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**FIGHT SMARTER, NOT HARDER:
MCDP-7 – REINVIGORATING THE PHILOSOPHY
OF MANEUVER WARFARE THROUGH LEARNING**

by

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This thesis will be qualitative in nature, utilizing published literature, scholarly writings, congressional testimonies, academic journals, previous theses, and public records. The literature review will take a look at relevant works in providing an understanding of selected themes from Marine Corps Doctrinal Publication 7, *Learning* (MCDP-7) on "why" learning is critically important to the profession of arms, and to address certain methods for "how" the Marine Corps can improve a Marine's learning and thinking capabilities. The goal of my review is to provide an understanding of how the Marine Corps can improve its ability to better understand its current complex environment, enhance its ability to quickly recognize changing conditions, increase its adaptability, and improve its ability to outthink adversaries by making learning an organizational priority. This thesis will review and cover selected themes in MCDP-7 with relevant academic literature and extend further steps for implementing MCDP-7. The increasing uncertainty in our strategic environment, as well as the internal complex problems we are encountering today as a nation, makes it critically important that our institution focuses on the warfighter's learning, thinking, and education

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OF MANEUVER WARFARE THROUGH LEARNING

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LIST OF ACRONYMS AND ABBREVIATIONS

4I	Intuiting, Interpreting, Integrating, Institutionalizing
AAR	After Action Report
AAV	Amphibious Assault Vehicle
CMC	Commandant of the Marine Corps
CPG	Commandant's Planning Guidance
DOD	Department of Defense
DON	Department of the Navy
DPG	Defense Planning Guidance
E4S	Education for Seapower
EFV	Expeditionary Fighting Vehicle
EGA	Eagle, Globe, and Anchor
MAGTF	Marine Air Ground Task Force
MCCLL	Marine Corps Center for Lessons Learned
MCDP	Marine Corps Doctrinal Publication
MCO	Marine Corps Order
MOS	Military Occupational Specialty
MSTP	Marine Air-Ground Task Force Staff Training Program
NDS	National Defense Strategy
NPS	Naval Postgraduate School
OODA	Observe, Orient, Decide, Act
PME	Professional Military Education
SecDef	Secretary of Defense
STA	Systems Thinking Approach
TECOM	Training and Education Command
USMC	United States Marine Corps

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I. INTRODUCTION

> Now that we have run out of money we have to think.
>
> – Winston Churchill[1]

Today, we are in a period of strategic uncertainty. Former Secretary of Defense (SecDef), James Mattis, states in his *National Defense Strategy* (NDS) that "in an already increasingly complex security environment that is defined by rapid technological change, challenges from adversaries in every operating domain, and the impact on current readiness from the longest continuous stretch of armed conflict in our Nation's history."[2] There is an increased sense of urgency now for our leaders to prioritize and fund the education and training of our force that is more essential now than in years past. Due in part to the increasing uncertainty in our strategic environment as well as the internal complex problems we are encountering today as a nation, it is even more important that we focus on the warfighter's learning, thinking, and education. This is the overall topic for this thesis, the importance of thinking and learning and the education for warfighters, especially in the context of recent strategic documents. The emphasis on and the need for deeper learning and critical thinking has increased. Released in May of 2020, *The Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management*, states:

> There is more to sustaining a competitive advantage than acquiring hardware; we must gain and sustain an intellectual overmatch as well… This cannot be achieved without substantially enhancing the cognitive capacities of joint warfighters to conceive, design, and implement strategies and campaigns to integrate our capabilities globally, defeat

[1] Lawrence P. Farrell Jr, "Gentlemen, We Have Run Out Of Money; Now We Have to Think," *National Defense Magazine*, November 2011, https://www.nationaldefensemagazine.org/articles/2011/11/1/2011november-gentlemen-we-have-run-out-of-money-now-we-have-to-think.

[2] Secretary of Defense James Mattis, "U.S. National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge." (Department of Defense, 2018), 1.

