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

Research Report 1891

Identifying the Training Challenges and Needs of Deploying Units

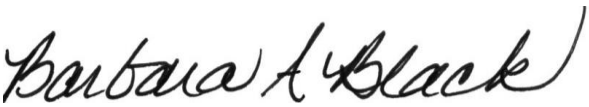
William R. Sanders, and Peter S. Schaefer
U.S. Army Research Institute

March 2009

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

A Directorate of the Department of the Army
Deputy Chief of Staff, G1

Authorized and approved for distribution:



BARBARA A. BLACK, Ph.D.
Research Program Manager

MICHELLE SAMS, Ph.D.
Director

Technical review by

Thomas R. Graves, U.S. Army Research Institute
Kathleen A. Quinkert, U.S. Army Research Institute

NOTICES

DISTRIBUTION: Primary distribution of this Research Report has been made by ARI. Please address correspondence concerning distribution of reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, Attn: DAPE-ARI-ZXM, 2511 Jefferson Davis Highway, Arlington, Virginia 22202-3926

FINAL DISPOSITION: This Research Report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The findings in this Research Report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy)	2. REPORT TYPE	3. DATES COVERED (from. . . to)
March 2009	Final	April 2007 to April 2008

4. TITLE AND SUBTITLE	5a. CONTRACT OR GRANT NUMBER
Identifying the Training Challenges and Needs of Deploying Units	5b. PROGRAM ELEMENT NUMBER 622785
6. AUTHOR(S) William R. Sanders and Peter S. Schaefer (U.S. Army Research Institute)	5c. PROJECT NUMBER A790
	5d. TASK NUMBER 331
	5e. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences ATTN: DAPE-ARI-IK 121 Morande Street Fort Knox, KY 40121-4141	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences ATTN: DAPE-ARI-IK 2511 Jefferson Davis Highway Arlington, VA 22202-3926	10. MONITOR ACRONYM ARI
	11. MONITOR REPORT NUMBER Research Report 1891

12. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

Subject Matter POC: William R. Sanders

14. ABSTRACT *(Maximum 200 words)*:

In response to rapidly evolving mission requirements and changing tactics, techniques, and procedures (TTP), U.S. Army small unit leaders (company level officers and non-commissioned officers [NCOs]) are required to develop new training methods and/or adapt existing products to meet training needs. The core challenge for the small unit leaders is to develop and implement pre-deployment training to incorporate lessons learned experiences and TTP. At the same time the leaders must develop training for newly inserted capabilities and technologies. To identify training requirements and tools available for training development, the U.S. Army Research Institute for the Behavioral and Social Sciences gathered information through semi-structured interviews and surveys with both Active Component and Reserve Component leaders. Survey results were used to compare the needs of Active Component and Reserve Component units. Results identify language training, cultural skills training, and human terrain mapping as high priority areas where follow-on training development research would support Army needs.

15. SUBJECT TERMS

Pre-Deployment Training, Cultural Skills Training, Language Skills Training, Human Terrain Mapping, Individual Skills Training, Collective Skills Training

16. REPORT	17. ABSTRACT	18. THIS PAGE	19. LIMITATION OF ABSTRACT	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON
Unclassified	Unclassified	Unclassified	Unlimited	50	Diane Hadjiosif Technical Publication Specialist 703-602-8047

Research Report 1891

Identifying the Training Challenges and Needs of Deploying Units

William R. Sanders, and Peter S. Schaefer
U.S. Army Research Institute

Fort Knox Research Unit
Barbara A. Black, Chief

U.S. Army Research Institute for the Behavioral and Social Sciences
2511 Jefferson Davis Highway, Arlington, Virginia 22202-3926

March 2009

Army Project Number
622785A790

Personnel, Performance and Training Technology

ACKNOWLEDGMENTS

We thank the members of the 555th Engineer Brigade, Fort Lewis, the 197th and 198th Brigades, Fort Benning, and the officers of the Fort Knox Maneuver Captains' Career Course who generously participated in interview sessions. We are indebted to Mr. James Harrison (16th Cavalry Regiment, Fort Knox), SFC Joseph Monhart (197th Infantry Brigade, Fort Benning) and SFC Ronald Louis (198th Infantry Brigade, Fort Benning) for their invaluable contribution in arranging and coordinating Soldier support of the research.

IDENTIFYING THE TRAINING CHALLENGES AND NEEDS OF DEPLOYING UNITS

EXECUTIVE SUMMARY

Research Requirement:

U.S. Army small unit leaders (company level officers and non-commissioned officers [NCOs]) face a growing challenge to rapidly develop and implement pre-deployment training to incorporate lessons learned and current tactics, techniques, and procedures (TTP). At the same time these leaders must develop training for newly inserted capabilities and technologies. To learn and adapt more efficiently and effectively, better training methods and tools are needed to rapidly develop, modify, and access training. This report describes research conducted to have Soldiers with small unit leader experience identify pre-deployment training requirements and the training development tools available to accomplish this training. The research identifies individual, collective, and leader training requirements, the availability and adequacy of training tools, and additional training tools that could be developed to enhance pre-deployment training. The research was an exploratory effort to identify challenges in small unit pre-deployment training that might be addressed through follow-on training research efforts.

Procedure:

Fifty-one officers and senior NCOs participated in interviews and responded to a training tools survey designed to identify company-level pre-deployment training requirements. The officers and NCOs were experienced as small unit leaders, and all had previously been deployed. Both Active Component (AC) and Reserve Component (RC) officers and NCOs participated in the research. Leaders provided their opinions on the availability and adequacy of Army training tools for individual, collective, and leader skills training. Responses were analyzed to identify the challenges and needs associated with preparing units for deployment, with the responses of AC and RC leaders being separated for comparison.

Findings:

Given the small sample size the comparison of responses for AC and RC participants may not generalize to all AC and RC units, however, the results were of value in raising issues and identifying trends. The RC leaders generally identified more constraints on training than did AC leaders with regard to tactical equipment, weapons training ranges, and early identification of the unit's next deployment area of operations (AO). Both AC and RC leaders stressed the need for language and culture skills training that will better prepare them for the actual demands of the deployment AO. Many leaders were concerned that their units do not possess the equipment needed for training or the necessary access to ranges to build essential skills for deployment. Lack of close quarters battle (CQB) training and of access to the .50 caliber machine gun were often cited as examples. The training tools survey was useful in supporting the empirical comparison of AC and RC unit training needs and resources. The results of the survey suggest that while weapons ranges and classrooms are often available for AC unit pre-

deployment training, they are somewhat less available for RC units. While AC leaders rated the adequacy of pre-deployment training tools for movement drills, convoy operations, and marksmanship as largely adequate the RC leaders rated these significantly lower. Both AC and RC leaders assigned their lowest ratings of adequacy to training for close quarters battle and language/culture skills.

Utilization and Dissemination of Findings:

This exploratory effort identified challenges in small unit pre-deployment training and opportunities for follow-on training research. The results of the research were presented at the 76th Military Operations Research Society Symposium (MORSS) on 10 June 2008. A contract was awarded in August 2008 to develop small unit training for human terrain mapping (HTM) skills, where HTM refers to proactive methods used to systematically collect and catalog social and ethnographic information for a unit's area of operations. This follow-on effort will transition HTM best practices and lessons learned from units recently deployed to Iraq into vignette-based training. The research will identify innovative methods to integrate HTM Soldier skills training into unit pre-deployment training activities. Discussions have been initiated to gain the support of an Army Brigade Combat Team for the design, development, and evaluation of the HTM training products.

CONTENTS

List of Tables

Page

List of Figures

IDENTIFYING THE TRAINING CHALLENGES AND NEEDS OF DEPLOYING UNITS

Introduction

Research Goals

Rapidly evolving mission requirements and changing tactics, techniques, and procedures (TTP)[1] have created a situation in which U.S. Army small unit leaders are required to develop new training methods and/or adapt existing products to meet emerging training needs. Army small unit leaders (company level officers and non-commissioned officers [NCOs]) face these challenges by incorporating lessons learned and current TTP into the pre-deployment training they develop and implement. Soldiers and leaders in counterinsurgency operations are challenged to learn and adapt continually. Often the unit mission requires complex and diverse tasks: from winning the support of local people and maintaining positive relationships to insuring well being by protecting local infrastructure and fighting against insurgents. Alongside the requirements of the mission, leaders must develop training for newly inserted capabilities and technologies.

To learn and adapt more efficiently and effectively, better training methods and tools are needed to develop, modify, and access training. This report describes research conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) to have experienced small unit leaders identify individual, collective, and leader training requirements for pre-deployment training, the availability and adequacy of training tools, and additional training tools that could be developed to enhance pre-deployment training. The research was an exploratory effort to identify challenges in small unit pre-deployment training that might be addressed through follow-on ARI training research efforts. The goals of the research were:

- Identify high priority individual, collective, and leader training requirements for pre-deployment training.
- Identify the availability and adequacy of training development tools and resources available to small unit leaders.
- Identify areas where additional training development tools could enhance high-priority pre-deployment training.

Background

Unit training doctrine. The investigation of small unit training requirements is best considered within the framework of Army training doctrine which describes how training requirements are derived from the unit mission. According to Army doctrine (as described in Field Manual (FM) 7-0 Training the Force, The Department of the Army [DA] 2002) the unit commander is the primary trainer of the organization. The commander analyzes the unit's wartime mission and develops a Mission Essential Task List (METL). A mission essential task is a collective task with which an organization has to be proficient in order to accomplish its wartime mission. The METL development process serves to focus the organization's training

[1] Definitions for the acronyms used in the report are presented in Appendix A.

efforts on the most important training tasks and enables subordinate commanders and key NCOs to crosswalk individual, collective, and leader tasks to the mission. Unit training basically consists of three components: (1) individual training that establishes, improves, and sustains individual Soldier proficiency in tasks directly related to the unit METL, (2) collective training that is derived directly from the METL and Mission Training Plan (MTP), and (3) leader development that is embedded in the collective training tasks and in discrete individual leader focused training (DA, 2002).

In the contemporary operational environment (COE) Army units are frequently given a directed mission that differs significantly from their assigned wartime operational mission; two examples are stability operations or support operations. When given a directed mission the unit commander conducts a mission analysis and develops a METL for his unit and a strategy to achieve proficiency for the METL tasks. Training is conducted using the equipment assigned to the unit in the Table of Organization and Equipment (TOE), or in a Modified TOE (MTOE) that can include equipment specific to the directed mission. In cases where mission tasks involve emerging doctrine or non-standard tasks, commanders establish training using lessons learned from similar operations and professional judgment. Figure 1 provides an example of METL tasks to support a directed mission to conduct a stability operation (DA, 2002, pg 3-7). The individual, leader, and collective task categories provide a useful framework for discussing training issues and will be used in the present report. The categories are not mutually exclusive. Some training requirements such as convoy operations will include individual tasks, collective tasks, and also tasks associated with leadership.

Collective Training	
• Convoy Operations.	• Area Security.
• Route Security.	• Patrolling Operations.
• Rail/Air Movement Training.	• Establish and Operate Checkpoints.
Leader Training	
• Fire Control Exercise.	• Rules Of Engagement Proficiency.
• Casualty Evacuation.	• Petroleum, Oils and Lubricants.
• Deployment Exercise.	• Media Interaction.
• Risk Management.	
Individual Training	
• Mine Awareness	• Medical Awareness.
• Rules of Engagement Proficiency.	• Country Orientation.
• Media Interaction.	• Force Protection.

