Technical Report 1369

Shared Understanding of the U.S. Army as a Learning Organization

Michele A. Calton, Ph.D.
Consortium Research Fellows Program
Consortium of Universities of the Washington Metro Area

July 2018

United States Army Research Institute for the Behavioral and Social Sciences

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

Department of the Army
Deputy Chief of Staff, G1

Authorized and approved:

MICHELLE ZBYLUT, Ph.D.
Director

Research accomplished under contract
for the Department of the Army by

Consortium Research Fellows Program
Consortium of Universities of the Washington Metro Area

Technical review by

George I. Stemler, U.S. Army Training and Doctrine Command, Intelligence Center of Excellence
Stephen J. Gerras, U.S. Army War College

NOTICES

DISTRIBUTION: This Technical Report has been submitted to the Defense Technical Information Center (DTIC). Address correspondence concerning ARI reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, Attn: DAPE-ARI-ZXM, 6000 6th Street, Building 1464/Mail Stop: 5610), Fort Belvoir, VA 22060-5610.

FINAL DISPOSITION: Destroy this Technical Report when it is no longer needed. Do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The findings in this Technical 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)
03-05-18	Technical	Aug 2016 - Aug 2017

4. TITLE AND SUBTITLE	5a. CONTRACT OR GRANT NUMBER
Shared Understanding of the U.S. Army as a Learning Organization	W911NF-16-2-0092
	5b. PROGRAM ELEMENT NUMBER 622785
6. AUTHOR(S) Michele A. Calton, Ph.D. (Consortium Research Fellows Program)	5c. PROJECT NUMBER A790
	5d. TASK NUMBER 425
	5e. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Consortium Research Fellows Program Consortium of Universities of the Washington Metro Area 4214 King Street, First Floor Alexandria, Virginia 22301-1555	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral & Social Sciences 6000 6th Street (Bldg. 1464/Mail Stop 5610) Fort Belvoir, VA 22060-5610	10. MONITOR ACRONYM ARI
	11. MONITOR REPORT NUMBER Technical Report 1369

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES
Point of Contact: Michele A. Calton, michele.a.calton.civ@mail.mil

14. ABSTRACT *(Maximum 200 words)*:
This research examined current U.S. Army Soldiers' understanding of the U.S. Army's goal to establish itself as a learning organization, their roles in this goal, and their perceived challenges in the U.S. Army in accomplishing this goal. Focus groups and interviews with 125 Soldiers (PV2–MG) revealed a significant effect of rank on knowledge of the U.S. Army's goal to become a learning organization, with higher ranking Soldiers more likely to be familiar with this goal than lower ranking Soldiers. Further, all Soldiers placed emphasis on the individual role of understanding and promoting a shared vision, while overarching challenges were identified as creating a trusting environment and supporting learning from failure. It is evident from this research that the U.S. Army should develop a formal, unique definition of a learning organization, identify the roles all Soldiers play in actualizing this goal, and then clearly communicate the vision, with published guidance to Soldiers of all ranks to facilitate creation of a shared understanding of the U.S. Army as a learning organization.

15. SUBJECT TERMS
Learning organization, shared understanding, institutional agility, adaptability.

SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON
16. REPORT Unclassified	17. ABSTRACT Unclassified	18. THIS PAGE Unclassified	Unlimited	63	Angela Karrasch 913-684-9758

Technical Report 1369

Shared Understanding of the U.S. Army as a Learning Organization

Michele A. Calton, Ph.D.
Consortium Research Fellows Program

Fort Leavenworth Research Unit
Angela Karrasch, Chief

United States Army Research Institute
for the Behavioral and Social Sciences

July 2018

ACKNOWLEDGMENTS

The author would like to thank Ms. Pam Butler for her expert assistance in securing participants for this research as well as all those who participated in the focus groups and interviews. The author would like to further extend gratitude to Dr. Miliani Jimenez, U.S. Army Research Institute, Dr. William Weyhrauch, Post-Doctoral Research Fellow at the U.S. Army Research Institute, and doctoral candidate Mrs. Elena Knyshev, Consortium Research Fellow at the U.S. Army Research Institute, for their invaluable assistance in the data collection efforts.

SHARED UNDERSTANDING OF THE U.S. ARMY AS A LEARNING ORGANIZATION

EXECUTIVE SUMMARY

Research Requirement:

Industry research has repeatedly professed the importance of businesses establishing themselves as learning organizations (LOs) in order to remain competitive in their marketplaces. However, the literature surrounding exactly what an LO is and how an organization can become one remains fragmentary. Senior leadership in the U.S. Army, potentially wanting to capitalize on the reported benefits of becoming an LO, was quick to disseminate information that would align the U.S. Army with the understanding of LOs in the early 1990s, when the LO gained rapid recognition. However, similar to industry, what exactly an LO is and the steps necessary for the U.S. Army to identify as an LO still remain undefined in doctrine and publications almost three decades later.

The purpose of this research was to determine the Soldiers' (of all ranks) understanding of the U.S. Army's goal to become a learning organization, the roles Soldiers believe they play in helping the U.S. Army achieve this goal, and the challenges they perceive in the U.S. Army instituting this goal.

Procedure:

Focus group and interview convenience samples totaling 125 Soldiers (PV2–MG) were asked about their familiarity with the U.S. Army's goal to establish itself as a learning organization, what roles they believe each Soldier plays in helping the U.S. Army institute this goal, and what challenges they perceive for the U.S. Army to attain this goal. Data were analyzed via thematic analysis and category coding, with chi-square analysis of categorical data where appropriate.

Findings:

Research results indicated the vast majority of participants (71%) were not familiar with the goal of the U.S. Army to become a learning organization. Additionally, the 29% who were familiar with the goal of the U.S. Army to become a learning organization were more likely to hold a higher rank (e.g., field grade officers; FGOs). It was discovered this familiarity was closely related to advanced professional military education, indicating the U.S. Army is providing Soldiers information surrounding the goal to become a learning organization too late in their careers to affect lasting change.

Results from focus groups indicated that Soldiers believe the most important roles they play in helping the U.S. Army achieve its goal to become a learning organization are to understand and disseminate the shared vision and to encourage flattened communication structures. Senior leadership echoed the thoughts on shared vision, stating their key role is to create and disseminate a shared vision to the force. However, flattening communication was not identified as an integral role of these high-level leaders. Thus, it is possible that for leadership,

the delegation of authority associated with developing and disseminating a shared vision took precedence over creating flattened communication structures.

Last, Soldiers' perceived challenges to the U.S. Army identifying as an LO did not emphasize the importance of shared vision, but instead emphasized creating trusting environments and supporting learning from failure. It is possible the participants view creating, disseminating, and understanding the shared vision as individual responsibilities, while the responsibility for developing environments (or climates) is a larger role that belongs more broadly at the organizational level. Because communication is an overarching factor that bridges the gap between these identified individual and organizational roles in becoming a learning organization, it is clear that an emphasis on effective communication will be paramount in developing the U.S. Army as an LO.

For an organization to create a vision to become an LO, it must first acknowledge that it is not already one (Senge, 1990). This is by no means a small feat, especially for an organization that has proven itself as a world leader for centuries. Solving this complex problem, however, will require open and honest inquiry and discussion. Adding to the complexity of this problem is the size of the U.S. Army and the lack of agreement amongst industry and academia about what exactly an LO is. However, to facilitate future capability overmatch, the U.S. Army would benefit by formally adopting a concrete operational definition of an LO specific to the U.S. Army, as well as defining the roles of all Soldiers to achieve the objective of becoming an LO. Alignment of officer, warrant officer, and enlisted Soldiers' perceptions of the U.S. Army's goal to become an LO and the Soldiers' perceived roles in that goal is necessary to promote a shared understanding amongst the ranks. Developing an environment that fosters a clear, shared vision will prove essential towards obtaining the goal of the U.S. Army to become an LO. The current absence of an operational definition of an LO, as it pertains to the U.S. Army, has hindered the development of a shared understanding surrounding the vision of the U.S. Army to achieve this goal. To shift the trajectory of the U.S. Army to one that strongly supports becoming an LO, the U.S. Army should first adopt a formal definition of an LO and its components, identify the roles all Soldiers play in actualizing this goal, and then communicate the vision, with published guidance to Soldiers of all ranks.

Utilization and Dissemination of Findings:

The findings from this research can be used to support the development of a clear definition of an LO and its components for the U.S. Army for leaders to disseminate to Soldiers of all ranks. This research can further be used to inform improvements to leader development, including the introduction of thinking skills that enable a Soldier to view complex ideas, such as LOs, more holistically earlier in a leader's career. As such, it is advisable that distribution of this report be to senior leadership charged with developing overarching goals as well as the organizations responsible for publishing and communicating these goals (e.g., U.S. Army Training and Doctrine Command, Army University).

SHARED UNDERSTANDING OF THE U.S. ARMY AS A LEARNING ORGANIZATION

CONTENTS

LIST OF FIGURES

Shared Understanding of the U.S. Army as a Learning Organization

The U.S. Army as a Learning Organization

Organizations have increasingly recognized the reported unique advantages of becoming a learning organization (LO) and have elected to pursue this objective despite the lack of clear and consistent guidance on what exactly an LO is, or the steps necessary for an organization to transition into an LO. The United States military branches are among the organizations that recognized the competitive advantage to becoming an LO relatively early in the conceptualization of LOs. Specifically, the U.S. Army was quick to publish methods that were predicted to facilitate the process of the U.S. Army becoming an LO. The Chief of Staff of the U.S. Army (CSA) General Sullivan's Force XXI (1994) was the visionary document that later assisted General Schoomaker in the transformation of the U.S. Army from the hierarchical force of cold-war times, to today's modulated post-cold-war force (Johnson, Peters, Kitchens, & Martin, 2011). Force XXI was pivotal in introducing the unique structural and leadership innovation concepts the academic community has associated with becoming an LO.

U.S. Army Published Guidance on Becoming a Learning Organization

Following General Sullivan's Force XXI (1994), Joint Chief of Staff General Shelton released his Joint Vision 2020 (2000), which has been referenced by military scholars as one of the foundational U.S. Army documents emphasizing the steps necessary to establish LOs (Ecklund, 2006; Gerras, 2002). These steps in Joint Vision 2020 included capability development for knowledge management integrating the accumulation and transfer of information more rapidly than our adversaries to maintain a competitive advantage (2000). Furthermore, General Shelton emphasized the necessity of creating "full-spectrum dominance" of the military across the entire range of combat and non-combat military operations (2000). This change, however, would require an adjustment in Soldier perceptions of the overall U.S. Army mission from a strictly combatant or warrior force to a diplomatic warrior force with Soldiers who are amenable and responsive to their changing environments. As such, the U.S. Army has endeavored to establish itself as an LO in accordance with this guidance.

Remarkably, nearly 18 years after General Shelton's guidance, the U.S. Army has yet to commit to an operational definition of an LO as it pertains to the organization's unique needs. A scouring of currently active U.S. Army doctrine and publications returns a litany of uses of the term "learning organization" with no tangible guidance on what an LO is or how to create and institute such a philosophy (see Table A1). Instead, the term *learning organization*, without definition, lacks clear, actionable intent. Prior to its redaction in the newly published Army Learning Concept for Training and Education (Headquarters, Department of the Army [DA], 2017), the only published guidance on what an LO was to the U.S. Army was located in Appendix M of the U.S. Army Training and Doctrine Command (TRADOC) pamphlet 525-8-3 The U.S. Army Training Concept (DA, 2011). However, this definition from Garvin (1993; 2003) did not address how an LO in the U.S. Army is a unique entity in and of its own, the roles Soldiers play in developing LOs, and how an inherently hierarchical organization can develop and support the suggested components of LOs.

What Is Organizational Learning (OL) and What Are LOs?

The idea of OL was thrust into American research circles more than four decades ago when business leaders and organizational researchers began to take notice that without continual improvement through intentional learning, a business would likely perish (Argyris & Schön, 1978; Clark, Hayes, & Wheelwright, 1988; Hedberg, 1981). Organizational learning is widely regarded as a verb that describes the processes organizations engage in to acquire, create, and share knowledge amongst all of its members (Bell, Whitwell, & Lukas, 2002). The importance of individual learners to organizational learning is paramount as the organization is only learning if those individuals apply what they have learned in the organization (Kim, 1997). Learning organizations, on the other hand, are nouns: They are entities that intentionally create supportive environments for knowledge identification, creation, and sharing at all levels, and between all levels, to facilitate continued innovative growth and competitiveness in their unique marketplaces. The importance of individual learning for an LO lies only in the transfer of the acquired knowledge and skills to the collective organizational memory (Chen, Lee, Zhang, & Zhang, 2003). Thus, organizational learning is only one component important to developing an LO. However, despite these insights, compared to OL research, research specific to developing and understanding LOs remains relatively rudimentary.

