STRATEGY RESEARCH PROJECT

THE LEARNING ARMY, APPROACHING THE 21ST CENTURY AS A LEARNING ORGANIZATION

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ABSTRACT

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As we approach the 21st century, the US Army faces a world of unprecedented change and turbulence across virtually the entire spectrum of its activities and functions. To successfully navigate this change and turbulence, the Army must be able to learn at the individual and organizational level with increasing speed and effectiveness in order to succeed. The concept of the learning organization and its associated disciplines provides an effective road map for navigating significant change. Members of a true learning organization practice learning disciplines and skills with the same effectiveness as the technical skills of their organization, and the organization creates learning mechanisms which enhance learning. A review of the Army's learning skills and structures reveals many strengths. However, there are still obstacles to maximizing the Army's learning capabilities, primarily in the way leaders are trained and educated and how they are managed. By providing both

theoretical and practical education in the learning disciplines and skills, and reinforcing those skills in the performance and assignment management of its leaders, the Army can become a true learning organization, and successfully transition into the 21st century.

TABLE OF CONTENTS

I. INTRODUCTION

This paper examines current writings and research defining the concept of the learning organization and identifying the disciplines and skills it exhibits. More specifically, this paper is about the process of learning and its application to the Army. Section I provides a broad summary of the current organizational environment and its implications. Section II examines the work of Peter Senge and others who define the disciplines of the learning organization, and the thinking, communicating and cooperating skills which must be practices as part of those disciplines. Section III is a broad based overview of the Army's strengths (which are considerable) and weaknesses as a learning organization. Section IV suggests that achieving the vision of the Army as a learning organization must begin with the approach we take to the training, education and development of leaders.

The Changing Environment (VUCA)

In the transition to the 21st century, the US Army finds itself in an environment which the US Army War College defines as Volatility, Uncertainty, Complexity and Ambiguity (VUCA). As an indicator of the level of volatility, the Army deployed its forces to a total of 25 overseas missions during the 40 years of the cold war through 1989. In the 8 years since 1989, there have already been more than 25 significant deployments, with far greater diversity of missions. Currently, the Army has soldiers deployed in over 100 countries in non-combatant roles. Uncertainty plagues the Army in terms of expanding and more diverse missions, the impact of accelerating technological developments available to both the US and potential adversaries, and the emergence of the uncertain post cold war world order. Complexity is a constant factor; as the new weapons systems and new missions continually come on line. Army leaders at all levels are required to deal with increasing diversity of missions as well as ever increasing levels of information. As new information technologies come on board, leaders even at the lowest levels of the command structure are being asked to assimilate and react to increased complexity and information, and to develop strategies to focus organizational effort. Finally, ambiguity challenges the Army in several areas. As missions become more diverse, applying scarce training resources at all levels involves careful consideration of missions,

complexity, transferable skills and a myriad of other factors. Increasing missions in the operations other than war (OOTW) arena tend to be far fuzzier and ambiguous in terms of how to train soldiers and units to execute them.

With continuing political pressure in the Congress to maintain current levels of social spending and reduce or eliminate the budget deficit, there will be tremendous pressure to cut discretionary spending, of which defense is the major part. This fact will require that the Army must develop doctrine and systems and procure new technology which has the widest application to diverse missions, and will require exhaustive training of its members to ensure effectiveness. Budgetary constraints also mean personnel reductions which will continue to stretch the capabilities of remaining personnel, even beyond the current levels of personnel operations tempo (an indicator of the amount of time personnel spend in real or training deployments away from their home stations) in the Army.

As the Army accommodates the necessary efficiencies associated with budgetary constraints, it is experiencing continued flattening of organizational structures which is placing greater levels of responsibility and authority into the hands of more junior personnel. New processes are coming on line which place expanding amounts of information into the hands of leaders. These trends are challenging leaders to think and act more creatively and critically in a complex systems environment.

Overlaying all the technological, political, and organizational changes which the Army faces in the 21st century is the increasing diversity of the people of the Army. Diversity in America is impacting in virtually every aspect of our personal, organizational and societal situations. The Army's senior leadership has been dealing with this issue for over 20 years, and yet there are still indicators that the Army's members do not deal with diversity effectively. The issue of diversity is not whether the Army's strategic leadership has properly recognized the problem, but rather how it has prepared its leaders at all levels to effectively manage diversity within their organizations. As VUCA

increases in the Army, this issue becomes one more tile in the mosaic of complexity our leaders must face.