> competitors in contests we have not yet imagined, and respond to activity short of armed conflict in domains already being contested.[3]

The Joint Chiefs of Staff (JCS) believe that for the Joint Force to meet the coming challenges in how our country conducts war and operations requires:

> We must identify and select officers who display an intellectual edge and can outthink our adversaries in war amidst uncertainty and disruptive change. Creating the intellectual overmatch and mental agility that we require cannot be achieved by intermittent education or by past experience alone. It is created by the purposeful combination of education, training, rigorous exercises, and application in the real world. To meet this imperative, we have set the trajectory for a continuous transformation that must begin immediately.[4]

Similarly, Commandant of the Marine Corps (CMC), General (Gen) David Berger in his *Commandant's Planning Guidance*[5] (CPG) states how the "complexity of the modern battlefield and increasing rate of change requires a highly educated force."[6] Gen Berger believes that professional military education (PME) is "a necessary investment by the service to facilitate readiness across the force and states he will do everything possible to ensure the policies, resources, infrastructure, and educators are well-established to support"[7] the force.

Another reason for the increased emphasis on learning is the movement away from an industrial age toward the new *Cognitive Age* described in the U.S. Department of the Navy's (DON) *Education for Seapower* (E4S) study. In prior time periods, leaders during the industrial age made decisions with limited information. In contrast, this new cognitive age forces leaders to deal not only with incomplete data but also with analysis

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[3] Joint Chiefs of Staff, "Developing Today's Joint Officers for Tomorrow's Ways of War The Joint Chiefs of Staff Vision and Guidance for Professional Military Education & Talent Management," May 2020, 2, https://www.jcs.mil/Portals/36/Documents/Doctrine/education/jcs_pme_tm_vision.pdf?ver=2020-05-15-102429-817.

[4] Joint Chiefs of Staff, 10.

[5] David Berger, "Commandant's Planning Guidance: 38th Commandant's Strategic Direction for the Marine Corps," July 2019, https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant%27s%20Planning%20Guidance_2019.pdf?ver=2019-07-16-200152-700.

[6] Berger, 16.

[7] Berger, 16.

and decision-making. In a world which involves overwhelming data, the ability to evaluate information, reason strategically and ethically, and act decisively, will be essential elements of future success.[8] With today's speed of change and the increase in the complexity of problems that are becoming increasingly more difficult to trace and understand; we have to increase our understanding on the character and nature of war, our surrounding environment, and maintain a competitive mindset during a time of peace and a time of conflict. We must educate our force for tomorrow's challenges and teach them not *what* to think, but instead *how* to think.

Given the critical nature of these issues, this thesis aims to contribute to the vision of the JCS and the CPG by explicating and reinforcing the themes and purpose of *Marine Corps Doctrinal Publication 7*, *Learning (*MCDP-7*)*. This new publication focuses in particular on *why* learning is critically important to the maneuver warfare philosophy and the profession of arms.[9] The thesis further aims to extend and discuss ideas for *how* the Marine Corps can improve a Marines learning and thinking capabilities, progressing beyond an industrial era mindset, and preparing ourselves for great power competition.[10] In addition, this thesis will also aim to emphasize the importance of learning.

[8] Department of Navy, "Education for Seapower Final Report (E4S)," December 2018, 11, https://media.defense.gov/2020/May/18/2002302021/-1/-1/1/E4SFINALREPORT.PDF.

[9] USMC, *Learning.* MCDP 7, Marine Corps Doctrinal Publication (Washington, D.C., 2020), FWD-1.

[10] Sean Barrett et al, "Maneuver Warfare for the Mind: Educating for Thinking and Judgment," *U.S. Naval Institute BLOG* (blog), 2020, https://blog.usni.org/posts/2020/07/14/the-importance-of-learning-and-thinking-to-maintaining-our-competitive-edge.