Figure 1. Examples of Mission Essential Task List tasks to support a directed mission to conduct a stability operation (FM 7-0, Figure 3-6, 2002).

High priority skills. The COE demands training in essential Soldier move, shoot, and communicate skills. Deployed Soldiers must be prepared to use the full range of weapons, vehicles, and communications equipment present in their Area of Operations (AO), which may be very different from the equipment available at home station. The recent Center for Army Lessons Learned (CALL) report titled "The first 100 days: Tactics, techniques, and procedures" (CALL, 2007) was used to identify a preliminary set of essential Soldier skills for developing the

interview protocol and survey instrument for this effort. The CALL report identified a number of high priority skills for success in the COE to include language and culture, improvised explosive devices (IEDs), weapons marksmanship, close-quarters battle, convoy operations, and physical fitness. The report concluded that pre-deployment training is the most important factor in increasing Soldiers' ability to survive in combat.

Language and cultural awareness. Success in the COE fight will likely require that Soldiers master language skills that support situational understanding and knowledge of the "human terrain" of the AO. The human terrain includes the attitudes of the local population, the information sources used, economic, social, and religious influences, as well as criminal activities. It should be noted that FM 7-0 Training (DA, 2002) is being updated and will likely be released by the end of 2008. The updated FM 7-0 Training will be fully integrated with FM 3-0 Operations (DA, 2008a) which institutionalizes the need for cultural awareness. Both FM 3-0 Operations and FM 3-6 Urban Operations (DA, 2006) emphasize the need for training skills that allow Soldiers to map the cultural terrain. The Army recently noted:

> As important as the physical terrain, in future full spectrum operations, commanders require the capability to understand and address the 'human terrain,' of social, cultural, historical, political, economic, and population and urban geography of the area of operations (DA, 2008b, pg 72).

An updated Army Culture and Foreign Language Strategy was recently presented by the Army Training and Leader Development General Officer Steering Committee (U.S. Army Training and Doctrine Command [TRADOC], 2008). The strategy calls for equipping all Soldiers (officer, warrant officer, NCO, and junior enlisted) with a balanced set of culture and foreign language competencies required for successful execution of full-spectrum military operations worldwide. Plans call for TRADOC to lead the effort, identifying current capabilities and future program requirements in the Fiscal Year 2009-2010 time frame. The program will build with the majority of new training initiatives to be introduced in the Fiscal Year 2012-2017 timeframe (TRADOC, 2008).

Research conducted by ARI has examined the nature of culture and foreign language skill requirements for Army personnel (Abbe, 2008). Findings emphasized that cross-cultural training should place priority on generalizable concepts about culture and skills that enable leaders and Soldiers to learn about and adapt to unfamiliar cultural environments on their own. In particular, interpersonal skills, non-ethnocentric attitudes, and openness emerged as some of the most consistent contributors to success in cross-cultural settings. The ideal solution for cross-cultural education and training likely includes some combination of the three components of cross-cultural competence, region-specific knowledge, and language proficiency. In related work Abbe, Gulick, and Herman (2008) present a framework for cross-cultural competence in Army leaders, and identify predictors of intercultural effectiveness and measures of cross-cultural competence.

While Army doctrine, training strategies, and research are all on track to support future language and culture training development efforts, there remains an immediate need for language and cultural skills expertise in the COE. In response, the Army has begun employing Human

Terrain Teams composed of civilian cultural experts and military personnel to assist brigade staffs in understanding the cultural terrain of the brigade AO (Pryor, 2008). The Foreign Military Studies Office, a TRADOC organization located at the Combined Arms Center at Fort Leavenworth, Kansas, is overseeing the effort. The Human Terrain Teams approach represents a top-down infusion of cultural understanding to identify local family ties, customs, and the economic power structure. In a parallel bottom-up approach, Marr, Cushing, Garner, and Thompson (2008) describe efforts to teach Soldiers to gather and develop information that will help their units create a Human Terrain Map of their AO. Marr et al., stress that Soldier interaction with the local population helps build relationships that are essential to the working effectively in the COE: "It's all about the people, building a trusted network." Examples of the information collected and integrated to create a Human Terrain Map include:

- Graphically defining each tribal area.
- Location and contact information for leaders.
- Identification of the population's battle rhythm or pattern of life (sleep/shop/traffic).
- Employment/unemployment levels.
- Anti-coalition presence and/or activities.
- Access to essential services (fuel, water, electricity).
- Local population concerns and issues.

Knowledge management support for training development. Given the great potential for accessing internet-based training resources, issues regarding leader use of available information sites and computer technology were investigated. With the expanding availability of internet-based communications and expanding information infrastructure, leaders have greater access to training products on an "as needed" basis. However, leaders will only access and use these resources fully when they are well-versed in information search skills and have the necessary technology available to them. A related challenge that trainers face is that training information, even if documented, can be hard to find, and this can lead to missed opportunities and/or duplication of efforts. In response to the challenges brought about by the proliferation of information sharing sites, the Combined Arms Center – Knowledge (CAC-K) was established in 2008 to provide a unified organization for generating the Army's knowledge creation and knowledge management strategies (Combined Arms Center, 2008). The CAC-K will move towards creating a "one-stop" shop for knowledge products for leaders by identifying available information, supporting doctrine development, and providing direction for research efforts.

Consideration of Active and Reserve Component requirements. The Army consists of the AC and the RC. The RC consists of both the Army Reserve (AR) and the National Guard (NG). Given the differences in available training resources, the pre-deployment needs of AC and RC units are presented separately and compared in this report. Both components share doctrine and training processes, and train to the same standard. However, the RC component has less training time available and fewer training support system capabilities, and as a result tends to train at lower echelons. Geographic dispersion of units also impacts RC training. An average reserve battalion is spread over a 150- to 300-mile radius. Additionally, most reserve units travel an average of 150 miles to the nearest training area (DA, 2002). U.S. Army Forces Command (FORSCOM) Training Integration Branch recently conducted a comprehensive review of lessons

learned for pre- and post-mobilization preparation for five Army National Guard Brigade Combat Teams (BCT) (FORSCOM, 2008). Among the lessons learned were:

- Units arriving at mobilization training centers were deficient in individual and collective skills proficiency.
- Early identification of the mission, organization, and mission essential equipment are necessary for building an effective training plan.
- Equipment shortages (weapons, night vision goggles) impact deployment training.
- Soldiers need the opportunity to train with new equipment early during pre-mobilization.
- Without an MTOE Soldiers are not able to train on equipment for the unit's assigned mission and deployment missions.
- The Army may need to resource RC training equipment by permitting access to Left Behind Equipment (LBE) or temporary loan from Army war stocks.

Research Approach. In response to the challenges outlined above, this research uses a blend of semi-structured interview and survey based methodology to address AC and RC unit training concerns in the areas of (1) high priority requirements for pre-deployment training, (2) the availability and adequacy of training development tools and resources available to small unit leaders, and (3) future research and development of training tools to enhance high-priority pre-deployment training.

Method

Officers and senior NCOs with deployment experience participated in interviews and responded to survey questions to identify company-level pre-deployment training requirements. The assessment methods consisted of the collection of survey and interview data from AC and RC unit officers and NCOs. The research measures are described below, followed by a discussion of how data were collected and analyzed. This is an exploratory effort to identify challenges in small unit pre-deployment training that might be addressed through follow-on training research efforts. Given the small sample size the issues identified may not be representative of the training needs of all AC and RC units, but should be valuable in identifying trends and areas for further research.

Participants

Participants consisted of 51 U.S. Army officers and NCOs, and included 14 AC engineer officers from the Fort Lewis Stryker Brigade Combat Team, nine AC officers and 18 AC NCOs serving as instructors in the Fort Benning Basic Officer Leadership Course, and 10 officers from a variety of units attending the Fort Knox Maneuver Captains Career Course (one AC, 2 AR, and seven NG). Table 1 provides a summary of participant demographic information. All participants had been deployed previously, with 48 deployed to either Iraq or Afghanistan. The training resources and challenges of the AC and RC Soldiers could be expected to differ, so the two groups were separated for comparison. For purposes of reporting, all participants are referred to as "leaders" in reference to the key role of company and platoon-level officers and NCOs in developing and delivering unit-level training.

Table 1

Participant Demographics by Location

Location	Component/ Participants	Rank	Mean Years of Service	Deployment(s)		
				Iraq	Afghanistan	Other
Fort Benning	AC/27	1 MAJ	14.0	1	0	0
		8 CPT	5.6	8	1	0
		14 SFC	17.9	14	2	9
		4 SSG	12.0	4	0	3
Fort Knox	AC/1	8 CPT	12.5	5	2	3
	AR/2	1 1LT	17.0	0	0	1
	NG/7	1 Unknown	7.0	0	0	1
Fort Lewis	AC/14	6 CPT	5.5	6	4	1
		7 ILT	2.6	7	0	0
		1 2LT	1.1	1	0	1

Note: Rank acronyms are Major (MAJ), Captain (CPT), First Lieutenant (1LT), Second Lieutenant (2LT), Sergeant First Class (SFC), Staff Sergeant (SSG).

Interviews and Surveys

Semi-structured interviewing protocol. A semi-structured interviewing protocol was developed containing 22 questions to address pre- and post-deployment training requirements (see Appendix B). Questions were included to identify the types of training that the company leaders must develop, deliver, and assess and the types of resources and tools that they have available to assist in training development. The focus was on investigating approaches that allow small unit leaders to rapidly develop and/or modify training materials to meet their unit needs, which might include accessing materials via internet professional forums and/or information centers such as CALL. In accord with semi-structured interviewing methods used in the focus group setting, leaders were asked to provide verbal responses to a set of directed, yet open-ended, questions; how they would answer was not presupposed by the researchers and was not limited to a small set of possible responses. In this more conversational aspect of the data collection, leaders were given the opportunity to describe a variety of training challenges and needs and this helped the researchers to understand the leaders' perspectives. The results of these interviews are summarized in the tables of this report. An audio recording was made during the interviews to provide a reviewable data source for analysis of the issues discussed.

Surveys. A Training Tools Survey was developed to gather quantified estimates of training tool availability and adequacy which supports empirical comparisons (see Appendix C). It must be stressed that the survey investigates the adequacy of available training tools, and does NOT gather information about the readiness status of Army units. The term "training tool" is used to refer to a broad range of materials such as documents, training plans, or information sources that leaders can use to develop training. The survey presents 29 questions that ask leaders to rate the adequacy of available training tools in supporting pre- and post deployment training, combat survival skills training, cross-training, and knowledge of deployment area prior to deployment. The survey questions were based in part on the CALL report "The first 100 days:

Tactics, techniques, and procedures" (Center for Army Lessons Learned, 2007), which identifies critical skills that Soldiers should possess when deploying to the Iraq COE. Survey questions were posed as four-option Likert scales asking about the availability of training facilities (1 = Always, 4 = Never), and the adequacy of training tools (1 = Totally Adequate, 4 = Totally Inadequate). The response format was adapted from guidelines presented in a questionnaire construction manual (Babbitt & Nystrom, 1989). It should be noted that the survey responses were reverse coded for the statistical analysis, so that larger values reflect greater adequacy of training tools. The Likert scale format supports the statistical comparison of AC and RC unit responses. Given the small sample size the statistical comparisons were used as a starting point for discussing potential differences in AC and RC requirements for those leaders surveyed, and not as reflecting differences between all AC and RC units. A Demographic Survey was also prepared to gather leader information (duty position, rank, time in service, deployment experience, and experience in developing training) (see Appendix D).