Peter Vail describes the new information age environment as "white water conditions." He states that any organization is actually a complex system of systems within a larger environment of systems, interconnected in innumerable ways. There are five characteristics of complex systems in this white water environment: 1) they are full of surprises; 2) complex systems produce novel problems; 3) events are normally messy and ill structured; 4) events are often extremely costly; and 5) issues not solved systemically invariably recur.[1]

Implications For The Army

The implications of increased VUCA, changing missions and new technologies for the US Army are clear: the Army must reassess how it prepares its leaders to effectively operate in an increasingly complex, and changing environment, i.e. white water. "The real leadership challenge ... will be developing soldiers, officers in particular who not only can adapt month to month to different climates and cultures, but also can continually adjust and readjust their reflexes. Soldiers understand what's expected of them when they have to get ready for an all out fight. Getting ready for conditions other than war is a much fuzzier assignment."[2]

The Army education community currently takes the view that as officers mature in the system and assume operational and eventually strategic responsibilities, they must reorient their thinking skills to the operational and/or the strategic environment. This model makes the tacit assumption that young leaders at the Army's lower echelons do not require the same thinking skills as those required at the strategic level. Whether or not this has been true in the past is at best arguable; however, as the Army enters the 21st century, it is becoming more apparent that even the Army's youngest leaders must develop learning, thinking, communication and cooperation skills which will ensure success in the VUCA environment. The approach to develop these skills must include

how we view and lead the Army in the context of a learning organization, how we train and educate our leaders as individual members of a learning organization, and how we manage their performance and development.

II. THE LEARNING ORGANIZATION

The emerging paradigm of learning organizations in corporate America intuitively fits the current environment of the US Army. A core concept of the learning organization is that all organizations have enormous human potential to be unleashed. Given the proper learning skills and knowledge, organizations will successfully face and respond to an uncertain future, i.e. VUCA. All organizations do, in fact, learn. The question is not if an organization is learning, but rather how and what is it learning. Given the current and intensifying environment of VUCA, this question becomes critical in the U.S. Army.

Defining The Learning Organization

David Garvin in the August 1993 Harvard Business Review defines a leaning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights."[3] Garvin went on to define the activities of a learning organization as follows:

1. Systematic problem solving: thinking with systems theory; insisting on data rather than assumptions; using statistical tools.
2. Experimentation with new approaches: ensure steady flow of new ideas; incentives for risk taking; demonstration projects.
3. Learning from their own experiences and past history: recognition of the value of productive failure instead of unproductive success.
4. Learning from the experiences and best practices of others: enthusiastic borrowing.
5. Transferring knowledge quickly and efficiently throughout the organization: reports, tours, personnel rotation programs, training programs.[4]

Taking a broader view of organizational learning, to include philosophical construct, attitudes and skills, Peter Senge provides a more holistic definition. He describes a learning organization as "a place where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured,

where collective aspiration is set free and where people are continually learning how to learn." Moreover, real learning is not just limited to understanding that which is necessary to survive i.e. adaptive learning, but also includes generative learning. Generative learning expands an organization's capacity (getting out of the box) to create the results it truly desires.[5]

The Five Disciplines

Senge goes on to state that "the core of learning organization work is based upon five learning disciplines" - lifelong programs of study and practice: 1) personal mastery; 2) mental models; 3) shared vision; 4) team learning; and 5) systems thinking.[6]

Personal Mastery. The first discipline entails learning to expand one's personal capacity to create results most desired and to create an organizational environment which encourages all its members to develop themselves toward goals and purposes they choose. This discipline is grounded in and based upon the leader's competence and skill in the business of the organization. It extends beyond this however to encompass a spiritual dimension with two underlying themes. The first is a continual clarifying of that which is important to the learner, thus ensuring that he or she focuses on that which is most important. The second is an attitude of continual learning. Peter Vail discusses learning as a way of being that intuitively fits the concept of personal mastery. He articulates seven characteristics: Learning is self directed, creative (exploratory and inventive), expressive (learning while doing), feeling (sensitivity to own and others), on line (vice learning in an academic or training institution), continual, and reflexive (learning about learning).[7]

Mental Models. The second discipline involves reflecting upon, continually clarifying, and improving one's internal pictures of the world, and seeing how they shape one's actions and decisions. While the first discipline primarily involves attitude and disposition, this discipline requires the application reflection and inquiry skills. Reflection skills involve slowing down the thinking process to become more aware of the

formation of mental models and the ways they influence individual and organizational actions. Inquiry skills concern how one operates in face-to-face interactions with others, especially in dealing with complex and conflicting issues. These skills require that leaders be able to recognize leaps of abstraction (noticing jumps from observation to generalization), expose the "left-hand column" (articulating what we normally do not say), balance inquiry and advocacy (honest investigation) and face up to differences between "espoused theories" and "theories-in-use" (what we say versus what we do).[8] Mastery of this discipline requires that leaders possess the intellectual integrity necessary to honestly assess the adequacy of their own beliefs and models (especially the most cherished ones) and modify them when appropriate (slaying the sacred cows). Lussier and Saxon, in their study of the factors of battle command, document the importance of the development of and continual refinement of rich mental models in order to make effective decisions.[9]