The concepts and components related to LOs became popularized in 1990 when Senge published his acclaimed book, *The Fifth Discipline.* Since then, the works of additional researchers (Garvin, 1993; Gephart, Marsick, Van Buren, Spiro, & Senge, 1996; Pedler, Burgoyne & Boydell, 1996; Marquardt, 1996; Nonaka, 1991; Watkins & Marsick, 1993) have risen to prominence in the further exploration of what it takes to become an LO and the risks and benefits driving the reasons an organization would desire to become an LO. For example, although becoming an LO will require the risk of initial investment of financial and personnel resources, the benefits of becoming an LO include increased organizational innovation and adaptability (Brown & Duguid, 1991; Rowden, 2001). These benefits suggest a compelling argument for organizations to want to become LOs: to build and maintain a competitive advantage with peer and near-peer rivals or adversaries.

Interestingly, considering the reported success-driven benefits of becoming an LO, consensus has yet to be reached on what exactly an LO is. That is, what operationally defines an LO and how it is a unique entity, remains to be directly identified and agreed upon in the literature (see Table B1). However, common themes identified across the definitions included (a) communicating a shared vision of the future as a learning organization to all members; (b) reducing the rigidity of vertical management and communication structures, while emphasizing horizontal structures within the organization; (c) creating a psychologically safe environment that supports knowledge creation, accumulation, and transfer at the individual, unit, inter-unit, and organizational levels; (d) appropriate freedoms for experimentation and the ability to learn from failures; and (e) the use of systems thinking approaches for problem solving.

Why Become an LO?

The advent of discussions of LOs in both research and business circles piqued a tremendous amount of interest for several reasons. One reason was the LO's unconventional

acceptance of failures. For decades, businesses had been running as bureaucratic machines of the industrial era that not only dissuaded failures, but often punished failures. LOs, however, which value holistic learning at the level of the individual, unit, and organization, uniquely embraced failure as one avenue for continued learning (Garvin, 1993). As such, it was believed that businesses with ardent emphases on continual holistic organizational learning, including identifying and learning from their failures, would be strategically positioned to learn faster than traditional, bureaucratic organizations, and would consequently be more innovative, more agile, and more adaptive (Cannon & Edmondson, 2005; Marquardt, 1996). The organization that could out-learn its competitors would be better positioned to not only survive, but thrive in the volatile, uncertain, complex, and ambiguous (VUCA) circumstances of the modern, decentralized era. OL, however, as mentioned previously, while necessary, is not sufficient for an organization to claim its stake as an LO.

Shared Vision in Organizations

Although research is divided on the adoption of a single definition of an LO, one persistently identified component an organization must adopt to ease their transition to an LO is a clear and consistent shared vision by all organizational members (Garvin, 1993; Senge, 1990; Watkins & Marsick, 1993). It is critical that all members of an organization have a clear understanding of future organizational goals and the roles they play in helping achieve those goals in order to both institute and sustain an LO. Research has indicated trust and a shared vision within an organization are key predictors of an organization's ability to accumulate and share knowledge—two necessary organizational behaviors of LOs (Tsai & Ghoshal, 1998; Zaheer, McEvily, & Perrone, 1998). An unclear organizational vision directly precipitates poor performance as employee roles and responsibilities may be more difficult to distinguish (Kantabutra, 2006). Further, divergent employee perceptions of organizational goals, and employees' roles in those goals, result in employee behaviors that deviate from organizational needs and reinforces divided mission thinking rather than reinforcing a unified, shared vision (Alpañder, 1975). Ultimately, learning organizations perform most effectively when all members share a unified vision they can achieve together (Buytendijk, 2006). This shared vision is essential in establishing a "community of purpose," which is necessary to build and sustain learning organizations (Winstanley & Woodall, 2000). To generate shared perceptions of a vision, an organization must communicate the vision clearly and ensure this vision and the roles individuals play in this vision are understood as intended by all those within the organization.

Purpose and Hypotheses

Although the U.S. Army utilizes the term "learning organization" across many forms of communication (e.g., verbally, on websites, in training pamphlets), a single, clear, and consistent definition of what an LO is to the U.S. Army does not currently exist in formal doctrine or publication. As academic research highlights the importance of a clear, shared vision in learning organizations, it appears imperative that the U.S. Army establish a definition that fits the organization's unique needs and provides a distinct vision of the U.S. Army as an LO. It is unclear if the U.S. Army goal to become an LO had been clearly communicated to Soldiers of all ranks.

It was hypothesized that Soldier knowledge of the U.S. Army goal to become an LO would be positively related to rank; clearer, more detailed perceptions of this goal would emerge and promulgate as rank increased. No specific hypotheses were made regarding the roles Soldiers play in actualizing the U.S. Army goal to become an LO, what resources Soldiers were familiar with, nor the challenges Soldiers perceived as these questions were purely qualitative.

Method

Participants

A total of 125 U.S. Army active duty Soldiers participated in the data collection. Seventeen focus groups were conducted with 115 Soldiers (PV2–O-5; *M* = 7 Soldiers per group) and 10 personal interviews were conducted with Command Sergeants Major, E-9, Colonels, O-6, and Major General, O-8, at three U.S. Army Forces Command (FORSCOM) posts and one U.S. Army Training and Doctrine Command (TRADOC) organization. Participants were obtained through recruitment of units participating in umbrella-week research support via ARI internal liaison staff. Unit or organizational points of contact (POCs) individually determined their ability to support this research and provided the requested numbers and variety of Soldiers. The participants included a wide range of ranks, ages, and military occupational specialties (MOSs) to assist in the best possible understanding of the perceptions of representative Soldiers of the U.S. Army active duty population (see Table 1).

Table 1

Sample Demographics

Demographics	*N*	*n*	%	Mean	*SD*
Age	121		96.80	33.28 years	8.10
Rank	125		100		
Enlisted		76	60.80		
PV2		2	1.60		
PFC		7	5.60		
SPC		6	4.80		
SGT		16	12.80		
SSG		6	4.80		
SFC		15	12.00		
MSG		1	0.80		
MSG(P)		19	15.20		
1SG		2	1.60		
CSM		2	1.60		
Warrant Officers		14	11.20		
WO1		3	2.40		
CW2		4	3.20		
CW3		2	1.60		

CW4		5	4.00		
Officers		35	28.00		
2LT		2	1.60		
1LT		12	9.60		
CPT		6	4.80		
MAJ		8	6.40		
LTC		3	2.40		
COL		3	2.40		
MG		1	0.80		
Time in Service	122		97.60	12.35 years	7.98
Organizational Level	125		100		
Squad		27	21.60		
Platoon		20	16.00		
Company		10	8.00		
Battalion		35	28.00		
Brigade		27	21.60		
Division		6	4.80		
Sex	125		100		
Male		118	94.40		
Female		7	5.60		
Race/Ethnicity	120		96		
Black		16	13.33		
White		74	61.67		
Hispanic or Latino		11	9.17		
Asian		5	4.17		
American Indian or Alaskan Native		0	0		
Native Hawaiian or Pacific Islander		2	1.67		
Two or more		12	10.00		

Materials

Prompt sheets were used to organize and facilitate the focus groups (Appendix C) and the interviews (Appendix D). A note card with five important components of learning organizations highlighted in the literature was used for participants to refer to, if needed, that included: (a) communicating a shared vision of the future as a learning organization to all members; (b) reducing the rigidity of vertical management and communication structures while emphasizing horizontal structures within the organization; (c) creating a trusting and psychologically safe environment that supports knowledge creation, accumulation, and transfer at the individual, unit,

inter-unit, and organizational levels; (d) appropriate freedoms for experimentation and the ability to learn from failures; and (e) the use of systems thinking approaches for problem solving.

A participant identification coding scheme (see Appendix E) was developed to be able to identify focus group input from individual focus group members while not collecting any private identifying information. This coding scheme allowed the researchers to cross reference demographic variables and focus group participant comments without compromising participant anonymity.

Notes were taken during all conversations using a standard laptop computer. In accordance with protocol, and to ensure anonymity of responses, no personally identifying information was recorded from any participant. Participant input was indicated in the notes by preceding each comment with the corresponding participant ID located on their name tents in front of them. Every time a participant commented, a new line would be created in the notes with their participant ID at the beginning of the comment. The focus groups took place in the supporting units' conference rooms; interviews took place in each leader's office. All data were transcribed and analyzed using IBM SPSS (version 22) software on a standard desktop computer.

Procedure

Participants were grouped by their rank and leadership role (see Table 2) to participate in 90-minute focus groups or personal interviews (Command Sergeants Major, E-9, Colonels, O-6, and above).

Table 2

Participants Grouped by Their Rank and Leadership Role

Grouping	Ranks
Junior Enlisted (JrEnl)	PV2, PFC, SPC
Junior NCOs (JrNCOs)	CPL, SGT, SSG
Senior NCOs (SNCOs)	SFC, MSG
SNCOs with special responsibilities (Sp SNCOs)	MSG(P), 1SG, SGM, CSM
Warrant Officers (WOs)	WO1, CW2, CW3, CW4, CW5
Company Grade Officers (CGOs)	2LT, 1LT, CPT
Field Grade Officers (FGOs)	MAJ, LTC, COL
General Officers (GOs)	BG, MG, LTG, GEN

Informed consents were distributed, reviewed, and finally agreed upon by all consenting participants before any data were collected. Participants who declined to participate were released to their chain of command ($N = 2$). Consenting participants then filled out their demographic information (Appendix E) and these sheets were collected. To ensure all participants and researchers had a similar understanding of the term "learning organization," the focus groups and interviews were opened by reviewing the five important components of LOs

from the note cards. Questions were answered and then the researchers began following the script and the questions from the prompt sheets (Appendix E). At the end of 80 minutes or upon completion of the prompt sheet (whichever came first) the researchers briefly summarized the discussion points and asked for consensus from the participants. All information included in the data used for analyses was mutually agreed upon by all participants. This summary and consensus process took approximately 10 minutes. At the end of the 90-minute session, participants were thanked and released to report to their chain of command.

Variables and Analyses

Categorical variables (rank, organizational level) and continuous variables (age, years in service) were analyzed via individual one-way analyses of variance (ANOVAs). Qualitative data were iteratively analyzed via thematic analysis and category sorting for each of the questions in accordance with previously published methods (Green et. al., 2007). Where appropriate, in accordance with statistical assumptions (Yates, Moore, & McCabe, 1999), chi-square analyses were performed to further examine these qualitative categorical relationships.

Results

Representative of what was expected, there was a significant relationship between rank and age, $F(19, 101) = 21.277$, $p < .001$, between rank and years in military service, $F(19, 102) = 41.913$, $p < .001$, and between rank and organizational level, $\chi^2(100, N = 125) = 269.055$, $p = < .001$. Age, years in military service, and the organizational level the participants were assigned to increased as their rank increased.

Goal Knowledge

There was a significant relationship between rank and knowledge of the U.S. Army goal to become an LO, $\chi^2(20, N = 118) = 66.437$, $p < .001$. While the vast majority of participants (71.19%) were not familiar with this goal, the 28.81% who were familiar with the goal were more likely to hold a higher rank. Closer examination of the ranked groups revealed specifically that FGOs and GOs were most likely to be familiar with this goal while JrEnl members were least likely to be familiar with this goal (see Figure 1).

