone too far without sleep. Both at the CTCs and in combat, sleep plans failed, S-3s and commanders did not get enough sleep, and mistakes were made. Brigade commanders also need to be supportive of the battalion commander's sleep plan.

Commanders must realistically assess their units prior to CTC rotations. Know the strengths and weaknesses and accept what cannot be fixed. One commander received brigade orders to move in a column at 25 MPH at night. Based on his training assessment he reduced the speed to 5 MPH. They later lost the battle, but for C2 reasons, not for lack of speed.

Some other advice includes;

- Think big, and do not be afraid to challenge your company commanders.
- Insure that the command does not incessantly argue with the OCs at AARs.
- Realize you can't plan for everything. Accept that and deal with the uncertainty as it arises.
- Things will go wrong but don't lose control over it.
- Remember that when you were a junior officer, training exercises were not as demanding as the NTC. Don't berate the junior officers.

Commander Activities

This section concerns advice and opinions about what the commander should be doing. Commanders were asked to judge, by percent, the extent to which various tasks should be performed by the commander or delegated to the staff. Table 12 shows the commander judgments, listed from greatest commander involvement to least commander involvement.

These ratings were fairly consistent across groups. Rehearsals, reconnaissance & surveillance planning, and wargaming were consistently highest ranked by all groups. Each branch naturally rated its contribution higher for their own specific function, e.g., artillery officers performed a greater percentage of fire support planning. Also, Desert Storm commanders, and infantry commanders tended to call for greater commander involvement in IPB than other groups did. In addition to the

Table 12. Extent to Which Task Is Performed by Commander.

All Commanders #=48 Task	Percent of Task Performed Personally by Commander
1. Rehearsals	74
2. Recon & Surveillance Plan	61
3. Wargaming	60
4. Fire Support Plan	58
5. Obstacle Plan	54
6. COA Development	51
7. Air Defense Plan	45
8. IPB	45
9. CSS Plan	42
10. Orders Preparation	18

above items, commanders must hear how their fire support plans are translated to the firing battery, not just overall to the FSO. Similarly, the commander must close the loop with the engineers and personally check obstacles and prepared positions. He must also touch base frequently with the company commanders and, above all, still get 5 to 6 hours of sleep each day.

The great majority of commanders did not fight in the TOC. Rather, they went to the TOC to be briefed, gave guidance, and left. They depended on the staff they had trained. One commander advised other armor commanders not to ride in their tanks but to use another vehicle or TOC, because C2 is much more difficult in the tank. If the commander does ride in a tank, he should stay in the loader's hatch or he will become too involved in the tank's fight.

One commander believes battalion commanders should only have to worry about the fight with direct fire, not CAS, attack helicopters, deep attack, 2nd echelon, IEW, SEAD, etc. The brigade should focus on synchronization of these assets. Also, brigade commanders need to better appreciate the time factor whenever they call for the battalion commander to meet with them. They should understand that they are taking the commander away at what might be at a crucial time for the battalion.

One commander advised other commanders to give the reconnaissance-counterreconnaissance effort a lot of attention, for example, reinforcing the scout platoon with MTRVs. Recon-counterrecon is a general weakness that the NTC OPFOR treats very seriously. Another area that does not get enough attention is the use of decoys. They can be very effective at NTC.

Commanders are advised to make a good battle book with checklists. If the commander has had only 2-3 hours sleep, he

will need the lists. Commanders at the CTC should "take the battle to the enemy". They cannot be hesitant because of the OPFOR's superior experience.

Finally, one commander offered this advice. Have fun when you're the commander - it doesn't last long enough.

COMBAT TRAINING CENTER COMMENTS

The number of rotations a commander has participated in helps with familiarity with the terrain and the administrative requirements. The training center keeps changing, however, even for commanders going twice in the same year. Do not rely exclusively on past experience. If possible, arrange for a TEWT with the key leaders. This will be more beneficial to coordinate ground with map than any other prior preparation.

The OCs are generally very willing to assist in preparation for a rotation. One commander sent his S-2 to NTC for 4 weeks to learn how the enemy fought. Another paid a former OC's TDY costs to have him give a 3-day seminar for his officer and NCO professional development.

If SOPs are going to be modified, do it as soon as possible prior to a training rotation. This gives the staff time to get familiar with the changes and to "work out the bugs". Last minute changes to the SOP are a direct line to failure.

At the CTC, commanders should try to leave the AAR with two things they can fix by the next mission. They will make things worse if they try to fix everything on the spot. Concentrate on what can be fixed easily with a big payoff during the rotation.

One commander advised, "Don't be afraid of the OCs". He was having a problem during the live fire portion. His artillery system was having big problems. He stopped the exercise, "unscrewed the situation" and proceeded to get good results in the training. It paid off, he said, during the force on force exercise. The holdup took 45 minutes and upset the OCs, but improved the overall training benefit. Despite this example, commanders must resist arguing or letting their staff constantly argue with the OCs. Constant bickering with the OCs and blaming the OPFOR, the equipment, the computer system, and the training center as a whole is "a sure sign of a bad commander".