Shared Vision The third discipline entails building a sense of commitment in a group, by developing shared images of the future the organization seeks to create, and the principles and practices by which the organization hopes to get there. The operative term in this discipline is "shared", implying a sense of ownership and commitment to the organizational vision by all its members. This discipline requires the skills of communication and cooperation among the organizational members. Leaders must practice participative and reflective openness. Participative openness is the freedom to speak one's mind; reflective openness is the process of looking inward and sharing personal mental models with the larger team. Participative openness is almost a mantra in modern management science; however, many corporate leaders find it wanting, primarily because participative openness is not integrated with reflective openness. Without integration, openly shared divergent views will not receive the individual reflective analysis necessary if members are to truly buy into a group vision or achieve real consensus.

Team Learning. The fourth discipline is the skill of transforming conversational and

collective thinking skills, so that groups of people can reliably develop intelligence and ability greater than the sum of individual members' talents. It is the process of aligning and developing the capacity of a team to create the results its members truly desire. While team learning builds upon the disciplines of personal mastery and shared vision, it entails much more. Individual learning at some point becomes irrelevant to organizational learning if the team cannot place shared insights into coordinated organizational action. There are three critical dimensions to team learning. First, there is the need to think insightfully about complex issues, tapping the ability of the collective mind to integrate the learning of its individuals. Second, there is the need for innovative, coordinated action, involving a sense of operational trust between individuals and teams where individuals and teams remain conscious of each other and can be relied upon to act in ways that complement each other's actions. Compare this concept to the process of synchronizing actions in combat. Finally, there is the role of team members on other teams, that is to say often team members at one level of an organization are members of other organizational level teams. Thus, a learning team continually fosters other learning teams through inculcating the practices and skills of team learning more broadly.[10] Team learning requires mastering the practices of dialogue and dialectic discussion. Dialogue is the open and creative exploration of issues involving non-advocacy sharing of one's own views and practicing deep listening to others' views on the complex issues of the organization. As in the discipline of mental models, it requires that individuals suspend their views so that they can be honestly assessed and evaluated along with those of other team members. In dialectic discussion differing views are presented and defended in the search of the best view.

Systems Thinking. The fifth discipline is a way of thinking about, and a language for describing and understanding forces and interrelationships that shape the behavior of systems. Systems thinking allows leaders to implement change more effectively and remain congruent with the environment. In Senge's view, systems thinking, is the capstone skill, under which the first four skills must be practiced. An important feature of systems thinking is that in complex systems, there are both immediate and delayed

consequences of organizational actions. Consequences delayed in time or occurring in other related systems are not always apparent to decision makers. Organizations which are not learning in Senge's definition are usually experiencing adaptive learning, that is reacting and adjusting to events immediately apparent. Without the systems view of the organization, leaders may often misidentify the events leading to observed consequences because of their extended separation in time or space. This is especially true in the Army where at the strategic level, decisions are often made with implications far into the future, such as weapons systems development and procurement, major construction projects, personnel recruiting and training forecasts, etc. It is also an issue at the unit and post, camp and station level as well. Unit commanders must plan and budget training out one year or more. Post personnel managers must project losses in advance of assignment decisions. Maintenance activities must forecast and budget parts and major component requirements. Operations officers, preparing for OOTW as well as unit primary missions must decide how to allocate scarce training resources to ensure the best trained unit and soldiers. These tasks, and thousands more, accomplished daily at all levels of the Army require that decision makers take a systemic view to ensure congruent and productive action.. Senge depicts the taxonomy of a learning organization as shown in figure 1 below.

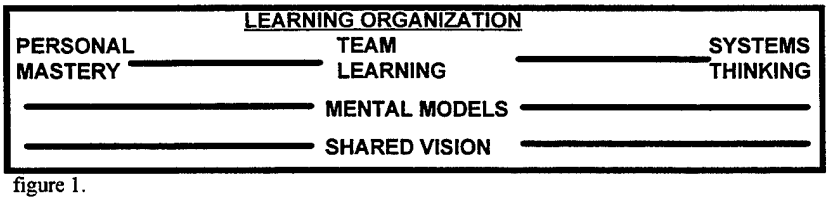

figure 1.

Systems Thinking is the capstone discipline of a learning organization, allowing leaders to systemically decide their strategies within a comprehensive framework of interrelated processes. Systems thinking requires the prerequisite discipline of Team Learning. Team learning requires individuals committed to personal mastery. Learning occurs within individuals, teams, and organizations when 'Mental Models' are surfaced, recognized, changed, and shared. The learning is accelerated and aligned when personal, team, and organizational visions are shared and linked. All of these disciplines work together when they are seen as an interrelated and interconnected whole, rather than individual parts. Taken as a whole, then, learning in this context does more than merely allow an

organization to adapt to circumstances in a reactive mode (adaptive learning), but rather produces new knowledge necessary to face new circumstances (generative learning).