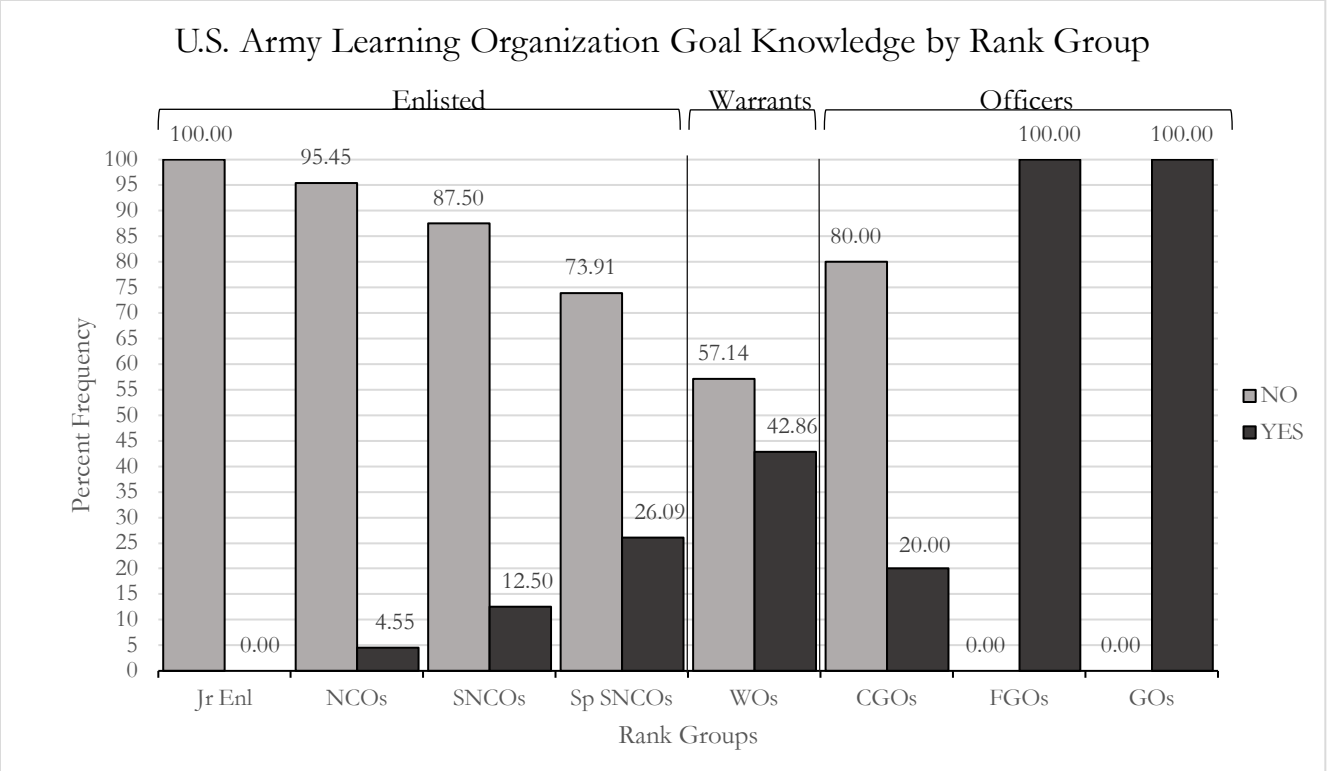

Figure 1. Percent frequency of U.S. Army learning organization goal knowledge per rank group. This figure illustrates the percentage of Soldiers from each ranked group (**Jr Enl**, Junior Enlisted, *n* = 8; **NCOs**, Non-Commissioned Officers, *n* = 22; **SNCOs**, Senior Non-Commissioned Officers, *n* = 16; **Sp SNCOs**, Senior Non-Commissioned Officers in Special Roles of Responsibility, *n* = 23; **WOs**, Warrant Officers, *n* = 14; **CGOs**, Company Grade Officers, *n* = 20; **FGOs**, Field Grade Officers, *n* = 14, and **GOs,** General Officers, *n* = 1), who specifically reported either **no** they were not, or **yes** they were, aware of the U.S. Army's goal to become a learning organization (*N* = 118).

Thirty-two of the 34 Soldiers who were familiar with the U.S. Army goal to become an LO (94.12%) reported where they first heard the term *learning organization*. A large majority of these Soldiers (43.75%) reported that the first time they heard this term was in an advanced professional military education (PME) course, including courses at the Command and General Staff College (CGSC) and at the Sergeants Major Academy (USASMA). The next two most common answers were that they were either unsure of where they heard the term (21.88%), or they had heard the term from their leadership (18.75%). The remaining Soldiers reported they had heard the term from doctrine (9.38%) or an external source (e.g., the U.S. Army Times; 6.25%).

Forty-nine interview and focus group Soldiers (39.20%) responded to how they believe the U.S. Army defines the term, "learning organization." However, this number was larger than the number of Soldiers who reported familiarity with the goal of the U.S. Army to become an LO (*n* = 34). Thus, for consistency, and to remove the likelihood of responses from "guessing," only responses from Soldiers' who initially reported familiarity with this goal were examined. After

removing the extraneous responses, a total of 19 responses from those familiar with the U.S. Army goal to become an LO remained (55.88%). Of these Soldiers, the most frequent responses (36.85%) to how the U.S. Army defines an LO was either unknown or that the U.S. Army does not have a definition. The second most frequent response (26.32%) was that the U.S. Army defines an LO in accordance with the handout card components; however, when asked, Soldiers were unable to identify where this definition may be housed. The third most frequent answer (21.05%) was that the U.S. Army defines an LO via their models of, adherence to, and support for individual Soldier learning and training opportunities. Specifically, leaders and junior Soldiers alike stated, "look at our training model," "repetition," "train the trainer," "hand-me-down training," "personal learning," and "training is our number one priority." The remainder of Soldiers (10.53%) either reported that the U.S. Army's definition of an LO was to be adaptive and flexible (e.g., "to adapt to new threats faster," "being flexible") or that the definition was subsumed by mission command (e.g., "mission command…lays out being a learning organization"). Informal examination of the Soldiers' responses who were unfamiliar with the U.S. Army goal to establish itself as an LO (n = 30) revealed these Soldiers overwhelmingly suggested the U.S. Army defines LOs by emphasizing individual training/learning (43.33%), or by the components listed on the card (36.67%).

Ten interviewed leaders further described their perceptions of parallels between the philosophies of Mission Command (MC) and LOs to include: allowing subordinates to take rational risks, developing and empowering subordinates, and leaders creating collaborative environments to accomplish organizational goals. However, these leaders further reported that while MC should be about leaders providing subordinates with *the what* and *the why* for task accomplishment, and allowing subordinates the latitude to determine *the how*, interpretations of MC vary widely and it was reported that the ability to utilize MC in this way is largely dependent on rank. Specifically, it was reported that lower ranking leaders have far less ability to execute MC and take initiative than higher ranking leaders. Additionally, it was reported that the accelerated operational tempo (OPTEMPO) of today's force restricts the ability and freedom necessary for leaders at all levels to employ MC; instead, they end up ordering *the what*, *the why*, and *the how* for task accomplishment.

There are several organizations within the Army with missions that appear to support the development of an Army LO. One such organization that has been well-established is the U.S. Army Center for Army Lessons Learned (CALL). The CALL mission statement indicates that this organization, "identifies, collects, analyzes, disseminates, and archives lessons and best practices." As LOs intentionally develop methods and capabilities for capturing and sharing knowledge, the researchers were specifically interested in the familiarity and use of CALL by the Soldiers who participated in this research. When asked about their level of familiarity with CALL, 41 out of 93 focus group Soldiers reported they were not at all familiar with CALL (see Figure 2a). Of the 52 who reported they were familiar with CALL, 23 reported on their use of the CALL website with a majority stating they did not use the CALL website (see Figure 2b). Moreover, of the eight people who reported both being familiar with and using CALL, a majority (75%) reported the CALL website was difficult to use to find relevant information (see Figure 2c).

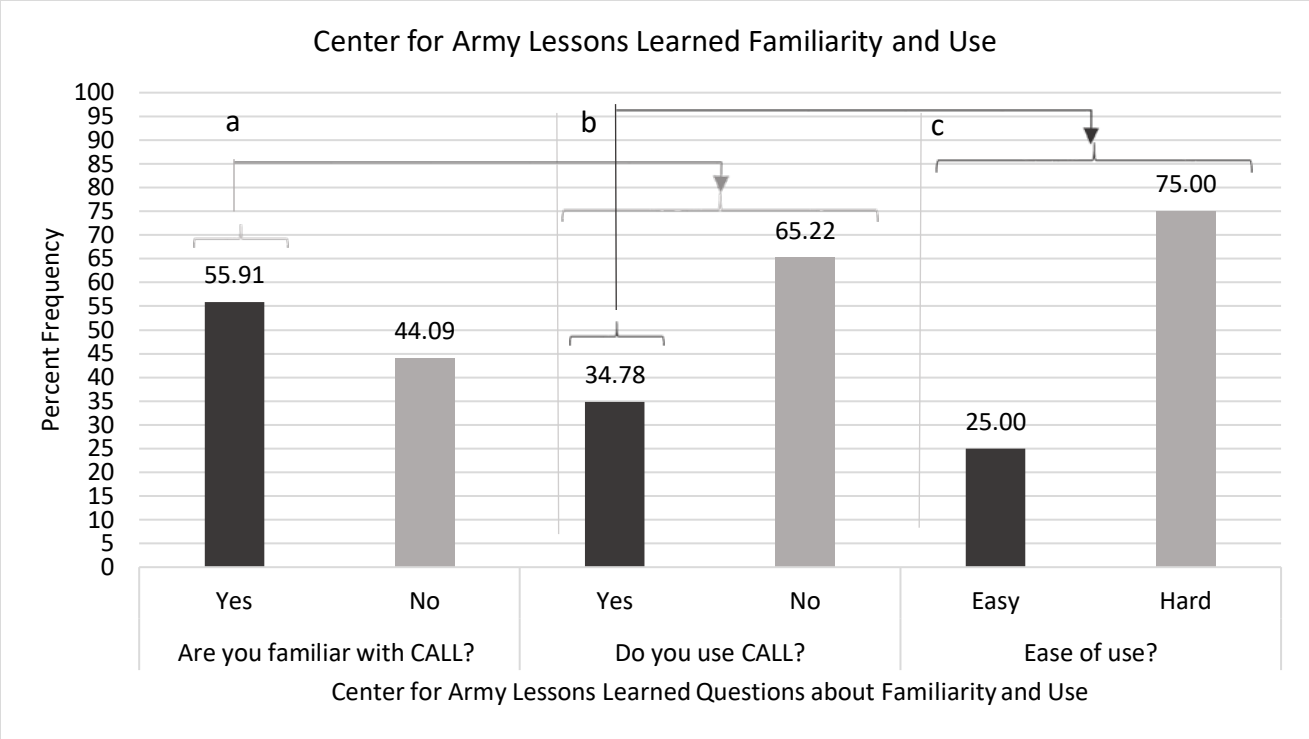

Figure 2. Soldiers' reported familiarity with Center for U.S. Army Lessons Learned (CALL; **a**), whether they use the CALL website (**b**), and the ease of use of the CALL website to obtain relevant information (**c**). Ninety-three Soldiers reported they either were (**Yes**; $n = 52$) or were not (**No**; $n = 41$) familiar with CALL. Of the Soldiers who were familiar with CALL ($N = 23$), Soldiers reported they either did (**Yes**; $n = 8$) or did not (**No**; $n = 15$) use the CALL website. Finally, of the Soldiers who reported they did use the CALL website ($N = 8$), Soldiers reported the website was either **Easy** ($n = 2$) or **Difficult** ($n = 6$) to use and obtain relevant information.

Overall, analysis indicated ranked group and CALL familiarity were significantly related, $\chi^2(6, N = 93) = 52.896$, $p < .001$. Specifically, lower ranking Soldiers (e.g., Junior Enlisted) were less likely to be familiar with CALL than higher ranking Soldiers (e.g., Field Grade Officers; see Figure 3).