A. WHY THE NEED FOR CHANGE AND A FOCUS ON LEARNING FOR THE MARINE CORPS?

> Usually we don't get to choose and almost never accurately predict the kind of war we will fight next...When it comes to predicting future conflicts, what kind of fights they will be, and what will be needed, we need a lot more humility.
>
> – Robert M. Gates[11]

In 2018, U.S. SecDef Mattis noted in his NDS that we were, and continue to be today, in a period of strategic atrophy.[12] New technological developments and the access to new information technology has increased connectivity and access to knowledge that is unimaginable. Retired USMC Gen, John Allen, writes in the E4S study,

> The United States Navy and Marine Corps face a set of complex challenges in the 21st century which require not only technological and mechanical skills to overcome, but also a recognition of the vital importance of developing understanding and knowledge, and the ability to think and reason through overwhelming quantities data and diverse, complex, and concurrent problems.[13]

For almost two decades our nation has been at war in the Middle East. Many individuals in today's Department of Defense (DOD) have not experienced a time when we haven't been at war. From the NDS, "PME has stagnated and become focused on the accomplishment of mandatory credit at the cost of lethality and ingenuity. We will emphasize intellectual leadership and military professionalism in the art and science of warfighting, deepening our knowledge of history while embracing new technology and techniques to counter competitors."[14]

Today, changes in society, technology, and our already complex security environment are occurring at a rapid pace; ***failure to adapt*** in how we prepare ourselves and our subordinates for an uncertain future creates an unacceptable risk for the United

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[11] Robert M. Gates, *DUTY: Memoirs of a Secretary at War* (New York: Alfred A. Knopf, 2014), 590.

[12] Mattis, "U.S. Defense Strategy," 1.

[13] Department of Navy, "E4S," 381.

[14] Mattis, "U.S. Defense Strategy," 8.

States and our allies. Our global adversaries have been continually changing, adapting, and advancing their status in the world for a number of different factors. There is now an increasingly dynamic economic and security environment with China and Russia. Meanwhile, there is still a persistent uncertainty with North Korea and instability in the Middle East that continues to increase the complexity of our security landscape.[15] In this volatile world, the NDS makes it clear that changes are required for us as a nation to retain our competitive advantage over our adversaries.

> There can be no complacency—we must make difficult choices and prioritize what is most important to field a lethal, resilient, and ***rapidly adapting*** Joint Force.[16]

To sustain a competitive advantage in this highly unstable and hostile world, the Marine Corps has to evolve a higher form of learning capability that enables Marines to learn better and faster from their own successes and failures. The United States Marine Corps (USMC) will have to continuously adapt and transform as an institution where every Marine, can increase their ability to recognize change and rapidly adapt to a dynamic situation. We as the future strategic leaders must understand how critical it is to develop our Marines through strict disciplined education and training. The USMC culture of learning that is instilled into every Marine starts on day one of their entry-level training and continues throughout their careers.[17] As Major General (MajGen) William Mullen discusses in his lecture *PME on PME*, that "it's critical for leaders to live up to the ideals of being a profession of arms."[18] Our profession must maintain pace with these changes while also anticipating and preparing for how change in technology and society will manifest on the battlefield. To maintain pace with the changes today, depends on our ability, as an organization and individuals to ***learn*** and ***adapt***. We need to ensure our education and training are accurately orientated in preparing Marines for a future of hostility, complexity, and uncertainty.

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[15] Mattis, 1–2.

[16] Mattis, 1, emphasis added.

[17] USMC, MCDP 7 *Learning*, 2–3.

[18] William F. Mullen III, *Major Geneal Mullen's PME on PME* (Marine Corps Association, 2019), https://www.youtube.com/watch?v=QcPSB5Edbx4&t=559s.