Skills Of The Learning Organization

Though learning may be a fundamental human essence, the process of learning is quite complex. Learning in an organization includes three fundamentally different activities: thinking, communicating and cooperating. When the capacity to think, communicate and cooperate is enhanced, so is the ability to learn. Thus, a learning organization is one which fosters and enhances these activities for its members and members of the community in which it exists. To the extent that it does not accomplish these ends, it is wasting the human potential of its members.

The five disciplines of the learning organization suggests that there is a set of knowledge, skills, and methods necessary for members to create a vision and achieve the purpose of the organization. Every organization has a set of content skills and knowledge germane to that organization which is normally taught in an institutional mode and practiced in the work environment. In the army, they may be defined as tactics, operational art, C3I, intelligence, logistics, personnel, etc. The learning organization must buttress it's content skills with a set of learning process skills which guide its members in the acquisition of new knowledge as it negotiates a changing environment. In a complex environment, this includes taking a holistic, systemic view of the organization and its environment and employing methods with which to develop and share knowledge. Figure 2 below depicts this relationship.

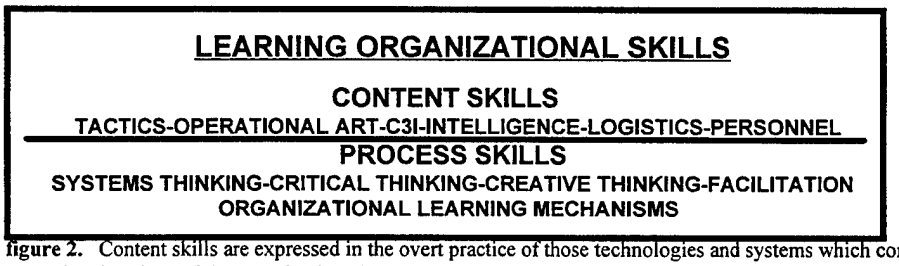

figure 2. Content skills are expressed in the overt practice of those technologies and systems which comprise the primary and supporting functions of the organization. Process skills are expressed in the underlying practices of learning, communicating, and cooperating which guide the organization's work.

An ideal learning organization will be composed of persons who think critically and

creatively within a systems context, considering all the factors involved in understanding a matter, especially the points of view of those affected. Members will also be adept at cooperating with others in both inquiry and action in an atmosphere of trust, collegiality and common purpose. These characteristics suggest that learning organization members must have knowledge and skills in systems thinking, critical and creative thinking, and facilitation skills.

Organizational Learning Mechanisms

Finally, the learning organization develops and refines organizational learning mechanisms (OLM), which enable members to acquire and synthesize knowledge about the purposes, functions and skills of the organization. OLM can take many forms; procedural guidelines, discussion groups, quality circles, planning processes, institutional training, etc. The effectiveness of OLM lie in their success at presenting the learner with appropriate information and experiences which lead to abilities congruent with the organizations purpose, vision and skills.

Learning Architecture

Senge lays out theoretical architecture for the learning organization as a three way relationship between the guiding ideas of an organization, which include the organizational architecture, the nature of its functions, and the vision, values and purposes which it possesses, innovations in infrastructure, which include the methods and structures by which organizations make resources (time, information, knowledge, financial, etc.) available to its members and organization which enhance learning, and theory, methods and tools which, as discussed above, include the disciplines and skills that members use to learn as shown in figure 3 below.

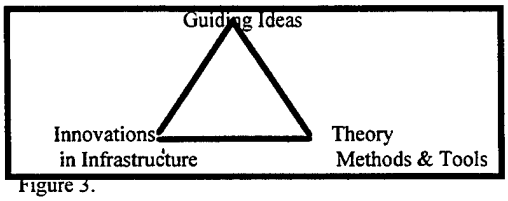

Figure 3.

Guiding ideas provide the passion and drive of an organization, making effort purposeful and rewarding. Infrastructure gives members the opportunity and resources to pursue the organizational vision and apply the learning tools. Finally, theory, methods and tools enable members to learn in depth the knowledge and skills most congruent with the organization's purpose.[11]

III. THE U.S. ARMY AS A LEARNING ORGANIZATION

If the Army is to truly realize the benefits of the learning organization, it must start with a critical assessment of its supporting and detracting behaviors. While not an exhaustive review, following are several programs, trends or issues which indicate how well or poorly the Army is doing vis-à-vis behaving as a learning organization.