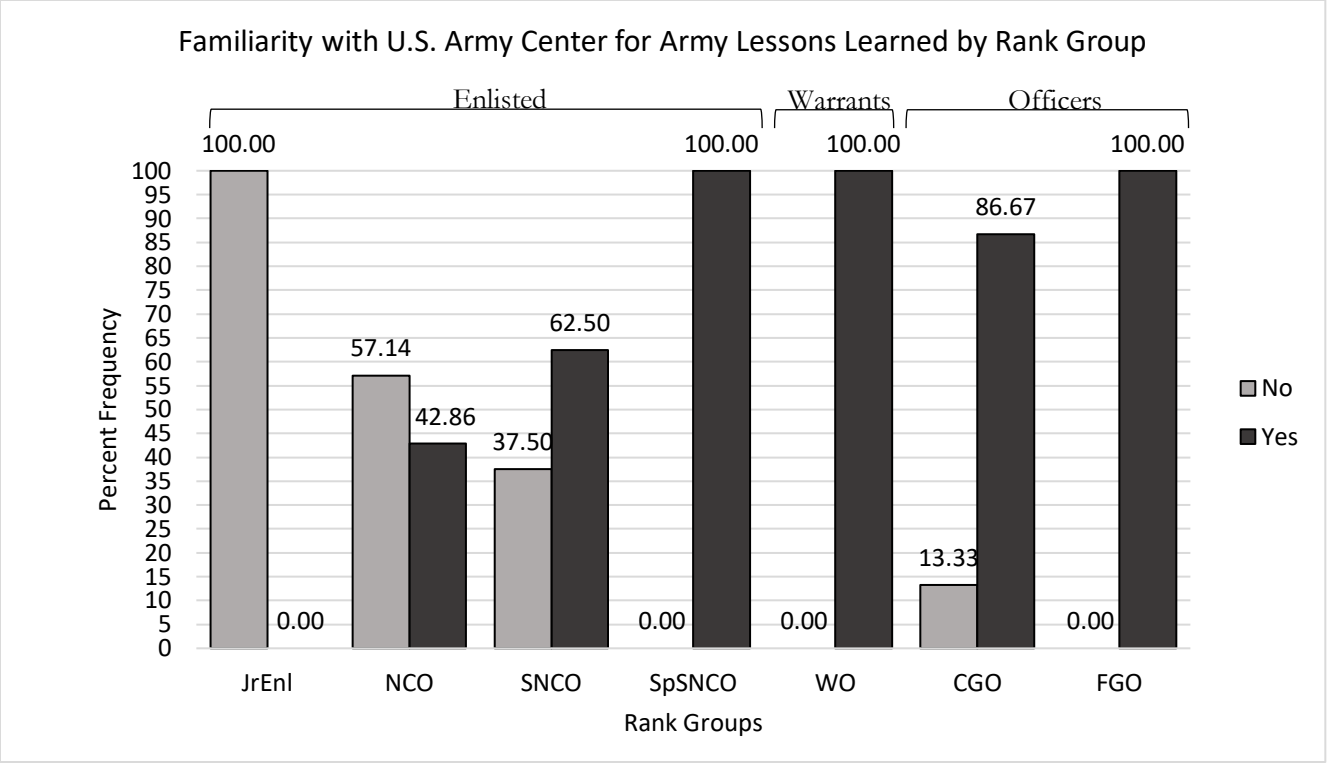

Figure 3. Percent frequency of familiarity with the U.S. Army Center for U.S. Army Lessons Learned (CALL) per rank group. This figure illustrates the percentage of Soldiers from each ranked group (**Jr Enl**, Junior Enlisted, *n* = 15; **NCOs**, Non-Commissioned Officers, *n* = 14; **SNCOs**, Senior Non-Commissioned Officers, *n* = 16; **Sp SNCOs**, Senior Non-Commissioned Officers in Special Roles of Responsibility, *n* = 21; **WOs**, Warrant Officers, *n* = 9; **CGOs**, Company Grade Officers, *n* = 15; **FGOs**, and Field Grade Officers, *n* = 3, who specifically reported either **no** they were not, or **yes** they were, familiar with CALL (*N* = 93).

Familiarity with additional resources outside of CALL that could support the development of an LO and provide information on broad U.S. Army goals and visions was reported by 55 focus group Soldiers. Soldiers most frequently (32.73%) reported they would seek information about broad U.S. Army goals and visions from the internet (e.g., Google, social media). An additional 25.45% of these Soldiers reported they would seek this information by reviewing their U.S. Army Career Tracker (ACT), while 20.00% of Soldiers reported they would not seek this information at all. The remaining Soldiers reported they would seek this information from U.S. Army Doctrine (12.73%), leadership (5.45%), or peers (3.64%).

Roles

Forty focus group Soldiers (34.78%) provided input on what roles they believe all Soldiers in the U.S. Army play in helping to achieve the goal of becoming an LO. Soldiers were encouraged to identify their own roles and/or to refer to the definitional card of an LO that listed five integral components to identify as an LO. The two most frequent roles suggested were understanding and promoting the shared vision and encouraging a flattened communication structure (see Figure 4). For instance, regarding their perceived role of understanding and

promoting the shared vision, Soldiers stated, “They have to give us the information and include us so that we can implement it,” “I’ve heard of us doing a shared vision, but I’ve never seen a label *learning organization*,” and “Shared vision is key, getting everybody on board and believing.” Additionally, focus group Soldiers’ emphasis on their role in encouraging flattened communication included statements such as, “every Soldier could provide input or feedback to leadership,” “sharing info, especially managing data from lessons learned—AARs is one way to share,” and “ideally there would be one online portal for information sharing.”

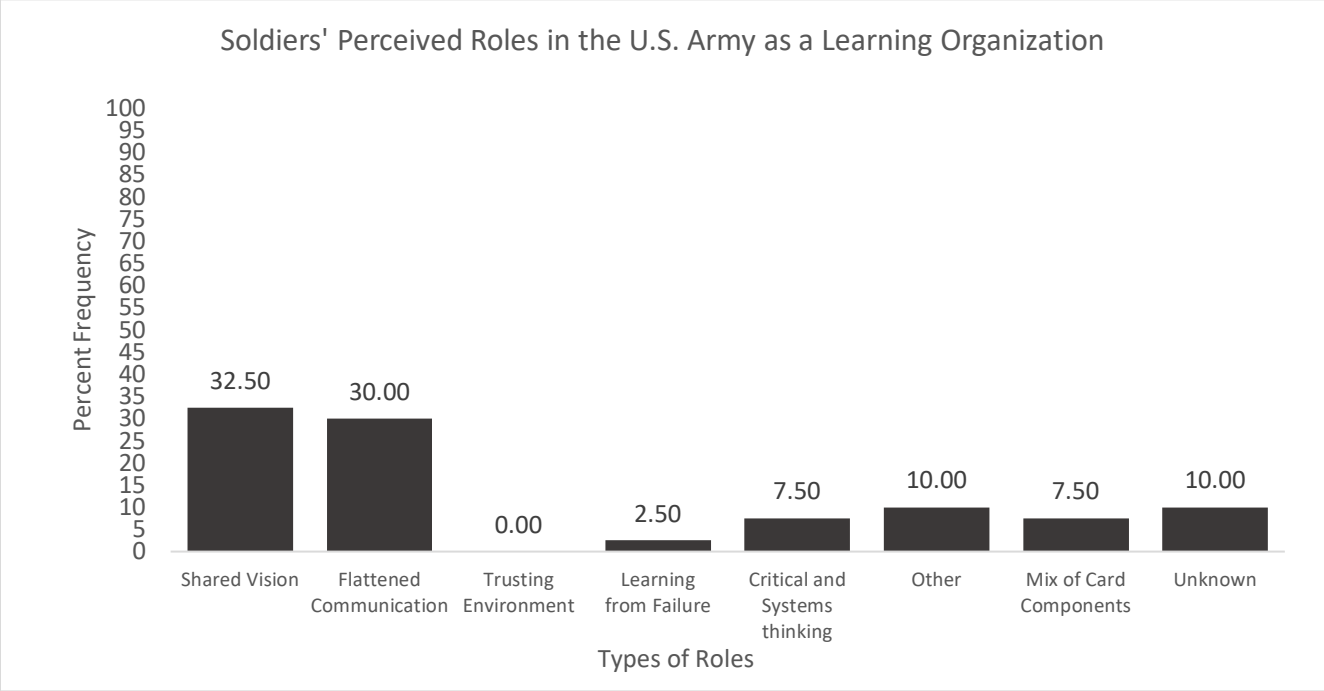

Figure 4. Percent frequency of U.S. Army Soldiers’ perceived roles in a learning organization. This figure illustrates the percentage of Soldiers from focus groups who provided feedback on what roles they believe every Soldier plays in the U.S. Army as a learning organization (N = 40). Soldiers responded that their role in the U.S. Army as a learning organization was to understand or know the **Shared Vision** (n = 13), to promote **Flattened Communication** structures (n = 12), to **Learn from Failure** and to allow others to do the same (n = 1), to engage in and encourage **Critical and Systems Thinking** (n = 3), to undertake and encourage **Other** behaviors such as self-development and self-directed learning (n = 4), or to enact a **Mix of Card Behaviors** (n = 3). The remaining Soldiers reported they had never thought about their role in the U.S. Army as a learning organization or their role was **Unknown** (n = 4).

Similar to the responses from the focus group Soldiers, the ten interviewed senior leaders (O6+) overwhelmingly indicated that creating and disseminating a shared vision is a key role of FGOs and GOs. Specifically, it was important to these leaders that they develop “bumper stickers” (simple visions that can be easily conveyed) for their Soldiers that have specific, actionable guidance associated with them. Creating and sharing the vision for becoming an LO “has to start at the top”; otherwise the Soldiers will not buy-in.

Compared to the focus group Soldiers, the interviewed leaders placed less emphasis on flattening communication structures. One leader identified flattened communication structures as important when creating the vision and disseminating information about that vision, stating that FGOs and GOs must develop forums for Soldiers at all levels to share information when setting the vision and conditions for members to be able to learn. The remainder of the leaders interviewed, however, did not mention flattened communication structures. Instead, they discussed the importance of FGOs and GOs in creating, implementing, and directing the climate standards for leader and professional development, such as assigning Soldiers tasks outside of their expertise to develop them professionally.

When asked what factors could affect their ability to perform in their identified roles (either positively or negatively), 29 focus group Soldiers (72.50%) reported time restrictions (51.72%; "everything is a priority") and borrowed manpower (i.e., removing Soldiers from their assigned unit to perform critically manned duties elsewhere on post, such as gate guard; 27.59%) were the most influential factors that created barriers to their efficiency. The remaining Soldiers (20.69%) identified factors that could either positively or negatively affect their ability to efficiently perform in their roles, including: echelon assignment (6.90%; "some levels may value the LO concept more"), mindset about one's career and role (6.90%), changes in standard operating procedures (3.45%; "standard operating procedures help with making changes"), and communication between leaders and subordinates (3.45%, "[leaders] make assumptions about [Soldiers'] roles and that makes it difficult to be an effective part of the organization").

The ten interviewed senior U.S. Army leaders reported on what they believe best prepared each of them for their individual roles as senior leaders in the U.S. Army as it aligns itself as an LO. Eight of these leaders (80%) indicated advanced PME courses (Senior Service College, USASMA) and positive mentorship and networking were the most influential. The remaining two senior leaders (20%) reported broadening experiences and deployments best prepared them for their roles as it, "allows you to see more."

Challenges

Forty-two interview and focus group Soldiers (33.60%) provided specific responses for where they perceive the U.S. Army is weakest and should concentrate their efforts to advance the objective to become an LO. Soldiers were encouraged to refer to the definitional card of a learning organization, if needed, or to identify other areas the U.S. Army could most improve upon that would further the goal of establishing itself as an LO. The most frequent responses were to provide the freedom for experimentation and to learn from failures, and to create a trusting and psychologically safe environment where knowledge could be acquired, stored, and transferred (see Figure 5). Specifically, Soldiers stated, "Appropriate freedoms for experimentation, those are denied," and "An environment where small failure is okay as long as the same mistakes aren't repeated," "There is a lot of knowledge but it does not transfer to anyone else," and "A psychologically safe environment would be helpful in lots of circumstances." Seven Soldiers reported other areas of emphasis to include: more pay, extending basic training, emphasizing adaptation, and providing more free time on the calendar for Soldiers to accomplish tasks.