Procedure

The research was conducted at three Army posts. Leaders participated in the interview and survey sessions as small groups ranging in size from three to seven Soldiers. One researcher served as the facilitator for each interview session which lasted approximately two hours. Leaders first participated in a semi-structured focus group interview and then completed the 29-item Training Tools Survey and the Demographic Survey. The facilitator arranged the discussion setting so that Soldiers would be seated around a table facing each other to promote Soldier-to-Soldier discussion of issues. The facilitator asked Soldiers to look into their own personal experiences when responding to questions, and used Socratic dialogue techniques to draw out detailed information regarding training requirements.

Results

Overview

This section presents leader interview feedback and survey ratings regarding the requirements and resources associated with individual, collective, and leader skills training. A summary of leader comments are presented in tables to identify recurring themes from the interviews. The Training Tools Survey ratings for AC and RC group leaders are compared to indicate where differences might exist in the training resources and requirements for the two components. A preliminary comparison of AC officer and NCO ratings revealed significant differences for only the two questions regarding availability of computers for pre-deployment training. Given this similarity in responses the data for the AC officers and NCOs were combined for comparison with the RC group. The hypothesis for all comparisons was that AC units would have greater access to training facilities than RC units, which supports the use of 1-tailed comparison tests. Given the small sample size and exploratory nature of the research the results are not representative of all AC or RC units; however, they may still be used to lay the groundwork for future research by identifying patterns and plausible hypotheses to guide future investigations. The presentation of results is organized in six sections:

- The dynamic training environment.

- Availability of training delivery facilities and resources.
- Requirements and resources for pre-deployment individual skills training.
- Requirements and resources for pre-deployment collective skills training.
- Requirements and resources for pre-deployment leader skills training.
- Requirements and resources for training while deployed.

The Dynamic Training Environment

In identifying training development tool and resource needs, it is important to first consider training requirements that result from the new Army Force Generation (ARFORGEN) concept, where Army units will proceed through the Reset and Train, Ready, and Available force pools. Leaders were asked to describe the pre-deployment training environment in terms of constraints and "windows of opportunity" that shape the way they conduct training. In particular, the leaders pointed out that considerable fine-tuning of skills occurs after the Relief in Place – Transfer of Authority (RIP/TOA) in theatre, when specific mission and AO requirements are identified. Figure 2 presents a simple consolidation of factors impacting pre-deployment and deployment training opportunities for AC units that were identified during interviews. While any number of requirements can be identified that impact unit training, the intent was to illustrate that pre-deployment training occurs in a dynamic, perhaps even turbulent environment. The movement of personnel with varying training needs into the unit at different times greatly impacts what, and when, skills can be trained. Leaders might need to balance the requirement for late-arriving new equipment training with the need for family leave. Once deployed Soldiers might need to train on unfamiliar equipment that is specific to the deployment AO, and to sustain skills that are infrequently used, such as armor Soldiers maintaining tank gunnery skills.

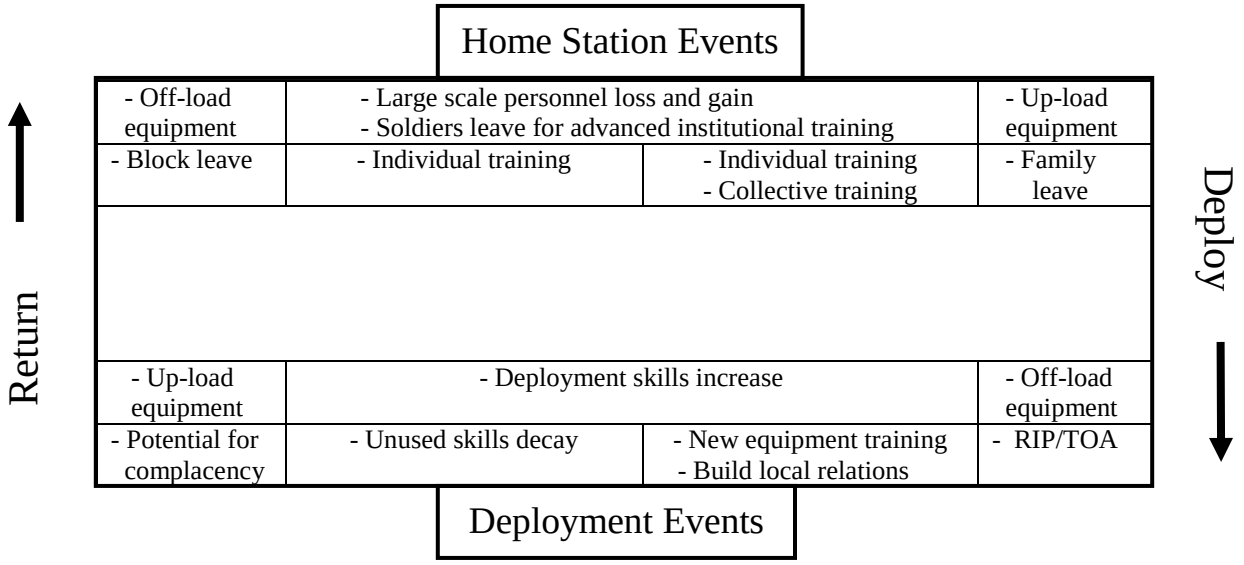


Figure 2. Active Component training environment considerations.

The RC units are also impacted by cyclical events that shape the training that can be accomplished. The RC unit pre-deployment training was described by leaders as a series of monthly day-and-a-half opportunities for training individual skills, while the yearly two-week

training event could include a visit to a Combat Training Center (CTC). Upon mobilization some RC units go to a mobilization platform for full-time highly scripted and evaluated training by AC cadre prior to deployment. A number of RC leaders indicated that their units may or may not deploy with their equipment. Some RC armor units deploy without their tanks while artillery units might deploy without their howitzers. The RC units might fall-in on familiar equipment in the deployment AO, or they might be called on to assume different roles, such as dismount infantry, and employ vehicles with which they have little experience operating and maintaining.

Availability of Training Delivery Facilities and Resources

Identify unit mission and essential equipment for the next deployment. Many leaders described the need for early identification of the unit mission and mission essential equipment as essential information that goes into tailoring pre-deployment training to the eventual AO. Leaders tempered this by stating that deployment skill requirements are pretty well known by now, that the challenge is to get the right equipment to train with when "All the good stuff is over there." A key goal is to identify the types of issued equipment that are used regularly as well as what unit gear goes unused and should not be taken during deployment. The RC leaders said that something as simple as a filmed "right seat ride" with a general commentary about the area, and the challenges to expect, would be very valuable for identifying training requirements for the next deployment. It should be noted that the Joint Combat Camera Center (managed by the Office of the Deputy Assistant Secretary of Defense for Public Affairs) gathers and disseminates video of deployed unit operations that is used to support training activities. This video material may already be available on-line (Department of Defense, 2008). With respect to these resources, the training development requirement transforms from the time-consuming task of generating new information to one of knowing where to find available training resources and how to best use these resources.

Equipment availability. A frequently mentioned constraint on training is a lack of equipment when a unit's TOE is outdated and does not match the tasks it will be doing when deployed. Without an MTOE Soldiers are not able to train on equipment for both the unit's assigned mission and deployment missions. An armor unit that deploys without its tanks might have to relearn how to perform tasks using High Mobility Multi-Purpose Wheeled Vehicles (HMMWV) and also need to learn how to maintain them. It was frequently noted that many units will not have .50 caliber machinegun (.50 cal) crew-served weapons in their TOE inventory with which to train. Soldiers in these units, however, need to be prepared to man a HMMWV ring-mounted .50 cal, employ effective combat marksmanship skills, and be able to clear jams and handle other malfunctions.

Some AC officers recommended that RC units be assigned a liaison officer from an AC unit to coordinate access to AC assets, like equipment and ranges. Leaders also described situations where creative trainers can seek out support from other units to create a matrix of equipment across a post that Soldiers can cycle through for training. Leaders described situations in which training for scarce equipment might be accomplished through the use of mobile training teams that rotate through units, bringing with them the types of equipment that are actually used when units deploy. Leaders called for more access to high fidelity simulators like Engagement Skills Trainer (EST2000) for training on weapons such as M16 and .50 cal to

reduce the logistical constraints of ammunition and range time. Leaders also stressed that a lot of training can be accomplished through low fidelity simulation if leaders are creative in seeking out ways to train thinking skills. Examples were provided of units training urban land navigation off post, training multiple individual and collective skills with vehicles and a threat force from an adjacent unit, and training the basics of room clearing procedures in the barracks. Table 2 presents a summary of leader responses identifying training delivery facilities and resources needed for training.

Table 2

Soldier Comments Regarding Training Facilities and Resources Needed for Training

Active Component	
Non-TOE equipment	- Need access to HMMWVs, .50 cal., communications equipment for early training integration. - Need access to vehicles that will be used when deployed.
Weapons training	- Training constrained due to lack of equipment, time, and ranges. - Need more access to weapons simulators but also need time on the real equipment.
Mobile training teams	- Need experienced observer/controllers to support training exercises. - Need mobile teams with up-armored HMMWVs, .50 cal, weapons simulations.
Reserve Component	
Identify AO requirements to tailor training	- Need better system for early identification of where the unit will deploy and its role. - Prioritize training to meet deployment AO role and equipment-specific requirements. - Even an informal filmed right seat ride could support pre-deployment training prioritization.
Range facilities	- Close quarters battle "shoot houses" often not available. - Shoot-on-the-move training ranges not available. - Need shoot/no shoot vignette-based exercises for ROE decision making under pressure.
Training for non-TOE equipment skills	- Time is the biggest training resource problem - there is little time for travel to training areas. - Leaders must do planning and coordination front end work for training on their own time. - Mobile training teams could provide training on equipment RC units do not possess. - Might assign an AC coordinator to RC units to arrange access to AC post equipment/ranges.

Availability of training facilities. While the interviews yield depth and details about training development requirements, the Training Tools Survey provides quantitative estimates of training related needs that provide summary estimates of training adequacy and allows empirical comparisons. Figure 3 presents a comparison of AC and RC leader ratings regarding the availability of five types of training facilities. The survey questions were originally posed as four-option Likert scales asking about the availability of training facilities (1 = Always, 4 = Never). However, for the analyses the response options were reverse coded, with 1 = Never, 4 = Always, so that higher scores reflect greater availability of resources. In comparing the responses of the AC and RC Soldiers a nonparametric test is most appropriate. The response options of the Likert scale are not on a continuous interval scale, but are on an ordinal categorical scale. The authors employed the non-parametric Mann-Whitney *U* test given the level of measurement of the data and small sample size.