Supporting Learning Behaviors

At the corporate level, the Army has undertaken several key initiatives which are indicative that it views itself as a system of systems, and that accordingly, it must adapt and succeed in a significantly changing environment. Since the end of the cold war, and despite its success in Operation Desert Storm (which was a demonstration of its cold war skills), The Army has made significant progress towards revising its warfighting doctrine to reflect the anticipated dynamics of warfare in the 21st century and the Information Age. This effort to adapt to a changing future is uncharacteristic of large and successful armies of the past, belying the old adage that armies always fight the last war. Anticipated changes in doctrine include incorporation of information technology capabilities, use of smaller, more lethal formations, extremely truncated conflict resolution time frames, and significant changes in the 'operational boundaries' of conflict to include space, and rear support operations extending back to the continental US support base. The Army is developing the ideas for its new doctrine with input all of its corporate leaders, and has invested significant resources in equipping, staffing and testing new types of units.

In addition to adapting its warfighting doctrine to the future, the Army has assumed non-traditional missions in the post cold war era. Since 1989, the Army has conducted over 25 deployments on operations other than war (OOTW), and with one notable exception, has performed all of these missions with tremendous success, despite the fact that they required skills and organizational processes significantly different from traditional army missions. While the jury is still out regarding how the army will incorporate non-traditional missions into its corporate vision, its successes indicate a flexible and generative learning ability which enables new capabilities.

In an environment of resource restrictions and expanding expectations, the army has creatively adapted concepts from corporate organizations, to do more with less. For example, borrowing from both the Japanese, and major American transportation firms, the Army is implementing a 'just in time' logistics system which improves logistics efficiency in orders of magnitude, and requires far less transport capability than was required in Desert Storm. Although resisting bureaucratic inertia is tremendous, the Army has invested in new artificial intelligence technologies to assist in managing the vast sea of data the used to manage its operations. Faced with changing demographics and recreational expectations of its members, the army has, over the last ten years completely reorganized its community and family support systems to a business operations environment, discarding dearly held traditions in the process. These initiatives and many more required sacrificing many sacred cows, and reflect imaginative and courageous thinking on the part of decision makers.

The Army has opened the flood gates to the electronic communications capabilities of the information age. Despite the reservations of naysayers, the vast majority of units and organizations in the Army have creatively developed email procedures to fit their mission requirements. More recently, the Army has expanded the use of video conferencing down to brigade and even battalion level. Used extensively in Operations Joint Endeavor, this capability has significantly increased the timeliness and reliability of information passed between staff and commanders at various organizational levels.

In its institutional training environment, the army has established the world's largest 'university', in which it provides continuously updated training on methods, knowledge and theory across all of its functions, and throughout the career life cycle of all of its members. Within its institutional training structure, its members, both students and staff, have the academic freedom and the institutional processes to question, evaluate and change even the most basic doctrines of the Army. Included in the structure are organizations specifically designed to study and evaluate ongoing operations with the

intent of discerning positive and negative trends and issues and recommending appropriate solutions. The Army War College and the Command and Staff College offer elective training in the process skills of critical and creative thinking. Additionally, these skills are included in training for negotiation, ethics, and strategic thinking offered at the Army War College.

Among its operational units, the army has long instituted a training management system which, if properly implemented, takes a systems approach to training management and requires the involvement of all echelons of the organization. The training management system requires a systemic evaluation of the units missions, training resources, and a deliberate decision process for the application of those resources to mission training Unit members at each echelon are involved in the process of evaluating their training status, designing appropriate training to correct training deficiencies, and finally, participating in after action reviews in which they assess and learn from their training experience. The training management system encompasses collective and individual training as well as officer and non-commissioned officer professional development programs at unit level. This approach to training is directly responsible for the high rates of success the army has enjoyed in Operation Desert Storm, as well as its many other OOTW deployments.

The Army has already laid the basis for the concept of personal mastery in the form of the oath taken by its uniformed leaders, commissioned and non-commissioned alike, and in the emphasis upon personal excellence of its leaders. Implicit in these oaths is the sense of responsibility to continually master the crafts of leadership and warfighting, with a strong sense of purpose and integrity.

The army has undertaken efforts to revise two key aspects of its personnel management system. In the first case, it is implementing significant changes to its performance management system for officers. First, it will require senior leaders to clearly identify excellence among their assigned officers, without diluting the impact of such ratings by inflating their rating profiles (i.e. too many excellent ratings). Second, among the

evaluated traits of officers, will be included more specific traits which directly relate the disciplines of the learning organization, including assessment, judgment, individual and team learning, critical and creative thinking and writing skills. Finally, it provides greater structure and discipline for the requirement for senior leaders to mentor and counsel junior leaders. These changes directly support each of the four disciplines of the learning organization.