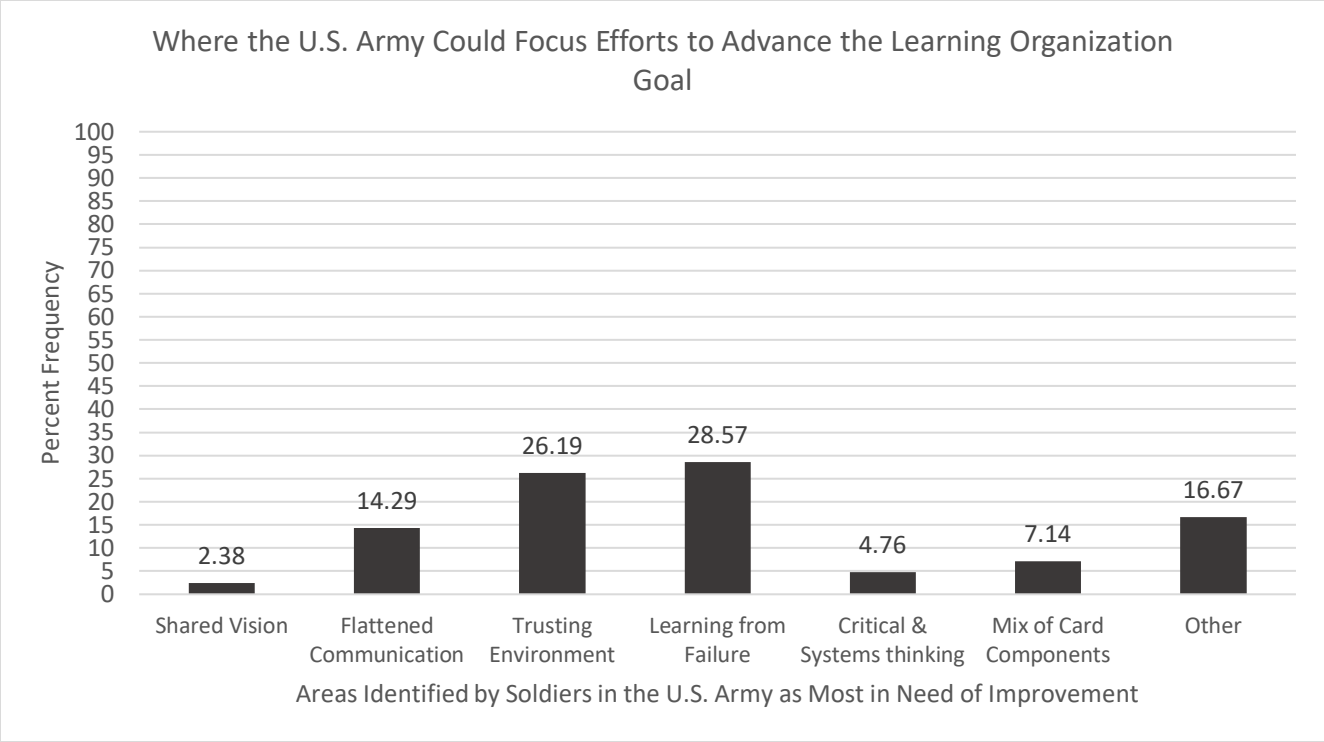

Figure 5. Percent frequency of U.S. Army Soldiers' suggested areas in most need of improvement to achieve the goal of becoming a Learning Organization. This figure illustrates the percentage of Soldiers from interviews and focus groups who provided feedback on components of a learning organization where the U.S. Army could most benefit from improvement (N = 42). Soldiers responded that the areas in most need of improvement for the U.S. Army to achieve its goal of being a learning organization were to promote an understanding of the **Shared Vision** of the U.S. Army as a learning organization (n = 1), to create and promote **Flattened Communication** structures (n = 6), to have a **Trusting Environment** where knowledge could be accumulated, stored, and transferred (n = 11), to be afforded the opportunity to experiment and **Learn from Failure** (n = 12), to engage in and encourage **Critical and Systems Thinking** at all levels (n = 2), or undertake and encourage a **Mix of Card Behaviors** (n = 3). The remaining Soldiers reported other areas in need of improvement (e.g., increasing the length of basic training time, raising base pay, and encouraging continued adaptability; n = 7).

Due to the number of empty cells, chi-square analysis of these variables with rank was not sensible (Yates, Moore, & McCabe, 1999). However, visual examination of the top two suggestions by ranked group revealed SNCOs in special roles of responsibility were more likely to suggest an emphasis on affording opportunities to learn from failure, while warrant officers were more likely to suggest an emphasis on creating trusting and psychologically-safe environments where knowledge could be acquired, stored, and transferred (see Figure 6).

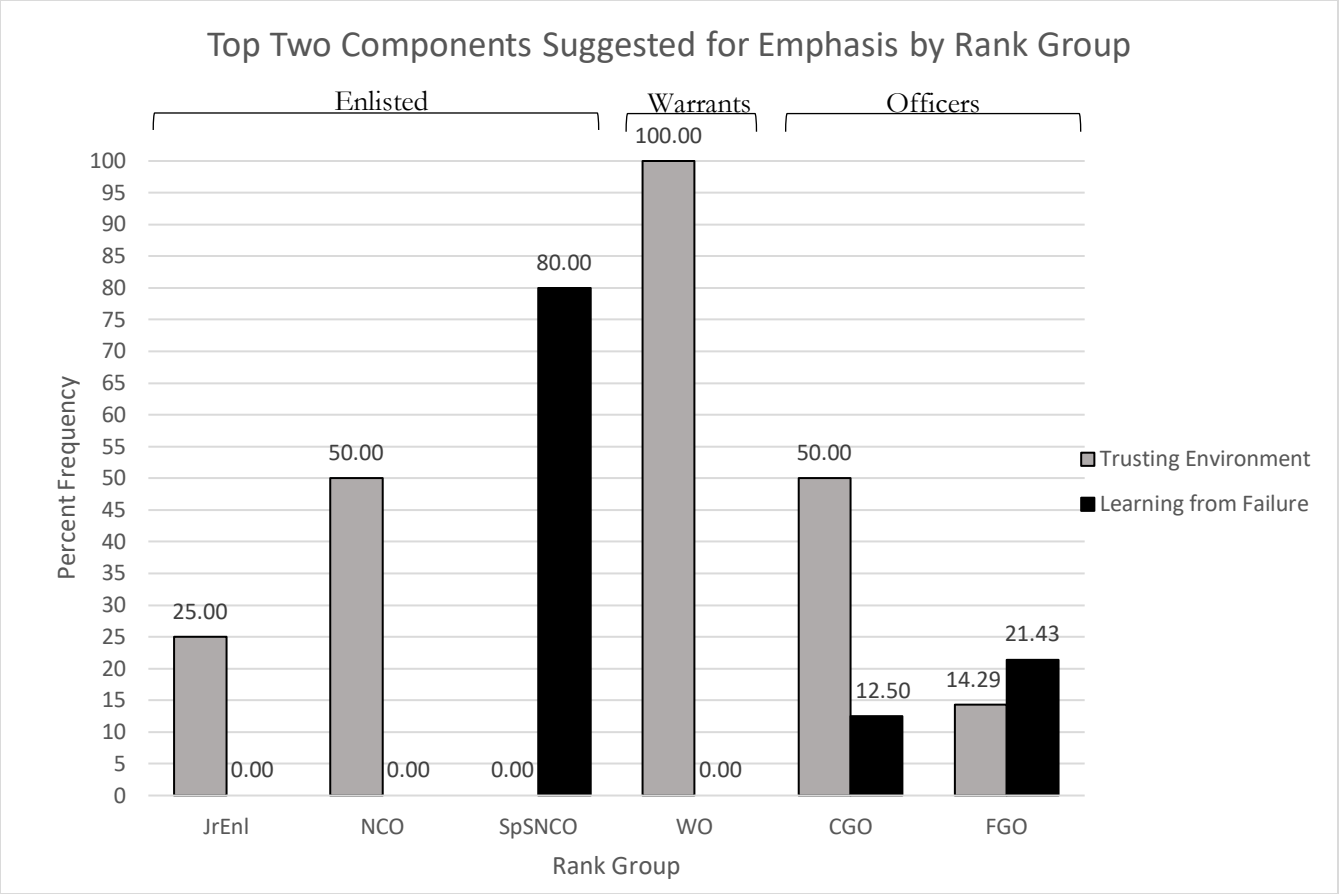

Figure 6. Percent frequency of U.S. Army Soldiers' suggested top two areas in most need of improvement to achieve the goal of becoming a learning organization by rank group. This figure illustrates the percentage of Soldiers who provided feedback on components of a learning organization where the U.S. Army could most benefit from improvement (N = 42). Specifically, this figure highlights the distribution of rank groups' suggestions of the top two components (**Trusting Environment**, n = 11, and **Learning from Failure**, n = 12).

Discussion and Conclusions

Relation to Previous Research and Survey Findings

As expected, higher ranking Soldiers were more familiar with the U.S. Army's goal to become an LO than lower ranking Soldiers. This is likely because the messages surrounding this goal have been mentioned mainly in doctrine, publications, and reportedly in advanced educational courses that are above the career level expectations or requirements of the lower ranking Soldiers (e.g., CGSC and USASMA). As such, it appears senior leaders in the U.S. Army are not made aware of this goal until late in their careers, just as they are nearing retirement. Furthermore, despite being aware of the goal, these leaders were unable to give a definition of what an LO was, specific to the U.S. Army. As Junior Enlisted Soldiers currently make up nearly 43.28% of the Active Duty career force in the U.S. Army (DMDC, 2018), it would be prudent to determine what an LO is to the U.S. Army, define it clearly, and share this

knowledge early so Soldiers may plan their activities with this overarching goal in mind. It is clear that, within the current sample, Soldiers are hearing about the U.S. Army's goal to become an LO too late and without any concrete guidance to affect lasting change within the U.S. Army. The complication of incongruent definitions of and guidance towards developing LOs in academia, industry, and in the U.S. Army can result in leadership, at all levels, haphazardly choosing definitions that fit their own personal mindsets, as opposed to what the organization itself may need (Örtenblad, 2002). Without a clear vision for the U.S. Army as an LO, it remains to be determined how leaders would be able to effectively identify their own roles and be able to assist their subordinates in understanding the roles they play in helping the U.S. Army achieve this goal. Further, as evidenced in this research, not having a clear vision of the U.S. Army as an LO has led to an unclear perceived alignment of LOs and the procedural guidance of mission command by U.S. Army leaders.

The philosophy of MC was developed to "blend the art of command with the science of control" by empowering junior leaders to exercise authority within a commander's intent in the conduct of land operations with the added outcome of developing agile and adaptive leaders (DA, 2012b). The objective of MC is for subordinate leaders to complete the commander's objective, haven been given *the what* (what needs to be accomplished) and *the why* (why it needs to be accomplished) necessary for mission accomplishment with *the how* (how the mission needs to be accomplished) being left for those closest to the mission to decide. The chief of staff of the Army's (CSA) Leader Development Task Force (LDTF) reported that 90% of officers believe their success is dependent on their ability to practice MC (2013). However, senior leaders interviewed indicated not all leaders were able to use MC for several reasons, including varying interpretations of MC among the ranks and the time constraints associated with a high operating tempo. Specifically, these leaders reported that this has resulted in MC being used in ways that may not be in accordance with the intent of the philosophy (i.e., the leaders end up providing *the what*, *the why*, and *the how* for mission accomplishment to their subordinates). Thus, by providing *the how*, subordinate leaders are forced into compliance-only situations where barriers are formed that inhibit them from being empowered to take disciplined initiative and exercise authority within their commander's intent.

The reported lack of consistency of the use of MC as intended reported by the interviewed leaders supports findings by the 2015 U.S. Army Center for Army Leadership Annual Survey of Army Leadership (CASAL), which described that only 69% of commanders believe their staff are effective with using MC and distilling information. Thus, it is possible the perceived differing interpretations of MC and a lack of empowerment that create barriers to its effective use are at least partly a result of a deficiency of trust among the ranks. However, as empowerment has been identified as critical in developing organizational change initiative and trust (Gill, 2002), the reluctance to use MC as intended could be obstructing the U.S. Army from realizing the full potential of its leaders and developing itself as an LO. Further, as it is highly unlikely the OPTEMPO will reduce any time soon, given the apparent threat of near-peer adversaries and unconventional adversaries such as the Islamic State in Iraq and the Levant (ISIL), leadership must consider ways to address this perceived challenge in understanding and practicing MC to empower agile and adaptive leaders in the U.S. Army as an LO.

Interestingly, when asked about the individual roles of Soldiers in pursuing the goal of the U.S. Army becoming an LO, the focus group Soldiers placed a strong emphasis on their understanding of the U.S. Army vision to become an LO and on developing flattened communication structures. Senior leaders echoed the importance of subordinates' understanding of the shared vision and stated a key role of senior leadership is to create and disseminate the shared vision. Interviewed leaders did not emphasize flattening communication structures, however. First, the low number of leaders interviewed suggests caution interpreting the failed emphasis on flattening communication structures. Second, as the senior leaders unanimously emphasized the importance of creating the shared vision, it is possible the role of delegation related to disseminating the shared vision was more relevant than flattening communication structures.

Globally, however, Soldiers emphasized the importance of the U.S. Army extending greater effort towards developing a trusting and psychologically safe environment and supporting learning from failure rather than communicating the shared vision. First, it is important to address that Soldiers who provided input on their roles did not necessarily also provide input on where the U.S. Army should focus its efforts globally. Second, it is possible the participants view creating, disseminating, and understanding the shared vision as individual responsibilities, while the responsibility of developing environments or climates is a larger role they believe belongs more broadly at the organizational level. It is important to note, however, an overarching factor that bridges the gap between these identified individual and organizational roles in becoming a learning organization: communication. Communication of the organizational vision has been shown to significantly affect organization-wide performance (Baum, Locke, & Kirkpatrick, 1998), while free communication between employees and management has been shown to significantly affect trusting climates (Ruppel & Harrington, 2000). It was further shown that leadership's trust in their employees directly, positively affects employee innovation and commitment (Ruppel & Harrington, 2000). Thus, in order for Soldiers to understand a vision of the U.S. Army as an LO as intended by senior leadership, and in order for the organization to develop trusting climates that support the development of an LO by empowering subordinates to innovate and learn from failures, it is clear that an emphasis on effective communication will be paramount.