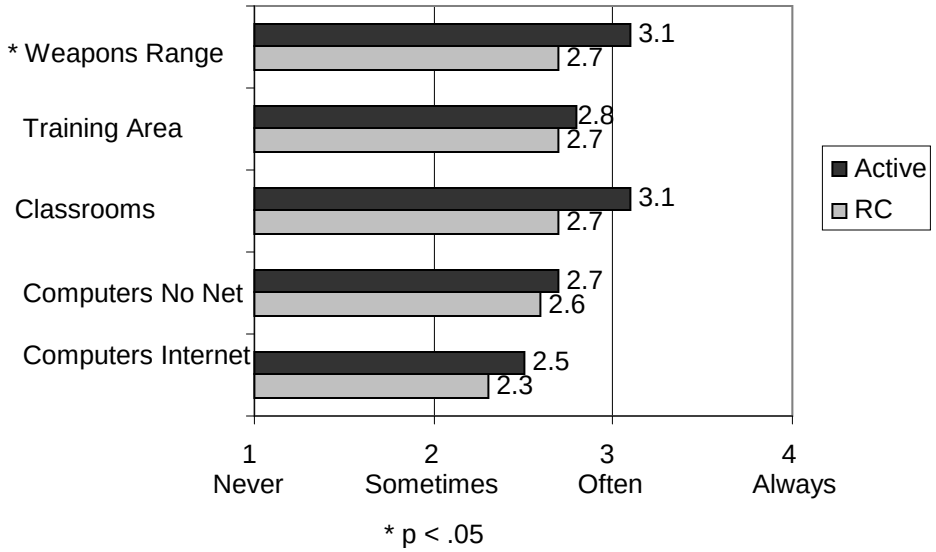


Figure 3. Availability of training facilities for unit pre-deployment training.

An independent-samples Mann-Whitney *U* test was used to compare the mean weapons range availability rating for the AC and RC Soldiers. Results revealed a significant difference between the two groups (z (48) = 1.69, $p < .05$ [1 tailed test]). Again, the 1 tailed test follows from the assumption that there would be fewer training resources available to RC units than to AC units. The AC group indicated that there was greater availability of weapons ranges for training (m = 3.12, sd = 0.64) compared to the RC group (m = 2.7, sd = 0.82). Both groups generally indicated that ranges were often available to support training.

The ratings of AC and RC leaders did not differ for availability of training areas (m = 2.75, sd = 0.66), computers without internet (m = 2.70, sd = 0.95), and computer with internet, with ratings falling between Sometimes and Often. While the AC group indicated that there was greater availability of classrooms for training (m = 3.07, sd = 0.76) compared to the RC group (m = 2.70, sd = 0.95), this difference is not significant (z (48) = -1.20, $p > .05$ [1 tailed test]).

Requirements and Resources for Pre-deployment Individual Skills Training

Training requirements identification. Some training requirements come from higher echelons of command; other requirements are based on leader experience. During the interviews leaders indicated that yearly training requirements for assigned mission tasks are well established by higher echelons. Battalion leaders will establish formal training objectives, and then work with company leaders to identify how available funds and training assets can be allocated between companies to best accomplish particular high priority training requirements. A unit's METL-driven training may include requirements that armor units qualify on gunnery skills, or that artillery units qualify on their targeting skills set. Sometimes the unit's METL does not reflect the directed mission task demands associated with deployment to a particular AO. As one example, an officer noted that armor units must do tank gunnery qualification training, but they might not take their tanks when they deploy. Instead, they could fall in on HMMWVs. One officer noted "I've got artillery units deploying to Iraq with no howitzers behind them, now they are performing infantry tasks kicking down doors, and when they come home they have to re-

qualify." An AC officer noted that a smart leader will work to figure out what directed mission tasks are likely needed in the AO and whether equipment is on-hand, or available from other units to accomplish training. Furthermore, they must determine whether a simulation of equipment and tasks will be good enough to train and maintain these essential skills.

High priority individual tasks for training development. Leaders described high priority individual tasks for which platoon/company leaders had to develop training prior to deployment (see Table 3). Leaders generally noted that pre-deployment training demands are largely driven by the integration of new personnel, which could include 40-50 new Soldiers from Advanced Individual Training for an infantry company. A great deal of individual task training focuses on basic skills, with the fine tuning of TTP accomplished very late in the pre-deployment training cycle or during the RIP/TOA transition with the unit they are replacing in theatre.

Leaders stated that a big challenge in pre-deployment training is that in the COE all Soldiers need to be proficient in basic dismounted infantry skills, whether they are from infantry, armor, artillery, engineer, or another type of unit. Small unit leaders are challenged to first get Soldiers trained to standard in branch skills, and then to train dismounted infantry skills and combat marksmanship. Leaders mentioned a number of challenges with new equipment training. A consistent theme is that new equipment arrives late in the pre-deployment training cycle, and that classroom and train-the-trainer training addresses equipment operation, but not installation, maintenance, and employment. Leaders stated that Soldiers can figure out mechanical equipment pretty much on their own, but that electronics tasks can be a challenge. Leaders again stressed the importance of early identification of the next deployment AO so the unit can identify the equipment they will have available and train up the unit for that equipment specifically.

Table 3

Soldier Comments Regarding High Priority Individual Skills for Pre-deployment Training

Active Component	
Dismounted infantry skills	- Every Soldier needs to master basic dismounted infantry skills. - Challenge is that units like armor and artillery must first qualify Soldiers on branch skills.
Combat marksmanship	- Combat marksmanship is not just weapons familiarization training. - Soldiers must master reflexive fire techniques and develop the motor skills for the tasks.
Weapons and communications cross-training	- Soldiers need to be able to engage targets with the .50 cal. on the move and to clear jams. - All Soldiers need to be able to operate equipment to send basic reports and receive messages.
New technologies	- Soldiers often learn mechanical tasks on their own but electronics tasks can be a challenge. - Training must include operation, maintenance, and employment of new systems capabilities. - Classroom and train-the-trainer programs often only cover equipment operation.
Maintenance	- Vehicle maintenance can be a challenge. - Need to know what equipment the unit will use when deployed early enough to train for this. - Skills include hands-on maintenance and building familiarity with the parts numbers system.
Language	- Soldiers need the basic communication skills necessary to gather and act on information. - Need better materials. Rosetta Stone may meet training needs, free and accessible via internet.
Culture	- This is how we can win. More than language skills. - Need tools and techniques to integrate language and culture skills into all unit training events. - Involves interaction skills, what to observe, recording information to map the human terrain.

(Table Continues)

Reserve Component	
Shoot/no shoot	- Need to teach Rules of Engagement decision making under pressure.
Crew-served weapons	- Crew-served weapons familiarization and cross-training combat skills need to be emphasized. - Need to train combat marksmanship and procedures for clearing jams.
Combat marksmanship	- Train close quarters marksmanship to include shoot-on-the-move motor skills development.
Traditional branch skills	- Training priority is to maintain traditional branch skills, such as tank crew gunnery skills. - Performance goals are based on FM requirements and master gunner experience.

Language training. Language training remains a challenge. Leaders suggested that one approach is to identify Soldiers with language learning skills and focus language training on them, a few per company. All other Soldiers should get trained to proficiency on basic phrases needed to accomplish the mission. Basic language skills mastery needs to occur early in pre-deployment training so that it can be incorporated into all aspects of individual and collective training. Soldiers now have no-cost access to the commercially available Rosetta Stone language training program through Army Knowledge Online (AKO) (AKO, 2008). Rosetta Stone provides Arabic and Pashto (Afghanistan) versions of the language training with military vocabulary added to help Soldiers learn to handle specialized military situations such as working a road block and questioning civilians (Rosetta Stone, 2008). The 3rd Infantry Division (ID) Warfighting Handbook identifies key phrases that all Soldiers should master which could also be the basis for a training program (3rd ID, 2007).

Cultural skills training. Cultural skills training is a relatively new requirement that leaders identified as being essential for success in the COE. When asked to identify high priority training requirements one officer simply stated "Cultural skills training, this is how we can win." More than language skills, this involves building interaction skills, and learning to map the cultural terrain. The problem is that the company commander or someone else has to create this training in-house as the Army does not have readily accessible training products available that a company commander can administer at the unit level. The RC officers noted that they had looked for training materials but had not found any that met their unit needs. They stressed that cultural skills involve more than language, that Soldiers need training on how to treat people from a different culture with respect and employ effective interaction skills. The leaders stressed that "If I want you to go with me and do something, I need to know how to interact with you without treating you like a child." Being able to map the cultural dynamics of the surroundings is important. One RC officer noted "I'm an inner city unit, my Soldiers (from Philadelphia) have street smarts, they approach people very differently." "We live with the diversity of a lot of different cultures, we even have Muslim Soldiers in our unit."

Training for new technologies. The Army seeks to field the best possible equipment to its Soldiers as quickly as possible. However, Soldiers need the opportunity to train with new equipment early during pre-deployment. While there are many advantages to rapid fielding, the downside is that new technology is sometimes provided to units with inadequate training support, and late in the pre-deployment training cycle. While training for new technologies can take place in formal classroom sessions for operators, at other times selected members of the unit are trained and tasked in turn to train other Soldiers. Under extreme constraints "training" may simply consist of leaving a copy of a technical manual with the new gear. Using new communications technology as an example, training will often address individual operator skills, however important topics such as equipment installation, maintenance, and trouble shooting of

common problems appear to be less frequently addressed. Training that actually addresses how to employ or "leverage" new equipment features as a force multiplier can be difficult to accomplish and is much less likely to be addressed. Some leaders noted that when they are not given a full explanation of how new technology can be employed they will consider the option of leaving the equipment behind when deploying. They do not want to be responsible for moving unused equipment around for the duration of a deployment, when this equipment is more likely to get lost or damaged than gear that Soldiers rely on in their day-to-day work.

Leaders generally agreed "Don't give me technology without the training package." Leaders claim that due to inadequate training Soldiers can only employ a fraction of the capabilities of new equipment such as the Blue Force Tracker. No formal tools for development of new technology training at the unit level were identified in the interviews. Leaders said that often key personnel will be pulled from the unit for a couple of days to receive "train the trainer" instruction on the new technology. These Soldiers are then tasked with training the rest of the unit using a technical manual. Leaders voiced concern about how manuals are typically written for the engineers who developed the equipment, rather than for the Soldiers who will be using it. What often happens is that leaders identify a technology-inclined Soldier who can learn the system through hands-on experimentation, and makes that person the trainer for the gear. Another good approach is to talk to other units who have the equipment to get their ideas. When provided, training materials would often focus on equipment operation and not how to employ equipment to maximum benefit. New equipment training can also be hampered when there is not enough equipment to go around and for all Soldiers to get an opportunity to train with it. These Soldier comments are consistent with previous research findings (Leibrecht, Lockaby, & Meliza, 2003) which noted that the introduction of new communications technology such as Force XXI Battle Command Brigade and Below (FBCB2) has the potential to overwhelm unit trainers if adequate training packages are not provided.

While Table 3 presents a summary of what leaders consider to be high priority individual skills for pre-deployment training, it is also valuable to identify the types of training that leaders have actually been required to develop on their own. Appendix E presents a summary of responses to the Demographic Survey request that leaders identify the training that they have personally developed in the past. The summary illustrates the training that leaders are called on to develop, ranging from individual marksmanship to training planning skills for battalion and brigade operations with the Iraqi Security Force.

Ratings of individual skills training tool adequacy. The Training Tools Survey provides summary estimates of individual skills training tool adequacy and supports empirical comparisons of AC and RC unit requirements. The survey asked "How adequate are Army training tools for developing the following types of training?" The survey question states that "Training tools could include: Army Knowledge Online, Center for Army Lessons Learned, Company Command web forum, automated or manual systems for updating existing materials, other." Figure 4 presents a comparison of AC and RC leader ratings regarding the adequacy of six types of individual skills training.