One commander advised soldiers to boresight MILES as often as possible, even en route. The OPFOR does. Don't just do it once each day. Another commander amended that advice. Reboresighting MILES, especially at night, is complicated and will very often result in making the sight worse than it was. Instead always perform the simpler check-boresight procedure and

attempt to reboresight only when necessary.

Finally, during force on force, brigade staffs are only fighting one battalion at a time. As a result, they tend to overcontrol the task force and place too many tasks on the battalion, such as requiring twice-a-day briefings. The brigade staffs would be overwhelmed if they had to manage three battalions. Commanders need to be willing to stand up to their brigade commanders in this regard.

BATTLEFIELD OPERATING SYSTEM COMMENTS

In this section, the remainder of the comments are organized by functional areas which are: maneuver, fire support, intelligence, combat service support, signal, engineer, and air defense artillery.

Maneuver

Several commanders mentioned having problems switching from M113s to Bradleys. The changes in doctrine resulting from the introduction of Bradleys are unknown. When to dismount and where to place vehicles are two areas in which doctrinal changes have not been worked out. Can TCDC help? One commander said Bradleys can drop further back while waiting for a breach. Using maps while in the Bradley turret is a problem. One commander reported similar difficulties adjusting tactics to the M1 tank, since he had learned on the M60 tank.

Another problem that surfaced repeatedly was that mechanized and armor force commanders do not know how to effectively employ light forces. This barrier can be broken down by mixing light and heavy commanders at courses like TCDC.

The laying of target reference points is especially involved in NTC and other desert terrain. Commanders need to insure that they give their units enough daylight time to do this. The units can then dig in their positions during nighttime.

Aviation forces fight more effectively as a unit. Commanders were advised not to fragment this asset.

Fire Support

Artillery battalions are organized as a 3x8 (8 tubes per battery), but artillery commanders do not believe they should fight as a split battery. It violates the unity of command principle. The FA commanders stated that they tried to fight that way and were unsuccessful. They had a much greater effect when they went back to fighting by battery.

Artillery training is too focused on the AMTEP missions. One commander estimated that, at NTC, AMTEP missions composed only 10% of his missions, 90% were non-standard. He recommended focusing training on non-standard missions such as alternate aiming points and tactical resection. Hasty occupations also need more training.

One fire support problem that was mentioned repeatedly involved use of combat observation lasing teams (COLTs). Maneuver commanders need guidance and training in how to use them. One commander recommended using COLTs to augment brigade FSOs to fight the deep battle. Several commanders warned against putting COLTs with scout and observation teams because they give away those positions. Another said COLTs are much more survivable if they stay in place and do not have to be moved to more effective spots.

Some of the Desert Storm commanders used a technique that was not too common. They had the S-2 and the FSO working directly with the ALO when A-10s were being used. They would feed each other information and coordinated all the fires for a very effective fire support plan.

Commanders disagree about the best location for the FIST. Some say place the FIST by the maneuver team commander. Others say do not do this. Treat the FIST as an ITV, placing the FIST in bounding overwatch. The same is true of the battalion FSO. Some say the FSO and commander should be in the same track, others say have him in the TOC.

When artillery is used in a reinforcing role, it is important to provide a good LNO. He is the battalion's link to the reinforcing brigade. One commander believes that the most important individual for the battalion is the battalion FDO. He must fight the battle. Additionally, colocating the artillery battalion S-3 with the brigade FSO in an integrated TOC worked well, according to one commander.

Finally, several artillery commanders noted that infantrymen and tankers are not generally prepared to call for fires if the FIST dies.

Intelligence

In Desert Storm, the units had to function with a lot less intelligence than they were used to receiving. Commanders typically stated that they received about 10% of the intelligence that they did at NTC. Some units were proactive and sent their intelligence staff out to adjacent units to gather additional information. Many commanders referred to intelligence being "pull, not push". In all cases, the commanders had to make decisions with incomplete intelligence. Decision support templates were not very useful. TCDC needs to address such

situations when the intelligence input is greatly reduced. How does one conduct the IPB process without input?

Some Desert Storm commanders felt that if they had better intelligence, they would have been able to prevent some casualties. Sometimes the higher unit's "filtering out of perceived information" process was blamed for intelligence products being received very late. Commanders wanted to get photographs, but rarely did at task force level.

One commander recommended thinking through what should be in spot reports. He said SALUTE did not include what the observers were doing about it (the report or sighting), e.g., continuing to observe, continuing mission, returning fire, etc. He preferred to use a "SALT + what are you doing" report format.

Finally, as discussed earlier, many commanders note that the relative inability of the S-3, and the staff as a whole, to make good use of the S-2's information is a great army weakness. According to one commander this is the greatest weakness at the NTC.