Of interest to highlight are the results of recent writing assessments of more than 11,000 NCOs who attended the basic leadership course in 2016, which revealed that more than 75% of U.S. Army first-line leaders could benefit from additional communication training, above and beyond what they are already receiving (Bailey, 2016). As improvements in verbal communication improves written communication ability, but not the reverse, it may be essential for the U.S. Army to provide further training on both verbal and written forms of communication (Shanahan, MacArthur, Graham, & Fitzgerald, 2006). Improving communication should be vitally important to the U.S. Army because if the bulk of the force (these first-line leaders) are exhibiting deficiencies in communicating, it is likely important messages to them are not appropriately being relayed up or down the Chain of Command. As reliance on written communication has become more prevalent in the ranks with technological advancement including email, social media, and text messaging, these results suggest potential gaps in first-level leader communication that could create barriers to sharing and understanding the organizational vision and knowledge sharing. Thus, not only should the U.S. Army focus on

further developing individual Soldier verbal and written communication skills, but also on supporting structures that would easily facilitate Soldier communication.

Unfortunately, the inherent hierarchical nature of the U.S. Army places restrictions on how flexible communication and communication structures can be. However, one way to implement change in this area, suggested by Soldiers, would be for leadership to adopt and support a single, consolidated online source for Soldiers to reference for "all things U.S. Army." It was regularly reported that the number of resources available to Soldiers is overwhelming and reduces the ability to communicate rather than enhances it. Research supports these suggestions and has termed this phenomena "choice overload." Specifically, researchers have found that having too many choices is detrimental to the decision-making process, especially in cases with high preference uncertainty and effort constraints, time constraints, or both (Chernev, Böckenholt, & Goodman, 2015). If Soldiers, with obvious time restraints, are experiencing choice overload with regard to the amount of information provided to them, it is likely that important goals and lessons housed in the current immeasurable number of sources are not being communicated to or received by Soldiers as intended. Further, as Soldiers overwhelmingly reported their reliance on the search engine Google, as opposed to official U.S. Army resources such as CALL, it is possible these outside sources could further contribute to important goals and lessons not being communicated or, more problematically, being miscommunicated.

Finally, as communication styles are inseparable from leadership styles, it is likely the U.S. Army could benefit from innovative modifications to leadership training that would assist Soldiers' thinking and communication surrounding complex ideas such as LOs. Specifically, one unexplored area of leadership development would be the introduction of strategic thinking and discourse skills techniques to all Soldiers, regardless of organizational level, beginning with the earliest leadership training (basic leader course). Strategic thinking has been repeatedly reported as instrumental in the development of an LO, likely because this method of thinking is future-oriented and can be performed at the individual or group level while taking into consideration individual, group, and organizational goals (Bonn, 2001). Contrary to some beliefs that strategic thinking is only of benefit to senior strategic-level leadership within an organization, research has shown this training is beneficial for lower levels of the echelon as well (Argryris, 1993). Emphasis on strategic thinking at earlier stages in their career and emphasis on communicating complex ideas would further serve to address gaps in the area of leader development by providing Soldiers critical thinking and communication skills to support their progression as successful leaders in the U.S. Army (Brockerhoff, Licameli, & Toffler, 2016; Riley, Hatfield, Freeman, Fallesen, & Gunther, 2015).

Limitations and Future Research

It is important to address the limitation of the sample size (N = 125) of this research and the implications and conclusions derived. The sample size in this research is exceptionally small to draw firm generalizations on the entire U.S. Army force. Instead, the implications and conclusions derived should be used to inform an understanding of possible trends that may exist amongst the ranks surrounding the U.S. Army's goal to become an LO, what roles Soldiers believe they play in this goal, and the challenges they perceive in achieving this goal. Additionally, as the definitional card provided to the Soldiers was used as a reference for

Soldiers during the focus groups, it is necessary to highlight the likelihood of priming. That is, it is possible the Soldiers' responses in this research were influenced, and potentially constrained, by the definitional card. This research should assist in developing future research aimed at clarifying the U.S. Army's use of the term "learning organization" and the roles Soldiers play, although more work is needed to fully understand what an LO looks like in the U.S. Army and what roles Soldiers play in support of that pursuit. Finally, this research can be used to inform leadership on areas of potential emphasis for creating and disseminating information surrounding the U.S. Army's goal to become an LO and to develop further research to understand these goals.

Conclusion

In order for an organization to create a vision to become an LO, it must first acknowledge that it is not already one (Senge, 1990). This is by no means a small feat, especially for an organization that has proven itself as a world leader for centuries. Solving this complex problem, however, will require open and honest inquiry and discussion. Adding to the complexity is the sheer size of the U.S. Army and the lack of agreement amongst industry and academia on what exactly an LO is. To facilitate future capability overmatch, the U.S. Army could benefit by formally adopting a concrete operational definition of an LO specific to the U.S. Army, as well as defining the components and detailing the actions necessary by all Soldiers to achieve the objective of becoming an LO. Alignment of officer, warrant officer, and enlisted Soldiers' perceptions of the U.S. Army's mission to become an LO and the Soldiers' perceived roles in that mission is necessary to promote a shared understanding amongst the ranks. Developing an environment that fosters a clear, shared vision all Soldiers could work towards is essential to the mission of the U.S. Army to become an LO. The current absence of an operational definition of an LO, as it pertains to the U.S. Army, has likely hindered the development of a shared understanding amongst the ranks surrounding the vision of the U.S. Army to become an LO. To shift the trajectory of the U.S. Army to one that strongly supports becoming an LO, the U.S. Army should first adopt a formal definition of an LO and its components, identify the roles all Soldiers play in actualizing this goal, and then communicate the vision of the U.S. Army to become an LO with published guidance to Soldiers of all ranks, facilitating shared understanding of the U.S. Army as an LO.

References

Air Land Sea Application Center. (2017). *Advising multi-service tactics, techniques, and procedures for advising foreign security forces* (ATP 3-07.10 / MCRP 3-03D.1 [MCRP 3-33.8A] / NTTP 3-07.5 / AFTTP 3-2.76). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_d/pdf/web/ARN6273_ATP%203-07x10%20FINAL%20WEB.pdf

Alpañder, G. G. (1975). Developing team effectiveness by eliminating supervisor/subordinate gap in role perception. *Human Resource Management*, *14*(4); 29–32.

Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison-Wesley.

Bailey, L. W. (2016, July 29). CSM's blog: Notes on the writing assessment pilot. TRADOC news center. Retrieved from http://tradocnews.org/tag/writing-assessment/

Baum, J. R., Locke, E. A., & Kirkpatrick, S. A. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. *Journal of Applied Psychology*, *83*(1), 43.

Bell, S. J., Whitwell, G. J., & Lukas, B. A. (2002). Schools of thought in organizational learning. *Journal of the Academy of Marketing Science*, *30*(1), 70–86.

Bennett, J. K., & O'Brien, M. J. (1994). The building blocks of the learning organization. *Training*, *31*(6), 41.

Bonn, I. (2001). Developing strategic thinking as a core competency. *Management Decision*, *39*(1), 63–71

Brockerhoff, M. P., Licameli, F. C., & Toffler, P. A. (2016). *The Center for the Army Profession and Ethic (CAPE) Annual Survey of the Army Profession (CASAP FY16)* No. 2016-01. Army Center for the Army Profession and Ethic. West Point, NY.

Brown, J. S., & Duguid, P. (1991). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. *Organization Science, 2*(1), 40–57.

Buytendijk, F. (2006). The five keys to building a high-performance organization. *Business Performance Management*, *4*(1); 24–30.

Cannon, M. D., & Edmondson, A. C. (2005). Failing to learn and learning to fail (intelligently): How great organizations put failure to work to innovate and improve. *Long Range Planning*, *38*(3), 299-319.

Chen, J. Q., Lee, T. E., Zhang, R., & Zhang, Y. J. (2003). Systems requirements for organizational learning. *Communications of the ACM, 46*(12), 73–78.

Chernev, A., Böckenholt, U., & Goodman, J. (2015) Choice overload: A conceptual review and meta-analysis. *Journal of Consumer Psychology*, *25*(2), 333–358.

Defense Manpower Data Center (DMDC). (2018). *Active duty military personnel by service by rank/grade May 2018*. Retrieved from https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp

Drew, S. A. W., & Smith, P. A. C. (1995). The learning organization: "change proofing" and strategy. *The Learning Organization*, *2*(1), 4–14.

Ecklund, M. V. (2006). Leading change: Could a joint OER be the catalyst of Army transformation? *Military Review*, *86*(1), 71–77.

Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*, *71*(4), 78–91.

Garvin, D. A. (2003) *Learning in action: A guide to putting the learning organization to work*. Boston, MA: Harvard Business Review Press.

Gephart, M. A., Marsick, V. J., Van Buren, M. E., Spiro, M. S., & Senge, P. (1996). Learning organizations come alive. *Training and Development*, *50*(12), 34–46.

Gerras, S. J. (2002). *The Army as a learning organization*. Carlisle, PA: U.S. Army War College.

Gill, R. (2002). Change management—or change leadership? *Journal of Change Management*, *3*(4), 307–318.

Green, J., Willis, K., Hughes, E., Small, R., Welch, N., Gibbs, L., & Daly, J. (2007). Generating best evidence from qualitative research: The role of data analysis. *Australian and New Zealand Journal of Public Health, 31*(6), 545–550.

Headquarters, Department of the Army. (2006). *Army continuing education system* (AR 621-5). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r621_5.pdf

Headquarters, Department of the Army. (2009). *Tactics in counterinsurgency* (FM 3-24.2/FM 90-8/FM 7-98). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm3_24x2.pdf

Headquarters, Department of the Army. (2011). *The U.S. Army training concept 2012-2020*. TRADOC PAM 525-8-3. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiNyKHu97LaAhULDuwKHd6nDZQQFggnMAA&url=https%3A%2F%2Fusacac.army.mil%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fcace%2FLREC%2F2011_ArmyTrainingConcept_2012-2020.pdf&usg=AOvVaw3uYeDocAG92bYMQ0BmnOEJ

Headquarters, Department of the Army. (2012a). *Army leadership* (ADRP 6-22). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/adrp6_22.pdf

Headquarters, Department of the Army. (2012b). *Mission command* (ADP 6-0). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/adp6_0.pdf

Headquarters Department of the Army. (2012c). *Training units and developing leaders* (ADRP 7-0). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/adrp7_0.pdf

Headquarters, Department of the Army. (2013a). *Air defense and airspace management (ADAM) cell operation* (ATP 3-01.50). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp3_01x50.pdf

Headquarters, Department of the Army. (2013b). *Army educational processes* (TP 350-70-7). Retrieved from http://adminpubs.tradoc.army.mil/pamphlets/TP350-70-7.pdf

Headquarters, Department of the Army. (2014a). *Commander and staff organization and operations* (FM 6-0). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN7501_FM_6-0_Incl_C2_FINAL_WEB.pdf

Headquarters, Department of the Army. (2014b). *Insurgencies and countering insurgencies* (FM 3-24/MCWP 3-33.5). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm3_24.pdf

Headquarters, Department of the Army. (2014c). *Irregular opposing forces* (TC 7-100.3). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/tc7_100x3.pdf

Headquarters, Department of the Army. (2014d). *Operational environment and Army learning* (TC 7-102). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/tc7_102.pdf

Headquarters, Department of the Army. (2014e). *The U.S. Army human dimension concept* (TP 525-3-7). Retrieved from http://adminpubs.tradoc.army.mil/pamphlets/TP525-3-7.pdf

Headquarters, Department of the Army. (2015a). *Army team building* (ATP 6-22.6). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp6_22x6%20FINAL.pdf

Headquarters, Department of the Army. (2015b). *Leader development* (FM 6-22). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm6_22.pdf

Headquarters, Department of the Army. (2015c). *Military police leader's handbook* (TC 3-39.30). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/tc3_39x30.pdf

Headquarters, Department of the Army. (2015d). *Techniques for effective knowledge management* (ATP 6-01.1/FM 6-01.1). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp6_01x1.pdf

Headquarters, Department of the Army. (2017). *The U.S. Army learning concept for training and education 2020-2040* (TP 525-8-2). Retrieved from http://adminpubs.tradoc.army.mil/pamphlets/TP525-8-2.pdf

Headquarters, Department of the Army; Headquarters, United States Marine Corps. (2017). *Urban operations* (ATP 3-06/MCTP 12-10B). Retrieved from https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN6452_ATP%203-06%20FINAL%20WEB.pdf

Hedberg, B. L. T. (1981). How organizations learn and unlearn in P.C. Nystrom & W. H. Starbuck (Eds.), *Handbook of organizational design*. Oxford, UK: Oxford University Press.

Hitt, W. D. (1996). The learning organization: Some reflections on organizational renewal. *The Journal of Workplace Learning, 8*(7), 16-25.

Jashapara, A. (1993). The competitive learning organization: A quest for the Holy Grail. *Management Decision, 31*(8), 52.

Jensen, P. E. (2005). A contextual theory of learning and the learning organization. *Knowledge and Process Management, 12*(1), 53–64.