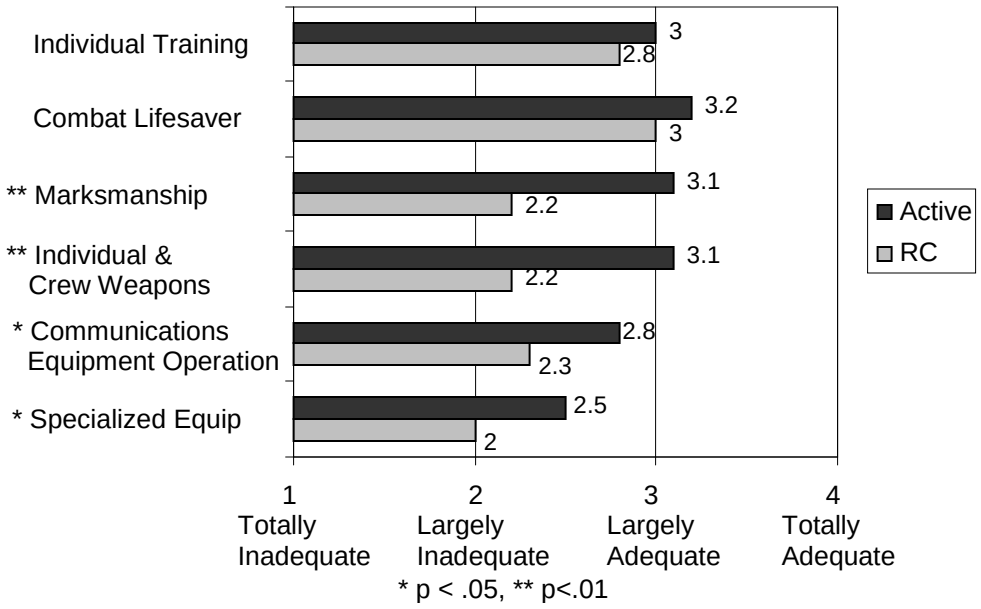


Figure 4. Adequacy of individual skills pre-deployment training tools.

There was no difference in the AC and RC leaders overall ratings of individual training tools (m = 2.96, sd = 0.60), with both groups rating the tools as Largely Adequate. Similarly both AC and RC leaders rated Combat Lifesaver training as Largely Adequate (m = 3.14, sd = 0.73). The Combat Lifesaver is a non-medical Soldier trained to provide emergency care as a secondary mission. Each squad and crew should have at least one member trained to be a Combat Lifesaver. The Combat Lifesaver Course is offered primarily through the Army Correspondence Course Program as a group study activity.

Marksmanship skills training refers to being competent in the operation of a weapon and in the ability to hit a target consistently under varied environmental conditions and in varied body positions. While AC leaders rated available marksmanship training development tools as being Largely Adequate, RC units rated the training tools as being Largely Inadequate. An independent-samples Mann-Whitney U test comparing the marksmanship training tools adequacy for the AC and RC Soldiers revealed a significant difference between the two groups ratings ($z(48) = -3.41$, $p < .01$ [1 tailed test]). The AC group indicated that tools for developing marksmanship training were more adequate (m = 3.13, sd = 0.56) compared to the RC group (m = 2.2, sd = 0.79) which is consistent with the RC group's comments about a lack of weapons and ranges.

Soldiers in combat should be able to perform function checks (loading ammunition, readying to fire, and clearing stoppages) and employ every individual and crew-served weapon assigned to the squad or section (CALL, 2007). The AC leaders rated the availability of training development tools for individual and crew-served weapons cross-training as being Largely Adequate (m = 3.08, sd = 0.69), while RC leaders rated the training tools as being Largely Inadequate (m = 2.22, sd = 0.97). Applying the Mann-Whitney U test, the ratings difference between the two groups is significant ($z(47) = -2.66$, $p < .01$ [1 tailed test]).

"Communication is critical in a fight, and every Soldier should be able to operate the basic communications equipment of the squad or section" (CALL, 2007, pg 29). The AC and RC groups differed in their ratings of the availability of training development tools for communications equipment training, with AC leaders generally rating tools as Largely Adequate (m = 2.83, sd = 0.71), while RC leaders rated training development tools as being Largely Inadequate (m = 2.3, sd = 0.67). The ratings difference between the two groups is significant ($z(48) = -2.00$, $p < .05$ [1 tailed test]) using the Mann-Whitney U test.

Examples of specialized equipment include Blue Force Tracker, rifle scopes, shotguns not on the TOE, and IED counter measures. The AC and RC groups differed in their ratings of the availability of training development tools for specialized equipment training. The AC leaders generally rating tools adequacy mid-way between Largely Adequate and Largely Inadequate (m = 2.46, sd = 0.76), while RC leaders rated training development tools as being Largely Inadequate (m = 2.00, sd = 0.53). The ratings difference between the two groups is significant ($z(45) = 1.64$, $p < .05$ [1 tailed test]) using the Mann-Whitney U test.

Training management tool requirements. The RC Leaders stated that it is hard to tailor training to an area because they do not know where they are going and what their responsibilities will be until mobilization. Both AC and RC leaders mentioned that one way to manage training was just to focus on basic individual Soldier skills that should generalize to any deployment area and mission. Leaders said that they create the required doctrinal planning reports 150 days out, but that these reports are not always useful because of the rate of change (requirements coming down the chain of command) makes planning even 30 days out difficult. Leaders mentioned using commercial spreadsheet programs to track training completed and training required for unit personnel. The RC leaders stated that once the unit is mobilized, the Mobilization Platform (major post training site) training is performed by cadre, is highly structured, and is evaluated with certification checklists.

Collective training resources and development tools. During interviews leaders responded that the most common resource for developing training was experienced NCOs. The Army provides a lot of guidance in FMs in the form of checklists and standards. There is an increasing use of web sources such as AKO, CALL, and the CompanyCommand.com (CompanyCommand, 2008) web forum. The RC leaders noted that when they hear about a deployment training requirement they look for materials and are guided by their past experiences concerning what types of material are needed and where to find these resources. While Army FMs and Technical Manuals (TM) are available, it takes a lot of time to update these materials. It is becoming more common to search sources such as CALL for training materials. However, some leaders said they experienced difficulties when trying to find information on a specific training requirement within the vast amount of material on the CALL website. One leader suggested it would be useful to get automatic notifications from CALL when new material on a training topic is posted.

Requirements and Resources for Pre-deployment Collective Skills Training

High priority collective tasks. Army doctrine states that collective training is derived directly from METL and MTPs. Examples of collective tasks derived from METL tasks to

support a directed mission to conduct stability operations include convoy operations, route security, rail/air movement training, area security, patrolling operations, and establishing or operating checkpoints (DA, 2002, 1-34). Interviews indicated that pre-deployment collective training requirements revolve around the need to integrate the leadership guidance of a new company commander, the need to familiarize new platoon leaders with their responsibilities, and of building cohesive platoons and squads for basic combat operations through collective experiences. Leaders agreed that "You can't just send people to CTC and succeed; the unit has to train up on the required tasks." "The key is to know how to improvise, how to get Soldiers to physically go through the tasks, not just talk about them." One leader provided the example of starting with METL tasks, breaking this down to crew level tasks, and conducting a low fidelity convoy "react to fire" training on available post roads with a supporting unit as the opposition force. The training was enhanced by incorporating other important tasks to include rendering first aid, evacuating casualties, and reporting.

Methods and tools for collective performance assessment. When asked to identify the tools they use to measure collective performance on training exercises the leaders mentioned using checklists for well-defined tasks and relying heavily on the judgment of experienced personnel. Leaders mentioned that having experienced observer/controllers assess training is a preferred assessment approach, even if assessment is done with only one evaluator per company. Leaders also mentioned the importance of freeing up time during training events to observe and assess their own unit's training. Too often the leaders have to go through the same training, or get pulled away to other administrative duties. Leaders described going to CTCs at which a cadre of evaluators can record and provide feedback. Some simulations were identified that include scoring features such as the convoy simulation DarWars Ambush (BBN Technologies, 2008) and the Joint Conflict and Tactical Simulation (JCATS) for training mission planning (U.S. Joint Forces Command, 2008).

Resources for collective training development. Leaders were asked to identify the resources and tools they have available to support training development for collective tasks, as well as any additional resources needed. It was noted that training packages are good when available, but must be up to date. Leader experience was cited as a key resource for training development, with experienced NCOs being a key knowledge base for convoy operations. Army information sources such as CALL were also cited as being a valuable source for training publications and handbooks. Leaders consistently identified time as a key resource in short supply for training collective tasks. Leaders also identified lack of knowledge of the deployment AO and mission until late in the training cycle as a major factor limiting collective training. The RC leaders cited a lack of materials, equipment, and ranges as limiting skills training. However, they often stated that many training resource constraints could be overcome through leader improvisation and initiative, using available areas to practice collective tasks such as convoy actions, simulated attack, and building clearing.

Identifying collective training requirements. Leaders described several ways of identifying collective training requirements for their unit. Some indicated that the yearly training requirements for METL tasks are pretty well established by higher command. One limitation is that units are often operating under a directed mission so that many of their METL tasks might not apply to deployment skill requirements. As example, armor units are required to qualify in

tank gunnery training, but they might not deploy with their tanks, falling in on HMMWVs instead and performing dismount infantry tasks.

Many leaders voiced the opinion that early identification of the mission, organization, and mission essential equipment are necessary for building an effective training plan. Leaders stated that the identification of training requirements comes from experience, and the desire to develop basic Soldier skills that will meet the deployment environment. One leader described how he had contacted his counterpart deployed in theater and identified the day to day activities to determine training requirements, and develop appropriate training. By monitoring current operations in theater using a secure communications net he was able to monitor the operations that were actually being run, get mission reports, identify associates with experience, and establish the training requirements. Small unit officers and NCOs should be able to access classified briefings and information sources on a secure net while at home station to update their knowledge of events in various AO. Table 4 presents a summary of leader responses when requested to identify high priority collective skills for pre-deployment training.

Table 4

Soldier Comments Regarding High Priority Collective Skills for Pre-deployment Training

Active Component	
Convoy operations	- Train movement drills, battle drills, dealing with casualties. - Train skills for operating and employing communications gear
Communications	- Integrate into other pre-deployment training early, "work-arounds" need to be practiced. - Learn to accurately describe key information from the environment. - Visualize what others see from their voice or text messages. - Time, relay requirements, distractions, and constraints need to be understood and exercised. - Soldiers must learn what information the other person needs.
Collective unit exercises	- CTC training benefits include ability to simulate realistic conditions such as night exercises. - Chance to perform collectively as a unit, use CTC equipment not available at the unit.
Platoon and squad cohesion building	- Platoon leaders and NCOs need realistic platoon and squad exercises to build cohesion. - Training events should let NCOs share their experiences with new platoon leaders. - Training must provide opportunity for junior enlisted to practice basic Soldier skills. - Leaders must find creative ways to simulate cognitive demands of tasks for local training.
Reach-back information channels	- There should be classified battle drill websites where leaders can download training plans. - Leaders need formal channels and points of contact for training information reach-back. - While a number of Army information sites exist it can be hard to find specific information.
Reserve Component	
Asset coordination	- Leaders must be pro-active and creative, seek out information from deployed counterparts. - Leaders must train with other supporting groups (air assets, Civil Affairs, medical teams).
Train-up for CTC certification	- You can't just send people to CTC and succeed, the unit must train up required tasks. - Improvise. Get Soldiers to physically go through tasks, not just talk about them. - Start with METL tasks and break this down to crew level tasks.