Combat Service Support

As discussed previously, CSS played a major role in Desert Storm and many commanders called for increased TCDC emphasis on this operating system. The extreme importance of CSS was reinforced time and time again. Commanders who were successful at effectively coordinating with their CSS units were able to refuel in as little as 90 minutes for the entire battalion. One commander developed a new battle drill. This was to rearm and refuel during a firefight. It paid great dividends during the war.

One commander had his medevac assets working for aviation during Desert Storm. He said it was not doctrinal but worked very well.

Signal

The reliability of communication equipment is a major problem at NTC. Both Desert Storm and CTC commanders mentioned the importance of redundant communication nodes.

Engineer

The ACE is great. It can keep up with tanks and Bradleys.

Air Defense Artillery

ADA officers are constantly trying to educate maneuver commanders on how to employ air defense artillery. Vulcan

platoons should not be split up. They mutually support one another.

CONCLUSIONS AND RECOMMENDATIONS

TCDC is a successful course. Therefore, major changes in the program of instruction should be avoided, and small changes should be made cautiously. We believe the critical factor in the course's success is the focus on "how-to" details of task force level operations. As long as this vital information is being presented in a coherent fashion, the course will be successful. When they are ready to take command of a battalion, officers already understand, in a general sense, the functions and limitations of the various battlefield operating systems. What they need from TCDC is to "get below" this general level of understanding to a more detailed, specific, technical level that will allow them to plan and execute. It is understandable that officers will question the focus on NTC or other CTC, and ask for a broader range of terrain, missions, and tactical situations. The danger in broadening the scope, however, is that the treatment would possibly move to a more general level, typical of traditional courses in tactics. Increasing the emphasis on some of the topics requested by the commanders, e.g., CSS, fratricide, actions on contact, wargaming techniques, etc., is worthwhile as long as TCDC can offer practical, easy-to-apply, guidance in these areas.

Possibly, there is a problem with the portion of the course concerning intelligence. If so, the problem probably is that the material is too broad and general; TCDC is teaching what the commanders already know and not addressing what they want to know, i.e., how to apply intelligence information to their planning and decision making activities. This reflects an army wide problem rather than a particular problem with TCDC. The MI officers both in the field and the classroom should say "The enemy is probably going to so that means that you should" but this last part, the translation of what the intelligence means to the planners is usually missing. Both sides (operations and intelligence) need to work to bridge this communication gap. TCDC should focus on how the commander can use the information he receives from the S-2.

One of the major concerns of commanders involves the use of time when planning and preparing an operation. How can the commander and staff rapidly put together a workable plan, check that there are no major structural errors in the plan, and do the necessary coordination and preparation without serious errors? TCDC needs to confirm, as it promotes the use of the synchronization matrix, that it is basing its advice on real-life lessons learned, not schoolhouse theorizing. The commanders, for the most part, find the doctrinal staff estimate and decision

making process to be of limited applicability at battalion level; TCDC does not need to add more unusable "doctrine". The synchronization process involves identifying component battlefield activities and paying attention to the duration of each and the time relationships between activities. In the same way, can TCDC analyze the planning and preparation process? How long should it take to do an IPB, to make a decision support template, to analyze a mission, to decide on a concept, to flesh it out, to consider alternatives, to make a synchronization matrix, to develop the detailed operating system portions of the plan, to wargame, to plan contingencies, to consider deception, to conduct a rehearsal, to coordinate with brigade, to supervise subordinate unit activity, to make an execution matrix, to write and publish an oporder? Who must be involved in each of these activities? What can be done simultaneously and what needs to be sequenced? When time available becomes longer or shorter, what gets added, amplified, compressed or skipped? How are these planning activities integrated with monitoring and controlling ongoing operations at the task force level? To the extent that TCDC "gets it right", they will define army practice and eventually official doctrine.

One criticism of the course is that TCDC discusses truncated planning processes, but the practical exercises in the course allow generous decision making and planning time. This is tied to the criticism that the exercises have the commanders performing a number of S-3, S-2 and other staff functions. Can TCDC develop exercises that isolate commander functions and drill the performance of these functions with realistically stringent time constraints, for example, to receive a brigade order, form a concept of operation, and provide good focused guidance in a short fixed time? TCDC wants the commanders to develop plans that can be input and run on JANUS. Care must be taken that this goal alone does not drive the basic nature of the practical exercises.

Finally, the classroom discussions are a very meaningful and successful part of the course. They depend greatly on TCDC getting and developing good instructors. Quality control of the discussions should not be left to chance. It is generally during the discussions, in the classroom, off-line, and when the JANUS simulation is paused to explore teaching points that arise, that the critical instructional material of TCDC is delivered. The commanders need to have the opportunity to think about and learn the sometimes difficult information in a seminar-like atmosphere, as well as in structured performance-based exercises. Given the response to the course found in this survey, it is recommended that TCDC not change the balance between practical exercises and thoughtful discussion.