Johnson, S. E., Peters, J. E., Kitchens, K. E., & Martin, A. (2011). *A review of the U.S. Army's modular force structure*. Santa Monica, CA: Rand National Defense Research Institute.

Kantabutra, S. (2006). Relating vision-based leadership to sustainable business performance: A Thai perspective. *Kravis Leadership Institute Leadership Review, 6*(Spring), 37–53.

Kim, D. H. (1997). The link between individual and organizational learning. *In The Strategic Management of Intellectual Capital,* (pp. 41-62) *https://www.sciencedirect.com/science/article/pii/B9780750698504500063*

King, W. R. (2001). Strategies for creating a learning organization. *Information Systems Management, 18*(1), 12–20.

Marquardt, M. J. (1996). *Building the learning organization: A systems approach to quantum improvement and global success*. New York, NY: McGraw-Hill Companies.

Nonaka, I. (1991) The knowledge-creating company. *Harvard Business Review, 69*(6); 96–104.

Örtenblad, A. (2002). A typology of the idea of learning organization. *Management Learning, 33*(2), 213–230.

Pedler, M., Burgoyne, J. G., & Boydell, T. (1996). *The learning company: A strategy for sustainable development*. Cambridge, UK McGraw-Hill.

Redding, J. (1997). Hardwiring the learning organization. *Training & Development, 51*(8), 61–68.

Reynolds, R., & Ablett, A. (1998). Transforming the rhetoric of organisational learning to the reality of the learning organisation. *The Learning Organization, 5*(1), 24–35.

Riley, R. P., Hatfield, J., Freeman, T. E., Fallesen, J. J., & Gunther, K. M. (2015). *2014 Center for U.S. Army Leadership Annual Survey Of U.S. Army Leadership (CASAL): Military Leader Findings.* Technical Report 2015-01, Fort Leavenworth, KS: Leadership Research, Assessment and Doctrine Division.

Rowden, R. W. (2001). The learning organization and strategic change. *SAM Advanced Management Journal, 66*(3), 11.

Ruppel, C. P., & Harrington, S. J. (2000). The relationship of communication, ethical work climate, and trust to commitment and innovation. *Journal of Business Ethics, 25*(4), 313–328.

Senge, P. M. (1990). *The fifth discipline*: *The art and science of the learning organization*. New York, NY: Currency Doubleday.

Shanahan, T., MacArthur, C. A., Graham, S., & Fitzgerald, J. (2006). Relations among oral language, reading, and writing development. *Handbook of Writing Research*, 171–183.

Shelton, H. H. (2000). *Joint vision 2020.* Washington, D.C.: U.S. Government Printing Office.

Sullivan, G. R. (1994). Force XXI: Digitizing the battlefield. *Army R&D Bulletin*, 1-3.

Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal, 41*(4), 464–476.

Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the learning organization: Lessons in the art and science of systemic change*. San Francisco, CA: Jossey-Bass Inc.

Winstanley, D., & Woodall, J. (2000). The ethical dimension of human resource management. *Human Resource Management Journal, 10*(2); 5–20.

Yates, D., Moore, D., & McCabe, G. (1999). *The Practice of Statistics (1st ed.)*. New York, NY: W.H. Freeman.

Zaheer, A., McEvily, B., & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, *9*(2), 141–159.

Appendix A

Table A1.

Use of the term "learning organization" in current U.S. Army doctrine and publications.

Publication ID	Type of publication	Title of publication	Date of publication	Definition?	Page #	Chapter	Section title	Use of term "*learning organization*"
3-01.50	U.S. Army Techniques Publication	Air defense and airspace management cell operation	05 Apr 2013	No	viii	Introduction	The Role of Doctrine	The U.S. Army is a *learning organization*. Its doctrine is not static. It continuously revises doctrine based on the ever-changing security environment and lessons from operations.
3-06	Field Manual	Urban operations	07 Dec 2017	No	2-7	2: Foundations of Urban Operations	Alternatives and Risk Reduction Measures	The creation of adaptable, *learning organizations*. This requires thorough after-action analyses conducted during actual operations as well as after training exercises.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

3-07.10	U.S. Army Techniques Publication	Advising multi-service tactics, techniques, and procedures for advising foreign security forces	13 Nov 2017	No	188	Appendix I: Observations and Insights from Former Advisors	Advisor Team Activities and Planning Considerations	It is the advisor's job to reinforce desired values in the counterpart's attitude. The effect of this mindset is the creation of a *learning organization* with professional leaders who are competent and confident. How advisors train them on these basic values and effects is the art of advising.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

3-24	Field Manual	Insurgencies and counter insurgencies	13 May 2014	No	1-21	1: Understanding the Strategic Context	Learn and Adapt	An effective counterinsurgency force is a *learning organization*. Insurgents connected with other organizations constantly exchange information about their enemy's vulnerabilities—even with insurgents in distant theaters.
3-24.2	Field Manual	Tactics in counterinsurgency	21 Apr 2009	No	ix	Introduction	N/A	This manual furthers FM 3-24's theory that "in COIN, the side that learns faster and adapts more rapidly—the better *learning organization*—usually wins."

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

3-39.30	Training Circular	Military police leader's handbook	11 Aug 2015	No	1-2	1: Military Police Operations	Military Police Support to Unified Land Operations	To be successful, leaders must develop *learning organizations* that know and understand current doctrine, collect and share best practices, and implement lessons learned that support current and future organizations.
350-70-7	TRADOC Pamphlet	Army Educational Processes	09 Jan 2013	No	13	2: The ADDIE Process	The Five Phases of ADDIE	The learning objective is the contract among the students, faculty, and *learning organization*.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					26	3: Evaluation	Introduction	In *learning organizations*, such as U.S. Army educational institutions, evaluation results in improvement of programs for enhancement of collective student learning.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					29	4: Faculty Development	Introduction	Since faculty assigned to educational *learning organizations* must support all staff and faculty in maintaining their professional military and educational competency, each school should rely on the ADDIE process to build an appropriate program.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

525-3-7	TRADOC Pamphlet	The U.S. Army Human Dimension Concept	21 May 2014	No	11-6	3: Meeting the Challenges	Solution Synopsis: The Human Dimension Intervention Framework	[*Learning organization* is listed as a component in Figure 3-1 that osmotically benefits from the development of the individual Soldier.]
525-7-5	TRADOC Pamphlet	The U.S. Army Concept Capability Plan for Global Missile Defense 2015-2024	04 Aug 2008	No	50	6: DOTMLPF Implications and Questions	Introduction	There is one unifying idea: the U.S. Army must become a *learning organization* to a greater extent than ever before and must better understand the cognitive processes as they apply to GMD.

525-8-2	TRADOC Pamphlet	The U.S. Army Learning Concept for Training and Education 2020-2040	13 Apr 2017	No	iii	Foreword		The Army is a *learning organization*. Therefore, the Army's vision is to immerse Soldiers and Army civilians in a progressive, continuous, learner-centric, competency-based learning environment from their first day of service.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

				No	10	2: Operational Context	Introduction	c. Based on experience, *learning organizations* adapt and adopt new techniques and procedures that get the job done more efficiently or effectively. The Army is a *learning organization* that learns by repetitive execution to established standards in increasingly complex scenarios.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

6-0	Field Manual	Commander and staff organization and operations	05 May 2014	No	3-3	3: Managing Knowledge and Information	Knowledge Management	Every Soldier must understand and practice knowledge management. It enables the U.S. Army and its subordinate commands at every level to be *learning organizations*.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					3-5	3: Managing Knowledge and Information	Knowledge Management Components: Tools	An organization is the matrix in which people, processes, and tools function to integrate individual learning and organizational learning strategies. The commander is responsible for establishing a culture of shared understanding and knowledge, which is critical for *learning organizations*.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

6-01.1	U.S. Army Techniques Publication	Techniques for effective knowledge management	06 Mar 2015	No	1-5	1: Knowledge management Support to the U.S. Army	Knowledge Management: Organization	An organization is a matrix where people, processes, and tools function to integrate individual and organizational knowledge and learning strategies. Individual knowledge includes acquired ideas, beliefs, values, and knowledge. Knowledge management capabilities contribute to a *learning organization*.

					1-5	1: Knowledge management Support to the U.S. Army	Enable the Mission Command Warfighting Function	U.S. Army-wide knowledge management implementation enables the U.S. Army, through mission command, to execute decisive action. Shared understanding creates adaptive *learning organizations.* This helps the commander achieve a relative advantage on the battlefield... Knowledge management enables the mission command warfighting function by enabling adaptive *learning organizations.*

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					1-7	1: Knowledge management Support to the U.S. Army	Enabling Adaptive and Learning Organizations	The increased collaboration and interaction between commanders and Soldiers across the force improves flexibility, adaptability, and integration of the warfighting functions. Knowledge management connects leaders, subordinates, and organizations and facilitates sharing and integration of information and knowledge. It

								integrates informal and organizational learning strategies to foster learning. Together, these contribute to developing adaptive *learning organizations.*
					1-21	1: Knowledge management Support to the U.S. Army	Soldiers	Soldiers are an integral component of a knowledge-sharing environment and every Soldier understands and practices knowledge management. This enables U.S. Army commands at every level to be *learning organizations.*

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

621-5	U.S. Army Regulation	Army continuing education system	11 Jul 2006	No	17	2: ACES Vision, Mission Strategic Goals, and Policies	HQ ACES Administration	The U.S. Army will become a lifelong *learning organization* adopting a continuous process of education and inculcating this value through-out the corps. Five systems support the goals stated... They include—(1) Military professional development. (2) Military self-develop-ment. (3) ACES personnel self-development. (4) DAC

								self-development. (5) Adult Family Member self-development.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

6-22	U.S. Army Doctrine Reference Publication	U.S. Army leadership	01 Aug 2012	No	7-3	7: Develops	Learning Environment	The U.S. Army harnesses the experience of its people and organizations to improve the way it operates. Based on experiences, *learning organizations* adopt new techniques and procedures that complete jobs more efficiently or effectively. Likewise, they discard techniques and procedures that have outlived their purpose.

								Learning organizations create a climate that values learning in its members.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					7-3	7: Develops	Learning Environment	Leaders who make it a priority to improve their subordinates lead *learning organizations*. They use effective assessment and training methods, motivate others to develop themselves, and help others obtain training and education to reach their potential.

					8-3	8: Achieves	Improving Organizational Performance	High performing units are *learning organizations* that take advantage of opportunities to improve performance.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					11-6	11: Strategic Leadership	Creates a Positive Environment to Prepare for the Future	Strategic leaders are at the forefront of making the U.S. Army a lifelong *learning organization*, embracing the entire U.S. Army—Regular U.S. Army, Reserve Components, and U.S. Army Civilians.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

6-22	Field Manual	Leader Development	30 Jun 2015	No	5-8	5: Unique Aspects for Development	Adaptability	To develop adaptability, leaders encourage the following by planning individual or unit events or reinforcing them as they occur during the normal course of collective training or operations: ...Create and maintain a supportive culture of innovation, autonomy, and freedom to fail. *Learning organizations* support the conditions where learning and

								development will thrive.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					7-33	7: Learning and Development Activities	Creates a Learning Environment: Study	Think about great U.S. Army leaders who inspire you. Highlight any of their actions that helped to advance the U.S. Army as a "*learning organization*." Use these actions to spur insights that may be able to relate or incorporate with the unit.
6-22.6	U.S. Army Techniques Publication	U.S. Army Team Building	30 Oct 2015	No	3-5	3: Enrichment Stage	Climate of Accountability	Creating a climate of accountability for mistakes allows team leaders to foster a *learning organization.*

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

7-0	U.S. Army Doctrine Reference Publication	Training units and developing leaders	23 Aug 2012	No	1-1	1: The Role of Training and Leader Development	Training and Leader Development	Effective commanders use the same principles of mission command found in ADP 6-0 to build *learning organizations* and empower subordinates to develop and conduct training at the lowest possible echelons.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

7-100.3	Training Circular	Irregular opposing forces	17 Jan 2014	No	6-4	6: Terrorism	Terrorism Planning and Action Cycle: Broad Target Selection	Irregular forces often pride themselves on being a *learning organization*. Combined with motivation and a compelling agenda, irregular forces gather information and intelligence, analyze their own and enemy strengths and weaknesses, determine enemy patterns, trends, and emerging actions susceptible to attack, and

								identify key vulnerabilities in an enemy's systems, functions, and actions.

7-102	Training Circular	Operational environment and U.S. Army learning	26 Nov 2014	No	2-6	2: ADDIE	Section I: Analysis	For the U.S. Army to be a *learning organization* that develops Soldiers, leaders, and civilians for operational adaptability, the institution must be able to rapidly integrate lessons learned into training and education programs.