Likewise, the institution as a whole must prepare itself for the complex hostility in an ever-changing world; remaining oblivious to a rapidly changing environment ignoring signs of change through complacency and maintaining the intellectual status quo will render us non-competitive. The ability to flex and adapt to changes is crucial and continuous. Leaders must understand that "learning is a change in our mental (cognitive) structures, which leads to potential changes in our decisions and actions. The learner is transformed. The transformation provides the learner with the ability to act in new ways."[19] As Marines discover they can learn new methods and techniques and develop their talents; they begin to have a *growth mindset*.[20] By learning and understanding *how* to learn can allow a Marine to increase their long-term memory, by improving their ability to synthesize information into an unknown situation, make a decision quickly, and adapt rapidly to an evolving crisis.

B. CALLS FOR LEARNING

Two recently released strategic documents, MCDP-7 and the E4S study, represent two examples of how the DON and the USMC are generating energy for a focus on a change in attitudes amongst Marines and Sailors. MCDP-7 and the E4S both highlight the importance of learning and understanding our competitive environment and aim to reemphasize the importance of staying ahead of our competition in today's environment means being an organization that maintains an "intellectual edge"[21] through continuous learning and adaptation.

1. DEPARTMENT OF THE NAVY EDUCATION FOR SEAPOWER

In 2018 the Secretary of the Navy, Thomas Modly, released the DON's E4S study. As a basis for re-orienting the E4S study stated its strategic vision:

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[19] Harold D. Stolovitch, Erica J Keeps, and Marc J Rosenberg, *Telling Ain't Training*, 2nd ed. (Alexandria, VA: ATD Press, 2011), 27.

[20] Carol S. Dweck, "What Having a 'Growth Mindset' Actually Means," *Harvard Business Review* H02LQX (January 2016), 1.

[21] MGen Mick Ryan, "An Australian Intellectual Edge for Conflict and Competition in the 21st Century," *Strategic & Defence Studies Centre ANU College of Asia & the Pacific*, The Centre of Gravity Series, 48 (March 2019), 16.

> The Naval Education Enterprise must produce leaders of character, integrity, and intelligence steeped not only in the art of war, the profession of arms, and the history and traditions of the Naval service, but also in a broader understanding of the technical and strategic complexities of the cognitive age, vital to assuring success in war, peace, and grey zone conflict; officer and enlisted leaders of every rank who think critically, communicate clearly, and are imbued with a bias for decisive and ethical action.[22]

The study was conducted to review and understand the current state of each education institution and the Navy and Marine Corps' organizational approach to learning in general. The E4S Study next consulted military leaders, civilian academics, and business heads who provided valuable perspective in understanding how individuals and organizations learn. To gain a better insight into how naval education evolved to where it is today, the E4S Study conducted an ambitious historical analysis of military education, surveyed Navy and Marine Corps personnel and faculty at all naval education institutions to understand the cultural perceptions of education and referenced numerous studies and previous military education reform initiatives. What was learned from this approach was that there was considerable room for improvement and an opportunity to provide strategic alignment commensurate with the 2018 NDS which outlines new challenges for the DOD and most notably a return to peer competition.

2. MAJOR GENERAL WILLIAM MULLEN'S TECOM GUIDANCE

In July of 2018 MajGen Mullen issued his guidance and priorities USMC Training and Education Command (TECOM) stating up front he believed there is an

> increased dissonance between what TECOM was doing with regard to training and education, and what the command needed to be doing based on the evolving operating environment. Highlighting that many of the USMC schools and training venues are firmly based in the lecture, memorize facts, regurgitate facts on command model of industrial age training and education.[23]

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[22] Department of Navy, "E4S," 6.

[23] William F Mullen III, "Major General Mullen's TECOM Commander's Guidance" (TECOM USMC, July 2018).

He believes the current education and training process is about presenting information, and for the students/trainees, the education and training they receive "is about *what* to think and *what* to do instead of *how* to think, decide and act."[24] The philosophy of "maneuver warfare is a way of thinking in and about war that should shape our every action."[25] "It requires the ability to think above our own level and to act at our level in a way that is in consonance with the requirements of the larger situation."[26] Mullen states that based off the CMC's question, "What do we need to do to reinvigorate Maneuver Warfare?"[27] Is a clear indicator that there is not a culture currently that fosters a mentality for enabling maneuver warfare in the Marines being trained at TECOM.