Ratings of collective skills training tool adequacy. The Training Tools Survey provides summary estimates of collective skills training tool adequacy and supports empirical comparisons of AC and RC unit requirements. Figure 5 presents a comparison of AC and RC leader ratings regarding the adequacy of six types of collective skills training.

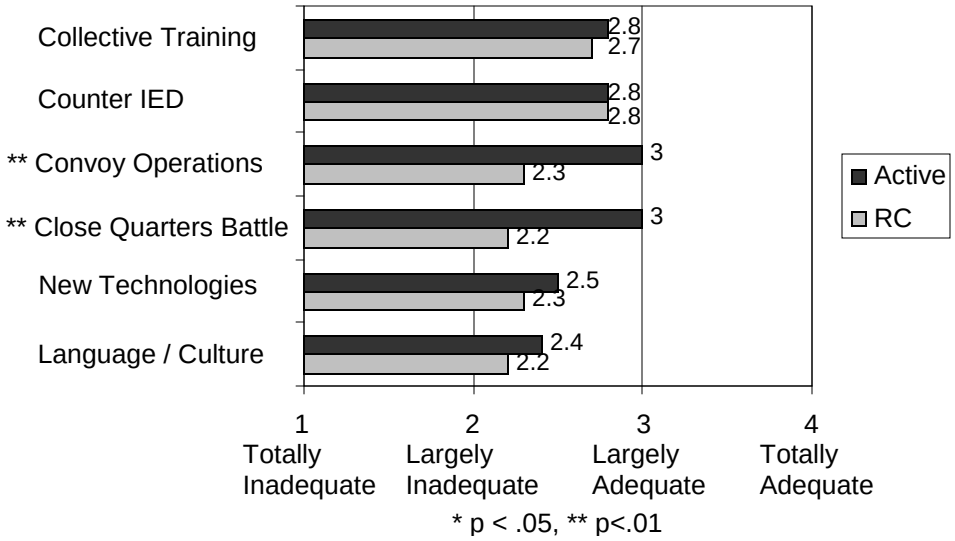


Figure 5. Adequacy of collective skills pre-deployment training tools.

There was no significant difference between the AC and RC leaders overall ratings of collective training tools (*m* = 2.80, *sd* = 0.61), with both groups rating the tools as Largely Adequate. Both AC and RC groups rated counter-IED training tools as be Largely Adequate (*m* = 2.82, *sd* = 0.63) and identified internet sources, in-country TTP, and intelligence reports as good sources of information on the IED threat.

Convoy operations include the tasks of movement drills (scanning, actions on halts), battle drills (react to attack), casualty extrication, vehicle self-recovery, and reporting. While AC leaders rated available convoy operations training development tools as being Largely Adequate, RC units rated the training tools as being Largely Inadequate which was consistent with comments about importance of improvising to accomplish convoy operations training for RC. The survey questions were posed as four-option Likert scales asking about the adequacy of training tools. While the survey questions were originally coded as 1 = Totally Adequate, 4 = Totally Inadequate, the Soldier responses were reverse coded for the analyses so that 1 = Totally Inadequate, 4 = Totally Adequate. With the reverse coding larger values reflect greater adequacy of training tools. An independent-samples *t* test comparing the mean rating for the AC and RC leaders revealed a significant difference between the two groups ratings ($t(47) = 2.86$, $p <. 01$ [1 tailed test]). The AC group indicated that tools for developing convoy operations training were more adequate (*m* = 3.03, *sd* = 0.66) compared to the RC group (*m* = 2.33, *sd* = 0.71).

The term "Close Quarters Battle" (CQB) refers to Soldiers being able to quickly and effectively engage targets at ranges less than 25 meters, making shoot/no-shoot decisions. The CQB is being included as a collective skill because Soldiers often engage targets as a team using well established tactics for sectors of responsibility and mutual support. The AC and RC groups differed significantly in their ratings of CQB training development tools adequacy ($t(46) = 2.88$, $p < .01$ [1 tailed test]). The AC group indicated that there was greater availability of CQB training (*m* = 2.95, *sd* = 0.69) compared to the RC group (*m* = 2.2, *sd* = 0.67). The lowest ratings of training tool adequacy were assigned to training for New Technologies (*m* = 2.44, *sd* = 0.61)

and host nation Language and Culture (m = 2.32, sd = 0.68), where ratings for both groups were generally in the area of Largely Inadequate. The AC and RC groups did not differ significantly in their ratings for new technologies and language and culture training tools.

Requirements and Resources for Pre-deployment Leader Skills Training

The officers and NCOs interviewed described a number of leader development requirements that are embedded in the collective training tasks and in discrete individual leader focused training. The training demands are largely driven by the integration of new leaders into the company (i.e., company commanders, all platoon leaders, executive officers, and platoon sergeants). While NCO leaders will often be grown within the unit, a new company commander and platoon leaders will likely join the company after it returns from a deployment. A great deal of leader training focuses on building cohesive platoons and squads for basic combat operations through collective pre-deployment training. Leaders stated that success in the COE requires that officers and NCO be trained to gather, consolidate, and analyze information about the people and competing local powers in their AO. Leaders use this information to quell violence in the environment through selective support of cooperative local factions. Table 5 presents a summary of interview responses identifying high priority leader skills.

Table 5

Soldier Comments Regarding Leader Skills Training

Active Component	
Asset utilization and coordination	- Small unit leaders may have a wealth of special personnel and equipment to support their mission, but this only has value if the leaders can employ these tools. - Leaders need training, perhaps through simulations, to develop the cognitive skills to manage and coordinate equipment such as the Raven unmanned aerial vehicle and personnel assets such as the Intelligence Officer and Civil Affairs teams to support operations. - Given the constraints associated with trying to bring together equipment and personnel a simulation is needed to train the cognitive aspects of the tasks.
Culture and language	- A critical leader role, interacting with the locals and practicing effective engagement skills. - Communicating through an interpreter and tracking progress in negotiations takes practice. - Master key phrases for gathering and quickly acting on information from the population.
Human terrain mapping	- Utilize assets (Civil Affairs/Intelligence) to build dynamic model of the human environment. - Learn how to gather, consolidate, and analyze information about competing local powers. - Build an economic profile of how the community operates and how insurgents operate.
RIP/TOA information	- Considerable learning happens during RIP/TOA right-seat-ride time with the outgoing unit. - Make RIP/TOA documents accessible early for pre-deployment unit training.
Reserve Component	
Vignette-based ROE training	- Train Soldiers on how to escalate use of force "If he does this, then I will take this action." - Apply ROE training to crowd control situations.
New equipment training	- Often key leaders are pulled away for new technology training, then train the rest of the unit. - Often new equipment training is based on a manual written by and for engineers.

Requirements and Resources for Training during Deployment

High priority task identification. Some leaders stated that little organized training takes place after a unit deploys. Other leaders indicated that training during deployment was conducted to develop individual skills on new equipment, to enhance collective skills, and to

sustain skills that might otherwise decay. It is necessary to consider how training during deployment may contribute to mission success, as some units do not know what their actual location and role will be until deployed and others will face a change of location or role during deployment. As an example, one leader noted his experience with an engineering unit that had been assigned to convoy operations, a task on which they received little training prior to deployment. A key source of information for in-theatre training is the RIP/TOA process, and the development of "Continuity Books" detailing the AO and mission. Several leaders suggested that the RIP/TOA handover procedures which might last approximately two weeks be extended. With regard to sending advance parties ahead of the unit move, some suggested that junior leaders such as platoon leaders be given the chance to "hook up with the person he is replacing" early on through email or video teleconferencing. Table 6 presents a summary of leader responses when asked to identify high priority individual and collective tasks they had to develop training for while deployed. Leaders mentioned that Soldier motivation can increase greatly once deployed due to the immediacy of the need for skills. There can also be more opportunities for uninterrupted training as the distracters present at home station (such as pulling Soldiers away for garrison details) are gone.

Table 6

Soldier Comments Regarding Training during Deployment

Active Component	
Combat marksmanship	- Use open areas to conduct combined arms live fire training rarely possible at home station. - Erect simple "shoot houses" to build and sustain CQB skills as combat becomes less frequent. - Seek opportunities to practice marksmanship during patrols in open areas; break the routine.
Collective training	- Many units do not have access to the types of vehicles used in the AO prior to deployment. - Conduct collective (e.g., checkpoint) training when first deployed to finalize detailed TTP.
New equipment training	- Leaders must be able to develop skills training and TTP for new equipment. - Leaders must develop training to adapt existing systems to new requirements.
Train-up for non-TOE equipment and roles	- Training for many systems can only take place once the unit has deployed to their AO. - Typical non-TOE equipment includes IED defeat, weapons, vehicles, and specialized equipment such as MARKBOTS (Mobile Tactical Robots).
AO-Specific training	- Necessary to train some skills under conditions of the specific deployment AO. Examples include Combat Life Saver and medical evacuation procedures.
Reserve Component	
Training package development	- Some leaders note that there is no time to develop training packages once deployed.
Rehearsals	- Rehearsals are conducted for specific tasks based on leader assessment of requirements.
Mostly RIP/TOA familiarization	- Most training while deployed occurs during RIP/TOA right seat ride orientations. - Quality of RIP/TOA, continuity files, and orientation activities is up to the out-going unit.

Supporting resources or tools available for training while deployed. A large forward operating base would likely have computers with internet access to reach back for information. As an alternative, there would likely be computers in the Tactical Operations Center that are linked to the Internet and a classified secure net to gather training plans and the latest threat tactics information from other units. While CALL has good information, some report that it is hard to find materials. For essential skills such as expert marksmanship the units would rely on their experienced NCOs to develop training for skill development and/or sustainment. Leaders noted that marksmanship skill training can actually be easier to accomplish at times after

deployment due to access to unoccupied areas where ranges and reflex fire "shoot houses" can be set up. With regard to constraints on post-deployment training leaders stated that while resources are an issue, but most pressing constraint is time. After performing a days operations which can involve multiple patrols Soldiers simply want to eat and sleep.

Training facilities availability to support unit training while deployed. The AC and RC leaders were in general agreement when describing training facility availability when deployed, indicating that weapons ranges and training areas are available. Leaders described how they could conduct main gun live fire against old threat tank hulks, carry out combined weapons training, and create "shoot houses" for CQB skills building and skills sustainment. The leaders indicated that stand-alone computers and computers with Internet capability are available sometimes during deployment which would support skills training and information sharing.

Training development tools for training while deployed. Leaders noted that the best source of information to accomplish training during the deployment transition is hand-over briefings and materials from previous unit in that AO. The information can be an informal "ride-along," formal briefings, or documentation such as task lists and various continuity books. The quality and quantity of transition materials will vary from unit to unit, often depending on the outgoing commander's guidance. Materials can include existing FMs, TMs, other unit's materials, and CALL searches for pamphlets. Some leaders stated that structured training activities were not conducted once the unit deployed, that Soldiers gained the necessary skills through rehearsals and on the job experience. Leaders mentioned that while attempts are made to utilize NCOs to bring new Soldiers up to speed there is usually very little spare time for that.

Leaders stated that the CALL web site provides one option for reaching back to access training materials. However, for some leaders, it provides too much material to wade through. Stryker Brigade Combat Team (SBCT) Warfighters' Forum was also identified as a good source for information products, to include video interview clips with senior leaders. The SBCT Warfighters' Forum develops training concepts, and designs or builds training modules to address unit training and leader development needs (SBCT Warfighters' Forum, 2008). Leaders suggested that the Army might support the training needs of new platoon leaders by providing short, punchy, video clips which illustrate good ideas for conducting activities such as convoy operations, or traffic control points. Leaders consistently cited lack of time as the biggest barrier to training while deployed, which would probably apply both to training development and training delivery.