Under the current officer professional management system, officers are not always encouraged into the type of work or assignments which best fit their skills and abilities to the needs of the army. Successful career paths require assignment in certain career enhancing positions in the operational field environment, thereby discouraging officers who have specific technical skills, for which the army has significant need, from developing those skills over a series of assignment which will prepare them for senior leadership in those areas. Recognizing this issue, the Chief of Staff of the Army chartered a study group to redesign the Officer Professional Management System. The director of the study was charged by the CSA to develop an officer management system with supports a learning organization.[12] The new Officer Development System, to be implemented in FY 1998, recognizes that not all officers are appropriately utilized in the operational environment, but do have potential for senior (corporate level) leadership in the management and technical fields. This approach allows officers to more fully develop their skills and abilities within their chosen career field without risk of career failure. This represents a major paradigm shift for the army from the notion that all officers must be skilled operational war fighters in their basic branch area of expertise and be equally proficient in other fields as well. It directly supports the discipline of personal mastery, in that it will allow officers to concentrate greater numbers of assignments (experience) in their chosen career field.

Detracting Learning Behaviors

Despite these laudable characteristics, there are troubling indicators that the Army may not be learning the appropriate lessons as it transitions into the 21st century environment.

Recognizing the tremendous success of the Army's recovery from the Vietnam war, it nevertheless was accomplished within the context of a single overarching purpose, to be prepared for and defeat if necessary the Soviet Union. At the conclusion of the Cold War, the Army finds itself adrift in terms of purpose and missions. Despite tremendous advances in technology which point towards smaller, more lethal formations, and continuing budget shortages, the Army leadership insists on retaining divisions as the basic force structure and minimum structure of 495K soldiers. At the AWC congressional briefings 7 May, one member of the House Armed Forces Committee, and two members of the Senate Armed Forces Committee stated that the Army does the poorest among all the services in effectively articulating its needs to the Congress. This seems to indicate an inability of senior leadership to either adequately articulate its needs for the 21st century, or adapt resources to appropriately fit those needs.

Despite tremendous technological advances in the operation of administrative support systems such as personnel, logistics, morale programs, and others, the Army continues to retain large, inefficient bureaucratic systems. The Army reduced its personnel support structure by 40% over the last 10 years. However, it has failed to implement new automation support and has retained traditional and arcane manpower intensive functions. After 12 years of effort, the Army still has not replaced its second generation installation automated personnel system. Additionally, the semi-centralized promotion system for sergeants and staff sergeants remains a completely paper document system requiring intensive manpower at both the battalion and installation personnel office level.

After 20 years of intensive education and institutionalization of equal opportunity programs, the Army still suffers through significant distractions because of continued indicators of institutional intolerance and disregard of sexual, ethnic, or racial diversity. In the latest incidents involving the Aberdeen Proving Grounds BCT and the Sergeant Major of the Army, the leadership seems to have emphasized the diversity aspect of the issue instead of the failure of basic discipline and leadership. As a result, the issue has been represented to the American people by the popular media in terms of conflicting

issues of sexual intolerance and racial bias. In the AG Forum, an electronic forum for sharing professional ideas and opinions, junior leaders (many women and blacks among them) indicate that the Army's team teaching response to these events has increased tension between the sexes and races because of a perception of zero defects.

While the design of the Army's training management system at unit level supports the shared vision and team learning disciplines of the learning organization, there is abundant anecdotal evidence that many units fail to effectively implement the program. In many cases, autocratic leaders dictate training priorities with little or no input from subordinate members. Commanders and staff often give more weight to senior leader guidance than to the 'on the ground' conclusions and observations from within their own organizations. Support units, who often have ongoing garrison missions such as maintenance, supply or personnel, often fail to integrate meaningful mission training into their schedules and instead waste training resources in common task training, without integrating those tasks to their primary mission. All of these symptoms seem to indicate a failure in the belief that the team, working and learning together, can set a learning path most appropriate to its needs.

The army invests few resources in training its leaders in the skills of critical and creative thinking which are key to successful application of the five disciplines. At the Lieutenant and Captain level, officers are introduced to decision and planning models which incorporate critical and creative thinking processes; however, these officers are not given the theoretical knowledge which may be required to appropriately apply these skills in the operational environment. At the Command and Staff College and the Army War College, electives in creative and critical thinking skills are offered, but not mandatory for all. At both schools, decision, planning and budgeting concepts which incorporate critical and creative thinking are introduced, but again, little theoretical knowledge is provided. At the Army War College, a seminar teaching method is employed which, if properly implemented, clearly demonstrates the utility of critical and creative thinking processes. However, this method requires appropriate facilitation skills for success. Many of the

faculty instructors at the College are not trained to facilitate, and often fall back on didactic methods, losing the opportunity to demonstrate the strength of group critical and creative thinking processes.[13]

The Army has successfully incorporated critical and creative thinking skills as well as facilitation skills in special interest areas such as the Equal Opportunity Program, the Organizational Effectiveness Program (now defunct) and the training provided to Inspectors General. The leaders trained in these programs have successfully used their skills in follow on assignments. Nevertheless, the Army tends to view the learning and facilitation skills developed in these programs as specific to the needs addressed by these programs, and fails to integrate them into a broader context. For example, a skilled Equal Opportunity counselor may facilitate a group through a critical assessment of the EO issues working within the group, but fail to generalize those skills to other endeavors of the unit. Applying these skills in the general work environment would improve the effectiveness of the unit overall, and would likely resolve many of the issues which indicated a need or an EO intervention in the first place.