Mullen echoes much of the same sentiments that many of the other DOD documents on PME have discussed, noting, "as technology gets more capable, cheaper and widely proliferated, we can no longer count on technological edge in the next fight. We must be intellectually capable of rapidly adapting to new technology and using it to our best advantage."[28]

Compounding these challenges is the fact that developments are moving so fast, the procedures we have used to train and educate Marines for the past 20 to 30 years are becoming increasingly irrelevant. Mullen discusses the way TECOM measures success needs to focus on their product, a well-trained and educated Marine, by stating:

> This means the status quo can never be good enough, and the focus must always be on enabling our Marines to be the most effective warfighters, and from the very beginning of their careers they have chosen a profession that will require ***continuous study*** throughout their time in the USMC.[29]

He prioritizes a list of items that need to be completed in order for TECOM to become more effective "in the way they train and educate Marines and contribute to the maneuver

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[24] Mullen III.

[25] USMC, *Warfighting.* MCDP 1, Marine Corps Doctrinal Publication (Washington, DC, 2018), 4–26.

[26] USMC, 4–7.

[27] Mullen III, "Mullen's TECOM Guidance."

[28] Mullen III.

[29] Mullen III.

warfare culture that renders intent and enables a mature, intelligent, quick thinking subordinate leader to execute that intent."[30] The resulting first priority is a draft MCDP on learning.

3. GENERAL BERGER'S COMMANDANT'S PLANNING GUIDANCE

In July of 2019, CMC, Gen Berger released his CPG. An authoritative document that aligns the Service with the NDS and *Defense Planning Guidance* (DPG) and provides his intent and a common direction to the entire Marine Corps Force, where the USMC is going and why. Berger concurs with his predecessor, Gen Neller's observation that, "The Marine Corps is not organized, trained, equipped, or postured to meet the demands of the rapidly evolving future operating environment."[31] Gen Berger further stresses by making it clear,

> That the next coming decade will be characterized by conflict, crisis, and rapid change, just as every decade preceding it…And despite our best efforts, history demonstrates that we will fail to accurately predict every conflict; will be surprised by an unforeseen crisis; and may be late to fully grasp the implications of rapid change around us. As good as we are today, we will need to be even better tomorrow to maintain our warfighting overmatch. To produce the force, we must meet the challenges of the NDS and uncertainty of the future operating environment.[32]

According to the CPG,

> The complexity of the modern battlefield and increasing rate of change requires a highly educated force. While different, education and training are inextricably linked. Education denotes study and intellectual development. Training is primarily learning-by-doing. We will not train without the presence of education; we must not educate without the complementary execution of well-conceived training.[33]

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[30] Mullen III.

[31] Berger, "Commandant's Planning Guidance: 38th Commandant's Strategic Direction for the Marine Corps," 1.

[32] Berger, 1.

[33] Berger, 16.

In his CPG, Gen Berger outlined his top five priority focus areas, education and training being one of the five areas. He believes learning and PME is a personal responsibility all Marines and states,

> It is your responsibility to seek PME as part of "self-improvement" and reap the benefits of those educational opportunities provided; I will do everything possible to ensure the policies, resources, infrastructure, and educators are well-established to support you.[34]

The CMC states the need for a new doctrinal publication to formulate how "Marines will learn in the years ahead and why it is so important that they 'buy in' to the concept."[35] It needs to provide an understanding of the learning process with a focus on group and team learning, critical thinking, and enhancing a Marines ability to "cycle through the OODA (Observe, Orient, Decide, Act) loop faster than any opponent we may face with a bias for intelligent action becoming second nature to all Marines."[36]

4. MARINE CORPS DOCTRINAL PUBLICATION 7, *LEARNING*

The publication MCDP-7 was released in February of 2020 with the intent of providing *why* learning must be "an institutional priority and a professional expectation for all Marines."[37] When Marines can "understand the *why* for learning, it enables them to focus on learning the known and ***adapting to the unfamiliar more quickly and effectively*** than the enemy."[38] Gen Berger makes it clear in his forward for MCDP-7 that, "the purpose of this publication is to describe the Marine Corps' learning philosophy and explain why learning is critically important to the profession of arms."[39]

> The most important factor in this philosophy is the importance of continuous learning throughout our careers for warfighting. Continuous learning is essential to maneuver warfare because it enables Marines to

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[34] Berger, 16.