Discussion

Summary

The assessment of small unit leader training tool and resource requirements was conducted by ARI to identify potential training needs that might be addressed through innovative training development. The assessment addressed pre-deployment individual, collective, and leader training, and also identified those types of training that are conducted while deployed. Many of the leader comments were consistent with the 2008 FORSCOM review of lessons learned for pre-deployment training of NG BCTs (FORSCOM, 2008). The review cited early

identification of unit mission, equipment shortages, new equipment training, and the need for a unit MTOE that accurately reflects deployed equipment requirements as key issues that impact pre-deployment training. In interviews the RC unit leaders generally identified more constraints on training than did AC unit leaders with regard to tactical equipment, weapons training ranges, and early notification of the unit's next deployment AO. The AC unit leaders in turn cited the lack of non-TOE equipment to conduct training for the skills that would be required once deployed.

Both AC and RC unit leaders stressed the need for language and culture skills training that will better prepare them for the actual demands of the deployment AO. The Rosetta Stone Internet-delivered language training might be able to satisfy some of the language skill requirements if the language skills could be integrated into other pre-deployment training. While leaders knew of the Rosetta Stone language training available through AKO, none indicated that they had actually tried it (Rosetta Stone, 2008). The Rosetta Stone Version 3 Arabic (Military Edition) language training program involves listening and speaking phrases supported by a voice recognition capability. Four units of instruction (each approximately 10 hours in duration) are currently offered. The instruction includes language skills needed to work a military checkpoint, locate a suspected urban terrorist hideout, and investigate the site of a car bombing. The 3rd ID has identified key phrases and cultural knowledge material in the Warfighting Handbook (3rd Infantry Division, 2007) which provides Soldiers with a paper product for learning these skills.

A recurring concern expressed by many leaders was that their units do not possess the equipment needed to train with and access to ranges to build the skills they need when deployed. Lack of CQB training and lack of access to the .50 cal were often cited as examples. Some leaders stated that training goals can be accomplished by creating a good plan and sticking to it. Leaders described methods of delegating training station tasks to platoons so that most of the company personnel could rotate through equipment sequentially in small groups. Leaders also described the need for unit commanders to be creative and to negotiate with adjacent units to gain access to equipment. Other options mentioned were the expanded use of mobile training teams with the necessary equipment, and greater access to simulators. There is some evidence that the Army is moving in the direction of addressing some concerns by enhancing basic marksmanship training with more realistic requirements. A recent article (Cox, 2008) describes sweeping changes to basic marksmanship that stresses shooting from behind cover, fixing jams, and changing magazines. This approach to marksmanship training is in line with a new concept called "outcome-based training" described in the recently revised FM 3-0 Operations (DA, 2008a).

Training development for new technology appears to present a significant challenge. During the interviews leaders claimed that due to inadequate training Soldiers can only employ a fraction of the capabilities of new equipment such as the Blue Force Tracker. No formal tools for development of new technology training at the unit level were identified in the interviews. It should be noted that ARI is currently conducting research to develop, implement, and refine a vignette- and simulation-based method for developing TTP for employing capabilities which are not yet available (Tupholski, In Preparation).

The Training Tools Survey was useful in supporting the empirical comparison of AC and RC unit training needs and resources. The survey demonstrated sensitivity to the different needs of AC and RC units, showing significant differences in the availability and adequacy of training tools for specific types of training that have been identified as essential for Soldier success in the COE. The results of the survey suggest that while weapons ranges and classrooms are often available for AC unit pre-deployment training, they are somewhat less available for RC units. While AC leaders rated the adequacy of pre-deployment training tools for movement drills, convoy operations, and marksmanship as Largely Adequate the RC leaders rated these significantly lower. Both AC and RC leaders assigned their lowest ratings of adequacy to training for CQB and language/culture skills. With regard to cross-training both AC and RC leaders assigned their lowest ratings of adequacy to training for specialized equipment (e.g., Blue Force Tracker). The RC leaders rated the adequacy of cross-training for individual and crew-served weapons significantly lower than their AC counterparts. While these comparisons are not necessarily reflective of AC and RC units in general, they do serve to point out potential training tool deficiencies that might be addressed through innovative training tools development research.

Future Research Directions

There are a number of directions that future research can take. While they will likely not fix all the problems identified, particularly problems involving the lack of equipment to train with, the future research can address important requirements. The results of the research were presented at the 76th MORSS on 10 June 2008. A few areas for future research and development (R&D) can be identified:

- *Human terrain mapping.* Human terrain mapping (HTM) refers to proactive methods used to systematically collect and catalog social and ethnographic information for a unit's area of operations (Marr, Cushing, Garner, & Thompson, 2008). To gather HTM information a unit must plan and execute a deliberate process of decentralized patrols to answer specific questions about the population (tribal boundaries, location of sheiks, and local leaders). As such HTM requires skills from both the leaders who identify information requirements and consolidate data, and for the Soldiers who must know what to look for and how to record information about the human and geographic terrain. As a follow-on effort to the present research, a contract was awarded in August 2008 to develop small unit pre-deployment training for HTM skills. This effort will transition HTM best practices and lessons learned from units recently deployed to Iraq into vignette-based training. Discussions have been initiated to gain the support of an Army Brigade Combat Team for the design, development, and evaluation of the HTM training products.

- *Asset utilization and coordination.* Small unit leaders may have a wealth of special personnel and equipment to support their mission, but this only has value if the leaders can find and employ these tools. Leaders need training, perhaps through simulations, to develop the cognitive skills to manage and coordinate equipment such as the Raven unmanned aerial vehicle and personnel assets such as the Intelligence Officer and Civil Affairs teams to support operations. There are many constraints associated with trying to bring together equipment and personnel for a live exercise

employing multiple personnel and equipment assets. Follow-on research might be conducted to identify the cognitive tasks associated with a representative set of personnel and equipment, and then design a low-cost simulation to train these skills with embedded exercises and evaluation tools.

- *Rules of engagement (ROE) and escalation*. Leaders stated that learning the ROE involves more than a classroom exercise. Soldiers need to develop split-second decision-making skills and motor-memory reactions. Rather than being a "shoot/no shoot" decision, employment of the ROE requires that Soldiers can employ escalating levels of force to control the situation. Future research should be conducted to develop a low-cost ROE training delivery system that can present the written ROE guidance, walk Soldiers through visually interesting video vignettes illustrating multiple examples of ROE being properly or improperly applied, and assess their mastery. Through simulation Soldiers could develop their skills in progressively more challenging and time constrained vignettes. The ROE training would likely be developed for the individual Soldier and for leaders, as leaders must be prepared to provide timely guidance to their subordinates.

- *Peer-to-peer (P2P) training.* Much of pre-deployment collective training involves having experienced leaders and Soldiers sharing their knowledge of emerging lessons learned and TTP with less experienced personnel. This training may come through face-to-face meetings, web-based forums, or a video teleconferencing meeting. The P2P training provides a structured approach that leads learners through problem identification, idea generation, feedback, and solution clarification. Recently ARI completed work developing a P2P Training Facilitator's Guide (Costanza, Leibrecht, Cooper, & Sanders, In Preparation) which incorporates best practices from academia, industry, and the military. The structure and guidance provided to facilitate P2P training can serve to reduce the burden on leaders to rapidly develop, deliver, and assess training for their Soldiers. Follow-on research should investigate ways in which the P2P guide can support collective pre-deployment training in small units. The facilitator's guide has been favorably reviewed by members of the Knowledge Networks Division, Battle Command Knowledge Systems, U.S. Army Combined Arms Center (CAC), as a tool to assist web forum discussions for the Army's Fort Leavenworth Battle Command Knowledge System.

References

3rd Infantry Division. (2007). Warfighting Handbook Edition II.

Army Knowledge Online. (2008). Army Knowledge Online (AKO) web site: www.army.mil/AKO

Abbe, A. (2008). *Building cultural capability for full-spectrum operations.* (ARI Study Report 2008-04). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Abbe, A., Gulick, L., & Herman, J. (2008). Cross-cultural competence in Army leaders: A conceptual and empirical foundation. (ARI Study Report 2008-01). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Babbitt, B., & Nystrom, C. (1989). *Questionnaire construction manual.* (ARI Research Product 89-20). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

BBN Technologies. (2008). DarWars Ambush. Retrieved 21 April 2008 from the web site: http://ambush.darwars.net/

Center for Army Lessons Learned. (2007). Leader's Handbook No. 07-27, *The First 100 Days: Tactics, techniques, and procedures.* Fort Leavenworth, KS: Author.

Combined Arms Center. (2008). OPORD 08-050A Combined Arms Center – Knowledge (CAC-K) Concept Overview. Fort Leavenworth, KS.

CompanyCommand. Military discussion forum. Retrieved 24 March, 2008 from the Army Knowledge Online web site: http://companycommand.army.mil/

Costanza, M., Leibrecht, B., Cooper, W., & Sanders, W. (In Preparation). *Peer-to-peer training facilitator's guide: Development and evaluation.* Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Cox, M. (May 5, 2008). Zeroed in on marksmanship: Army overhauls weapons training and qualification. *Army Times*, p. 14-16.

Department of the Army. (2002). Field Manual 7-0, *Training the Force.* Washington, DC: Author.

Department of the Army. (2006). Field Manual 3-6, *Urban Operations.* Washington, DC: Author.

Department of the Army. (2008a). Field Manual 3-0, *Operations.* Washington, DC: Author.

Department of the Army. (2008b). TRADOC PAM 525-3-7-01, *The U.S. Army Study of the Human Dimension in the Future 2015-2024.* Fort Monroe, VA: Author.

Department of Defense. (2008). Joint Combat Camera Center. Retrieved 22 May, 2008 from the Department of Defense, Defense Visual Information (DVI) Directorate web site: http://dodimagery.afis.osd.mil

FORSCOM. (2008). Briefing: 4 + 1 Brigade Combat Team Comprehensive Review. Training Integration Branch, FORSCOM G-3/5/7.

Leibrecht, B. C., Lockaby, K. J., & Meliza, L. L. (2003). *A practical guide for exploiting FBCB2 capabilities.* (ARI Research Product 2003-05). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Marr, J., Cushing, J., Garner, B., & Thompson, R. (January-February 2008). Human Terrain Mapping: A critical first step in winning the COIN fight. *Infantry*. Available at web site: https://www.benning.army.mil/magazine/index.htm

Pryor, M. (January-February 2008). Human Terrain Team Helps Soldiers in Iraq Understand Cultural Landscape. *Infantry.* Available at web site: https://www.benning.army.mil/magazine/index.htm

Rosetta Stone. (2008). Retrieved 29 April 2008 from web site: http://usarmy.rosettastone.com

SBCT Warfighters' Forum. (2008). Retrieved 29 April, 2008 from web site: http://strykernet.army.mil

Tupholski, R. (In Preparation). *Flexible method for developing tactics, techniques, and procedures for future capabilities.* Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

TRADOC. (2008). Army culture and foreign language strategy update. Briefing presented to U.S. Army Training and Leader Development General Officer Steering Committee, 4 June 2008.