Table A1. *Use of the term "learning organization" in current U.S. Army doctrine and publications.(continued)*

					2-9	2: ADDIE	Individual Design Requirements	The learning objective—States the learning contract among the students-learner, faculty, trainer, and/or responsible and accountable *learning organization*.

Appendix B

Table B1.

Academic Definitions and Components of Learning Organizations.

Reference	Definition	Necessary components
Bennett, J. K. and O'Brien, M. J. (1994). The 12 building blocks of the learning organization. *Training*, *31*(6), 41.	An organization that has woven a continuous and enhanced capacity to learn, adapt and change into its culture. Its values, policies, practices, systems and structures support and accelerate learning for all employees. The learning results in continuous improvement, in areas such as work processes, products and services, the structure and function of individual jobs, teamwork, and effective management practices, to name a few. More than anything, however, it results in a more successful business.	Strategy/vision, executive practices supporting learning, managerial support, a climate of openness and trust, organizational and job structure to support learning, easily accessible and widely distributed *quality* information flow, shared learning between individuals and between teams, incorporation of learning in work processes, formal training and education, individual *and* team development, rewards and recognition that support and encourage individual and organizational learning.
Drew, S.A.W. & Smith, P.A.C. (1995). The learning organization: "change proofing" and strategy. *The Learning Organization*, *2*(1), 4–14.	A social system whose members have learned conscious communal processes for continually: generating, retaining and leveraging individual and collective learning to improve performance of the organizational system in ways important to all stakeholders; and monitoring and improving performance.	Self-reinforcing alignment of: a clear sense of direction and vision, high strength of strategic intent, capability for change.
Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review Press*, *71*(4); 78–91.	An organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.	Systematic problem solving, experimentation with new approaches, learning from their own experience and past history, learning from the experiences and best practices of others, and transferring knowledge quickly and efficiently throughout the organization.

Table B1. *Academic Definitions and Components of Learning Organizations (continued)*

Gephart, M. A., Marsick, V. J., Van Buren, M. E., Spiro, M. S., & Senge, P. (1996). Learning organizations come alive. *Training and Development*, *50*(12), 34–46.	An organization that has an enhanced capacity to learn, adapt, and change. It's an organization in which learning processes are analyzed, monitored, developed, managed, and aligned with improvement and innovation goals.	
Hitt, W. D. (1996). The learning organization: Some reflections on organizational renewal. *Employee Counselling Today*, *8*(7), 16.	An organization that is striving for excellence through continual organizational renewal; one that is continually getting smarter.	Synergistic teams, shared values of excellence through self-renewal, leaders not managers, dynamic networks within a vertical structure, generative learning skills, learning focused measurement systems, learning-focused staff, and a learning map strategy.
Jashapara, A. (1993). The competitive learning organization: A quest for the Holy Grail. *Management Decision*, *31*(8), 52.	A continuously adaptive enterprise which promotes focused individual, team and organizational learning through satisfying changing customer needs, understanding the dynamics of competitive forces and encouraging systems thinking.	Levels of learning (the ability to manage and mobilize resources), and the learning focus (the ability to understand change).
Jensen, P. E. (2005). A contextual theory of learning and the learning organization. *Knowledge and Process Management*, *12*(1), 53–64.	An organization that is organized to scan for information in its environment, by itself creating information, and promoting individuals to transform information into knowledge and coordinate this knowledge between the individuals so that new insight is obtained. It also changes its organization in order to use this new knowledge and insight.	

Table B1. *Academic Definitions and Components of Learning Organizations (continued)*

King, W. R. (2001). Strategies for creating a learning organization. *Information Systems Management, 18*(1), 12–20.	One that creates, acquires, and communicates information and knowledge, behaves differently because of this, and produces improved organizational results from doing so.	
Marquardt, M. J. (1996). *Building the learning organization: A systems approach to quantum improvement and global success.* New York, NY: McGraw-Hill Companies.	[An organization] able to harness the collective genius of its people at the individual, group, and system levels. This capability, combined with improved organizational status, technology, knowledge management, and people empowerment, will enable organizations to leave competition in the dust.	Systems thinking, personal mastery, mental models, shared vision, and team learning, dialogue
Nonaka, I. (1991) The knowledge-creating company. *Harvard Business Review, 69*(6); 97.	Inventing new knowledge is not a specialized activity…it is a way of behaving, indeed, a way of being, in which everyone is a knowledge worker.	Focus thinking, encourage dialogue, and explicit tacit, instinctively understood ideas
Pedler, M., Burgoyne, J. G., & Boydell, T. (1996). *The learning company: A strategy for sustainable development*. Cambridge, UK McGraw-Hill.	An organization that facilitates the learning of all of its members and continuously transforms itself in order to meet its strategic goals.	A learning approach to strategy, participative policymaking, informating, formative accounting and control, internal exchange, reward flexibility, enabling structures, boundary workers as environmental scanners, intercompany learning, learning climate, and self-development for everyone
Redding, J. (1997). Hardwiring the learning organization. *Training & Development, 51*(8), 61–68.	A company is a learning organization to the degree that it has purposefully built its capacity to learn as a whole system and woven that capacity into all of its aspects: vision and strategy, leadership and management, culture, structure, systems and processes.	

Table B1. *Academic Definitions and Components of Learning Organizations (continued)*

Reynolds, R., & Ablett, A. (1998). Transforming the rhetoric of organisational learning to the reality of the learning organisation. *The Learning Organization*, *5*(1), 24–35.	Where learning is taking place that changes the organization of the organization itself.	
Senge, P. M. (1990). *The fifth discipline: The art and science of the learning organization*. New York, NY: Currency Doubleday.	Where people continually expand their capacity to create the 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 together	Systems thinking, personal mastery, mental models, shared vision, and team learning
Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the learning organization: Lessons in the art and science of systemic change*. San Francisco, CA: Jossey-Bass Inc.	One that is characterized by continuous learning for continuous improvement, and by the capacity to transform itself. People are aligned around a common vision. They sense and interpret their changing environment. They generate new knowledge which they use, in turn, to create innovative products and services to meet customer needs.	Continuous learning, inquiry and dialogue, team learning, empowerment, embedded system, system connection, and strategic leadership

Note: This is a table of recognized unique definitions and the necessary components when establishing and maintaining learning organizations from published academic journal articles and industry publications. Definitions from review articles using the above definitions and from articles examining institutions of learning were omitted. Additionally, with the exception of Senge (1990), only authors' most recently published definitions were included.

Appendix C

Focus Group Questions

Question 1:

How does the U.S. Army define a learning organization?

1a. How do you define a learning organization as it pertains to the U.S. Army?

1b. What agencies are you familiar with that support a "learning U.S. Army"? and How?

1c. How familiar are you with the Center for U.S. Army Lessons Learned (CALL)?

Question 2:

Where or how do you obtain information about general U.S. Army goals/visions for the future force?

2a. Are you familiar with the U.S. Army goal to become a learning organization?

2b. Where or how did you first hear about this goal?

2c. If I were a new Soldier to the unit, interested in finding out more information about the U.S. Army's goal to become a learning organization, where would you suggest I begin my research?

Question 3:

What role do you think each Soldier plays in achieving the U.S. Army goal to become a learning organization?

3a. What role do you think you play in actualizing this goal?

3b. Is your role static, or does it change?

3b1. What factors affect your role?

Question 4:

How can Soldiers prepare for their role in helping the U.S. Army achieve its goal to becoming a learning organization?

4a. How do you prepare for your role on and off duty?

4a1. How does this preparation help the U.S. Army?
4a2. How does leadership influence this preparation?

4b. What methods are in place for transferring your newfound knowledge or skills to the U.S. Army?

4b1. Is there anything inhibiting this transfer of knowledge?

4b2. Are there way to improve this transfer of knowledge process?

4c. What more do you think you could you do to prepare for your role on or off duty?

4c1. Suppose you could pursue any activity that would help the U.S. Army in its goal to become a learning organization. What would you do?

4c1a. What (if anything) is inhibiting your ability to pursue that activity now?

Question 5:

Considering the things we discussed today (the U.S. Army's definition of a learning organization, the role of Soldiers in furthering the U.S. Army goal to become a learning organization, and role preparation and its effect on the U.S. Army), can you think of any more things related to the U.S. Army goal of becoming a learning organization we did not discuss?

5a. Which do you feel is most important to attend to in order to help the U.S. Army achieve its goal and why?

Question 6:

Is there anything else you would like to add regarding the U.S. Army and its goal to become a learning organization? Perhaps something we may have overlooked?

Close-out

Discussion summary:

[Summarize the overall main points of the discussion and ask for consensus regarding our interpretation(s).]

Appendix D

Interview Questions

Over the past two decades, U.S. Military leaders have expressed the goal of the military branches to establish themselves as learning organizations. However, review of the academic and industry literature surrounding learning organizations returns a litany of definitions of what factors are most important to creating such an entity. The majority of definitions, however, highlight the importance of a) communicating a shared vision of the future as a learning organization to all members, b) reducing the rigidity of vertical management and communication structures while emphasizing horizontal structures within the organization, c) creating a psychologically safe environment that supports knowledge creation, accumulation, and transfer at the individual, unit, inter-unit, and organizational levels, d) appropriate freedoms for experimentation and the ability to learn from failures, and e) the use of systems thinking approaches for problem solving.

Question 1:

Considering the breadth of definitions of learning organizations in academia and industry and the inherent hierarchical organization of the U.S. military branches, how should the U.S. Army define a Learning Organization?

Question 2:

What roles do Field-Grade and General officers play in creating an environment conducive to establishing the U.S. Army as a learning organization?

Question 3:

What helps you shape U.S. Army goals for learning within your organization?

3a. What, if any, barriers or challenges are associated with setting these goals?

Question 4:

What has best prepared you for your role as a leader in the U.S. Army as it makes the transition to a learning organization?

4a. How can your subordinate leaders help best support your role?

Question 5:

What methods do you use to disseminate information surrounding your goals for learning?

5a. Are there methods for you to assess if this information was interpreted by Soldiers as intended?

Question 6:

Given the academic and industry definitions of learning organizations, and given your intimate knowledge on the U.S. Army as a learning organization, what factor or factors could the U.S. Army benefit most from the improvement of?

Question 7

To the outside eye it appears U.S. Army Mission Command may be aligned with some of the above factors of learning organizations (e.g., creating shared understanding, exercising disciplined initiative, etc…). Would you agree that Mission Command is aligned with our general understanding of learning organizations?

7a. What barriers are there to the effective use of mission command?

Question 8:

Is there anything else you would like to add regarding the U.S. Army and its goal to become a learning organization? Perhaps something we may have overlooked?

Close-out

Discussion summary:

[Summarize the overall main points of the discussion and ask for consensus regarding our interpretation(s).]

Appendix E

Participant Identification Coding Scheme

Participant ID coding scheme:							
A	**17**	**1**	**F**	**1**	**1**		
project code	fiscal year	first post	focus group	first group	first participant		
A	**17**	**1**	**V**	**1**	**1**		
project code	fiscal year	first post	interview	first interview	first participant		
***project code, fiscal year, post #, focus group/interview, group #, participant #**							

The Participant ID coding scheme allows researchers to associate specific demographic information and contributions from individual focus group members. This 7- or 8-digit code is comprised of:

- a one letter project code (each of the researcher's projects are always assigned their own reference letter for the researcher's quick reference)
- the last two numbers of the fiscal year the project began (e.g., 17)
- one number indicating the ordinal rank of the posts visited for that project (e.g., first post = 1,…)
- one letter indicating a focus group (F) or an interview (V)
- one number indicating the ordinal group or interview presentation (e.g., first focus group or interview = 1, second focus group or interview = 2,…)
- one number indicating a randomly assigned participant number (1-10)

For example, a participant code of A171F11 would indicate information which would belong to the researcher's Project "A" and the data were collected in FY17 at the first post visited with the first focus group and the first participant. These codes were listed on the top right corner of all demographics sheets that were given to Soldiers with corresponding pre-printed name-tents. These name tents had only one number on them (1-10) which indicated their randomly assigned participant number. For example, a Soldier with a demographics sheet coded A171F11 would have name tent 1, while A141F110 would have name tent 10.

Appendix F

Demographic Information

DO NOT PLACE ANY PERSONAL IDENTIFYING INFORMATION ON THIS PAGE ONLY ANSWER THE QUESTIONS LISTED BELOW

1. Please fill in your rank: _____

2. Please fill in your age: _____ years

3. How many total years have you served in the Armed Forces? _____ years

4. Please circle the lowest organizational level you work in on a daily basis:

Squad Platoon Company Battalion Brigade Division Corps

5. Are you Male or Female? _____

6. Please indicate your race/ethnicity, circle all that apply:

American Indian or Alaska Native Asian Black or African American

Native Hawaiian or Other Pacific Islander White Hispanic or Latino