Learning Organization Assessment

In summary, the Army has established effective OLM which support the learning organization process, and has recognized the necessity to redesign its performance evaluation and professional development programs to buttress the learning organization skills. In several key areas, it has demonstrated effective generative learning abilities. However, not all members demonstrate effective learning behaviors, most likely because they have not internalized the critical and creative thinking skills necessary to a true learning experience, nor are there sufficient skilled facilitators to apply those skills to immature learning groups. As a result, despite the tremendous effort the Army is investing in its future vision, a significant number of leaders do not fully appreciate the implications facing the Army as it prepares for warfare in the 21st century. Former Army Chief of Staff, General Gordon Sullivan summed this up best in an interview with Fortune Magazine, where he discussed the Army's transition to an Information Age force.

He estimated that "about 5% of active duty officers still have their heads locked in the Cold War; about 65% have caught up to the Gulf War, and only 30% are (preparing for information age warfare)".[14]

IV. RECOMMENDATIONS FOR ACHIEVING THE LEARNING ORGANIZATION

As noted, the Army has institutionalized many features which support the concept of being a learning organization, while at he same time there are many indicators that it has not yet made the leap towards being a true learning organization. Given the size and the hierarchical structure of the Army, developing the necessary attitudes among its leaders overnight is outside the realm of possibility. It seems that the process of completing the transition to and maintaining the learning organization begins with the task of how we train, educate and develop individual members of the Army.

Training & Education

Any effort to inculcate members with the learning organization skills must start with the institutional training structure. Currently there is no planned program across all levels of professional development which introduce officers and non commissioned officers (NCO) to the theory and skills of the learning organization in a systemic, integrated fashion. The formal education system is where organizational members need be introduced to the learning organization skills. Of course, these skills should be introduced within the context of the span of influence anticipated for each grade. For example, Lieutenants in the basic course would be acquainted to systems theory in the context of the direct control on the weapons systems for which they are preparing to lead, and how they are integrated with other systems within the battalion and company environment. The intent is to introduce students academically to these concepts rooted within the environment they may reasonable expect to encounter, but with the understanding that these skills have applicability far beyond the limited capabilities of the school to demonstrate. The Army already has a model for this approach to theoretical education and training in the leadership development curricula at West Point. Primarily a leadership program, it includes thorough education in systems theory, and introduces critical and creative thinking training in the context of decision making, quality management, and intellectual procedures.[15] While this program does not address the entire spectrum of learning organization skills, it is a fine model for developing other

curricula within the ROTC program and the various levels of professional schooling for Army leaders.

The Army has a long history of professional development programs implemented within its units outside of the institutional training environment. In most cases, this program concentrates on the content knowledge of the Army, but has not concentrated on the learning skills of its leaders and members. This program offers a superb opportunity to instill in its members in the language, knowledge and skills of the learning organization. Currently, Army training schools publish recommended reading lists for the development of its leaders. Reinforcement of learning skills through continued professional development reading can play a significant role in maintaining leader awareness of learning skills, and incorporation of those skills in the business of their units.

Performance Management

No amount of academic training can cause significant changes in the attitudes and behaviors of members of an organization if they are not reinforced in the everyday activities of the organization. The critical area to address to ensure reinforcement is the performance management system. The Army has already taken steps to incorporate the learning skills in its new performance management system for officers. The new OER, being introduced this year contains ratings for conception skills (creative and critical thinking, systems thinking), interpersonal skills (team learning), assessment skills (learning from experience), and learning skills (individual and team learning). The vocabulary has now been introduced; the key issue is to ensure that the leaders providing the performance feedback have the requisite skills to reinforce the appropriate learning behaviors. This is the difficult part of implementing the new evaluation system. It begins in the institutional systems discusses above, but must be reinforced in the daily operations of the Army. As officers are trained in the new system, they need to understand the key characteristics mentioned above in terms of the learning organizational disciplines and skills.