U.S. Joint Forces Command. (2008). Joint Conflict and Tactical Simulation (JCATS). Retrieved April 21, 2008 from the U.S. Joint Forces Command (USJFCOM) web site: www.jfcom.mil/about/fact_jcats.htm

Appendix A

Acronyms

.50 cal	50 Caliber Machinegun
1LT	First Lieutenant
2LT	Second Lieutenant
AC	Active Component
AKO	Army Knowledge Online
AO	Area of Operations
ARFORGEN	Army Force Generation
AR	U.S. Army Reserve
ARI	Army Research Institute for the Behavioral and Social Sciences
BBN	Bolt, Beranek, and Newman
BCT	Brigade Combat Team
CAC-K	Combined Arms Center – Knowledge
CALL	Center for Army Lessons Learned
COE	Contemporary Operational Environment
CPT	Captain
CQB	Close Quarters Battle
CTC	Combat Training Center
DA	Department of the Army
EST2000	Engagement Skills Trainer
FBCB2	Force XXI Battle Command Brigade and Below
FM	Field Manual
FORSCOM	U.S. Army Forces Command
HMMWV	High Mobility Multi-purpose Wheeled Vehicle
HTM	Human Terrain Mapping
ID	Infantry Division
IED	Improvised Explosive Device
JCATS	Joint Conflict and Tactical Simulation
LBE	Left Behind Equipment
MAJ	Major
MARKBOTS	Mobile Tactical Robot

METL	Mission Essential Task List
MORSS	Military Operations Research Society Symposium
MTOE	Modified Table of Organization and Equipment
MTP	Mission Training Plan
NCO	Non Commissioned Officer
NG	U.S. Army National Guard
P2P	Peer-to-Peer
RC	Reserve Component
R&D	Research and Development
RIP/TOA	Relief in Place - Transfer of Authority
ROE	Rules of Engagement
SBCT	Stryker Brigade Combat Team
SFC	Sergeant First Class
SSG	Staff Sergeant
TOE	Table of Organization and Equipment
TM	Technical Manual
TRADOC	U.S. Army Training and Doctrine command
TTP	Tactics, Techniques, and Procedures

SMALL UNIT TRAINING DISCUSSION QUESTIONS

GOALS FOR THE RESEARCH:

- Identify the training development tools that small unit leaders need for rapid training development.
- Small unit leaders include the company commander, platoon leaders, platoon sergeants, and others.
- Identify the training development tools that are available now, and what tools you would like to have to support pre-deployment training, and training when deployed.

INDIVIDUAL & COLLECTIVE TASK PRE-DEPLOYMENT TRAINING

Q1: Can you describe some high priority tasks that platoon/company leaders had to develop training for prior to deployment? These can be ones you developed training for, or ones you observed someone else developing training for.

Q2: How does your unit GATHER INFORMATION, TTP, AND LESSONS LEARNED to help tailor training for the area of operations your unit will deploy to?

Q3: What resources or tools were available to support TRAINING DEVELOPMENT for the tasks?

Q4: What tools does your unit use to MANAGE TRAINING (this includes scheduling and resourcing training).

Q5: What tools does your unit use to MEASURE PERFORMANCE in training events?

Q6: What tools does your unit use to develop training for NEW TECHNOLOGIES?

Q7: What tools does your unit use to develop training in preparation for a COMBAT TRAINING CENTER ROTATION?

Q8: Is there any training you didn't do because of lack of materials/resources?

Q9: What additional TRAINING DEVELOPMENT tools are needed? These tools can be already existing ones to which you don't have access, or descriptions of ones which should be created.

TRAINING WHILE DEPLOYED

Q10: Can you describe any individual and/or collective tasks for which platoon/company leaders had to develop training during deployment? These can be ones you developed training for, or ones you observed someone else developing training for.

Q11: What resources or tools were available to support the development of training for these individual and/or collective tasks?

Q12: What additional tools are needed to support the development of individual and/or collective training? These tools can be already existing ones to which you don't have access, or descriptions of ones which should be created.

Appendix C

PT 61-22

Training Tools Survey

Survey # _____ Location _____ Date _____

1. How often were training facilities available to support unit PRE-DEPLOYMENT training?

	Always	Often	Sometimes	Never	Not Applicable
a. Weapons ranges	☐	☐	☐	☐	☐
b. Areas for small unit training	☐	☐	☐	☐	☐
c. Classrooms	☐	☐	☐	☐	☐
d. Computers (no internet)	☐	☐	☐	☐	☐
e. Computers (with internet)	☐	☐	☐	☐	☐

2. How often were training facilities available to support unit training while DEPLOYED?

	Always	Often	Sometimes	Never	Not Applicable
a. Weapons ranges	☐	☐	☐	☐	☐
b. Areas for small unit training	☐	☐	☐	☐	☐
c. Classrooms	☐	☐	☐	☐	☐
d. Computers (no internet)	☐	☐	☐	☐	☐
e. Computers (with internet)	☐	☐	☐	☐	☐

3. How adequate are Army training tools for developing the following types of training? Training tools could include: Army Knowledge Online, Center for Army Lessons Learned, Company Command web forum, automated or manual systems for updating existing materials, other.

	Totally Adequate	Largely Adequate	Largely Inadequate	Totally Inadequate	NA
Combat Survival Skills					
a. Host nation language and culture	☐	☐	☐	☐	☐
b. Counter improvised explosive device (IED) and IED defeat	☐	☐	☐	☐	☐
c. Weapons marksmanship and close-quarters marksmanship	☐	☐	☐	☐	☐
d. Close-quarters battle	☐	☐	☐	☐	☐
e. Convoy operations	☐	☐	☐	☐	☐
f. Movement drills, battle drills, casualty extraction	☐	☐	☐	☐	☐
g. Physical fitness	☐	☐	☐	☐	☐

	Totally Adequate	Largely Adequate	Largely Inadequate	Totally Inadequate	NA
Cross-Training					
h. Individual and crew-served weapons	☐	☐	☐	☐	☐
i. Communications equipment operation and reporting	☐	☐	☐	☐	☐
j. Vehicle driving	☐	☐	☐	☐	☐
k. Integration of specialized equipment (ex. Blue Force Tracker)	☐	☐	☐	☐	☐
l. Combat lifesaver skills	☐	☐	☐	☐	☐
Situational Awareness					
m. Area of operations situational awareness: economic factors, geography, population family ties	☐	☐	☐	☐	☐
n. Knowledge of the enemy in your area, lessons learned from previous unit, recent operations	☐	☐	☐	☐	☐
Overall Assessment					
o. Individual training	☐	☐	☐	☐	☐
p. Collective training	☐	☐	☐	☐	☐

q. Training for new technologies	☐	☐	☐	☐	☐
r. Combat training center rotation	☐	☐	☐	☐	☐
s. Tailoring training for next deployment area of operations	☐	☐	☐	☐	☐

Demographic Survey

Survey # _____ Date _____

Branch _____ Current Rank/Grade _____

Age _____ AOC/MOS _____

☐ Active Duty ☐ Army Reserve ☐ National Guard

1. What is your current duty position? _____
2. How many months in current duty position? _____
3. Time in military service:

   Officer: Years _____ Months _____

   Enlisted: Years _____ Months _____
4. Prior Leader/Staff Experience (and time in position)

---

5. Please check all operations you have been deployed in:

   ☐ Iraq (OIF) ☐ Afghanistan (OEF)

   ☐ Kosovo ☐ Bosnia

   ☐ Operation Desert Shield/Desert Storm

   ☐ Other (describe)

   _____
6. Please identify the types of training you have personally developed. (Describe)

Appendix E

Demographic Survey Results: Training Developed Previously

Active Component	
Planning	- Joint Conflict And Tactical Simulation (JCATS) company-level digital exercise. - Company Field Training Exercise (FTX)/Situational Training Exercise (STX).
Communications	- Radio operations, communications equipment training.
Initial Skills	- Initial Military Training and Common Task Training.
Marksmanship and combat	- Constructed ranges (pistol, rifle, M203, squad and platoon live fire, foreign weapons familiarization. - Marksmanship training at all levels (initial/advanced marksmanship. Buddy, team, squad, and platoon live fire exercises. Squad and team marksmanship competition. - Combat marksmanship. Quick reaction (M16) reflexive fire, shoot/don't shoot, close quarters tactics. - Crew served weapons training, Javelin missile training. - Training lanes for improvised explosive devices. - Armor training, Small Arms Master Gunner (company level). - Sniper, reconnaissance, tactical surveillance, and combative training.
Gunnery	- Bradley gunnery and gunnery scenarios at company level.
Culture and rules of engagement	- Cultural awareness, working with interpreters and foreign nationals. - Enemy prisoner of war procedures. - Rules of engagement changes and updates. - Developed training to address escalation of force issues.
Administrative	- Administrative operations for Killed in Action and Wounded in Action. - Redeployment and reintegration training tasks.
Convoy operations	- Convoy Live Fire Exercise (CLFX), trained squad leaders as convoy and patrol leaders. - Platoon battle drill and live fire exercises. - Fast Rope Insertion Extraction System. Small unit insertion (scout and sniper teams). - Movement through obstacles tied into interaction with role players. - Survivability in a HMMWV ambush, casualty evacuation drills for vehicles. Medical evacuation and first aid.
Urban operations	- Platoon training for urban operations, raids and ambush, standard operating procedures. - Infantry squad training. Six-man room entry. Squad and team lanes for battle drills. - Mounted Movement to Contact and React to Contact training for platoon leaders. - Land navigation, urban navigation training, and driver's training (company level). - Controlling air assets at platoon level. - Sniper employment at company level. Trained unit to transition to a motor rifle company. - Dismounted movement and patrolling techniques for armor, field artillery, and scout units. - Airborne operations
Specialized equipment	- Developed mine-clearing bulldozer operation training (heavy specialized equipment). - Avenger crew certifications. Stinger certification. - Wrote Technical Manual for new Raven unmanned aerial vehicle.
Common tasks training	- Round Robin Common Task Training. - One-Station Unit Training (infantry). - Mechanized Leader Course. - Developed squad physical training competitions.
Maintenance training	- Maintenance standards and process. Army maintenance management training. - Developed Battle Damage Assessment and Repair (BDAR) and vehicle recovery and maintenance standard operating procedures. - Battalion maintenance procedures. - Developed licensing and dispatch procedures and scheduled services programs. - Maintenance safety and environmental considerations. Theater Maintenance (Afghanistan).

Reserve Component	
Marksmanship and combat marksmanship	- Squad weapons qualification. - Individual weapons qualification ranges. - Marksmanship small arms ranges. - Squad and platoon level close quarters battle training.
Gunnery	- TOW gunnery and mortar gunnery - Tank crew gunnery skills training, Tank Table XII mounted rehearsal, Company situational training exercise (STX) lanes. - Tank Crew Gunnery Skills Test (TCGST) evaluations.
Platoon operations	- Platoon operations. - Company and platoon collective training. Platoon battle drills. - Medical evacuation and casualty evacuation training. - Breach training. - Army warrior tasks (shoot, communicate, joint urban operations, move, fight). - Convoy operations. Convoy live fire mounted rehearsal. - Call for fire, Close Air Support (CAS).
Specialized equipment	- Night vision equipment. - Nuclear/biological/chemical (NBC). - Physical training.
Urban operations	- Squad and platoon urban operations. Act as opposition force. - Rules of engagement training. - Land navigation mounted/dismounted.
Culture and ROE	- Operations planning and execution at battalion and brigade for the Iraqi Security Force (ISF) - Standard operating procedures.