Improving OLM

True learning organizations have established 'organizational learning mechanisms' which enhance its ability to learn as an organization. These are procedures or processes which allow information to be shared, analyzed and incorporated into an organizations knowledge base. The Army has established a significant OLM which reinforces learning in its primary warfighting business, the training management system. If implemented properly, this system incorporates many of the skills and attitudes of the learning organization at the individual and team level from the assessment phase through execution and review. Its most significant feature regarding learning is the after action review (AAR) process, through which members can assess performance and identify weaknesses. In its most sophisticated form at the National Training Center, leaders receive a thorough systemic review of their battlefield actions and the effects of their actions are clearly demonstrated across battlefield operating systems (a systemic view). Training management and the AAR process are powerful OLM's currently in use in the Army. To greater or lesser degrees of success, many commanders try to export these techniques into other areas of the army outside of the warfighting arena, but the Army has not institutionalized general learning processes outside of the training management arena.

To this end, Raanan Lipshitz and Micha Popper conducted studies on establishing OLM's in the Ordnance Corps of the Israeli Defense Force IDF. In broad summary, they applied the AAR technique to assessing and developing an improved methodology for collecting maintenance information within the IDF, and using that information to improve the maintenance system for the entire force. Out of this effort, the Ordnance Corps developed three OLMs: A guide for the development of information systems, a guide for the implementation of the AAR into project management, and the empirical seminar. These processes, developed by the team members yielded standardized improvements across the IDF maintenance system, i.e. new knowledge.[16] The authors noted that the conditions were ripe for change: there was a perceived need for changing the maintenance system in response to new organizational factors, and stakeholders were willing to take risks in establishing that change.

Any review of the changing environment faced by the US Army today must yield the conclusion that change is necessary. The question is: are stakeholders willing to implement change. If leaders are given the theoretical tools (institutional education) to practice organizational learning, and the reinforcement (performance management), they can and do create OLMs across the spectrum of functional areas of operation.

Summary

This review of the learning organization as it pertains to the Army is at best a broad map of the terrain. In summary, the Army is facing unprecedented change in terms of increasing complexity and resource restriction. This change can be accommodated successfully through adoption of the skills and knowledge of the learning organization. Given that these changes do not occur spontaneously, the Army needs to take three strategic steps: First, introduce leaders to the knowledge and skills of the learning organization in their formal training and education in a systemic fashion, and in the context of the experiences those leaders can expect upon assignment after training. Second, as the new performance management system is implemented, ensure that leaders are trained on how to assess the learning characteristics included in the new OER. To this end, leaders must openly discuss performance management in the terms of the learning organization, thus reinforcing and building upon institutional learning. Finally, encourage a culture of learning by encouraging the development of OLM's. These actions, in concert with the many contributing behaviors detailed in Section III above, will set the U.S. Army on the path of a true learning organization.

End Notes

[1] Peter Vail, *Learning as a Was of Being* (San Francisco: Jossey-Bass Publishers, 1996), 10-13

[2] Lee Smith, "New Ideas from the Army," *Fortune Magazine*, 130, no.6, September 1994, 212.

[3] David Garvin, "Building a Learning Organization", *Harvard Business Review*, August 1993, 78.

[4] ibid., 78-90

[5] Navran Associates' Newsletter. "The Learning Organization What Is It? Why Become One?" <http://www.navran.com/Newsletter/93-10/10-93c.html>. October 1993.

[6] Peter Senge, *The Fifth Discipline The Art & Practice of the Learning Organization.* (New York: Doubleday, 1990), 6-9.

[7] Peter Vail, *Learning as a Was of Being* (San Francisco: Jossey-Bass Publishers, 1996), 56.

[8] ibid. 186, 191.

[9] Lussier, James W.; Saxon, Terrill F., *Critical Factors in the Art of Battle Command.* (Unites States Army Research Institute, Study Report 95-01, November 1994), 28-29.

[10] Peter Senge, *The Fifth Discipline The Art & Practice of the Learning Organization.* (New York: Doubleday, 1990), 236-7.

[11] Senge, Peter and others, *The Fifth Discipline Field Book.* (New York: Doubleday, 1994) 36-37.

[12] Ohle, James Major General, *Briefing: Officer Professional Development,* US Army War College, 24 April 1997.

[13] Dr. Herbert Barber, interview by author, March 1997, Carlisle Barracks, PA.

[14] Lee Smith, "New Ideas from the Army," *Fortune Magazine*, 130, no.6, September 1994, 211.

[15] McNally, Jeffrey A., Stephen J. Gerras and Craig R. Bullis, "Teaching Leadership at the U.S. Military Academy at West Point," *Journal of Applied Behavioral Science* 32, no.2, June 1996, 186.

[16] Lipshitz, Raanan; Popper, Micha; Oz, Sasson. "Building Learning Organizations: The Design and Implementation of Organizational Learning Mechanisms." *Journal of Applied Behavioral Science* 32, no.3 (Sep 1996): 299.

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