[35] Berger, 17.

[36] Berger, 17.

[37] Mullen III, *Major General Mullen's PME on PME*.

[38] Mullen III, emphasis added.

[39] USMC, MCDP 7 *Learning*, 1.

> quickly recognize changing conditions in the battlespace, adapt, and make timely decisions against a thinking enemy.[40]

MCDP-7 defines learning as,

> Developing of knowledge, skills, and attitudes through study, experience, or instruction. It is a never-ending progression that includes understanding why something is important—the intent of learning…Learning is focused on developing professional competence, developing ready Marines and units capable of operating effectively in changing conditions…Success in warfare depends on Marines developing an intellectual edge to accurately recognize cues, quickly make sense of information, and respond effectively.[41]

The "future battlespace will contain increasingly difficult problems that do not necessarily have a right answer. Therefore, Marines' skills to observe objectively, reason effectively, take decisive action, and then adjust as needed remain key elements of success."[42]

C. OVERVIEW

> It doesn't cost any money to think.
>
> – General Alfred Gray[43]

The principal aim of this thesis is to provide an understanding of how the Marine Corps can improve its capability to better understand our current complex environment, enhance our ability to quickly recognize changing conditions, increase our adaptability, and improve our ability to become better strategic thinkers. Using published scholarly literature, congressional testimonies, journal articles, previous theses, and public records, this literature review will take a precise look at relevant literatures in understanding selected themes of MCDP-7, "on ***why*** learning is critically important to the profession of

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[40] USMC, 1.

[41] USMC, 1–4.

[42] USMC, 1–17.

[43] Paul Otte, *Grayisms, and Other Thoughts on Leadership from General Al Gray, USMC (Retired) 29th Commandant of the Marine Corps* (Arlington, VA: Potomac Institute Press, 2015), 22.

arms"[44] and address certain methods for *how* the Marine Corps can improve a Marines learning and thinking capabilities.[45] The strategic documents mentioned in this thesis discuss how the United States has maintained a technological edge over its adversaries the last several decades, but now the global security environment is becoming increasingly more volatile and even more complex now. As MajGen Mullen states in his *Training and Education Command Campaign Plan, Fiscal Year 2020–2025*,

> Our adversaries have greater access to information and technology, and rising peer competitors have focused resources to asymmetrically counter vulnerabilities in our strategic and operational…warfighting domains…Our relative 'technological' edge is deteriorating - we can no longer count on it in the next fight. We must seek to develop an "intellectual" edge to capitalize on the unique ethos of the Corps and our maneuver warfare mindset.[46]

Doctrine is defined as a "principle of law established through past decisions, or the body of principles in a branch of knowledge or system of belief."[47] Creating a doctrinal publication on *learning* provides new Marines entering into the USMC with a foundational understanding for *why* learning is so important for their profession and the philosophy of maneuver warfare. Creating a doctrinal publication on learning inculcates Marines into a profession where learning has a direct and critical impact on their performance. A doctrinal publication further cultivates a culture where leaders create an environment where continuous learning is prioritized and the standard for all Marines, at all levels.[48] MCDP-7 assists in maintaining a culture that encourages feedback and reflection, an openness to change, and the sharing of knowledge to maintain a competitive advantage with our decision-making superiority over our adversaries.

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[44] USMC, MCDP 7 *Learning*, FWD-1, emphasis added.

[45] USMC, FWD-1.

[46] William F. Mullen III, "Training and Education Command Campaign Plan, Fiscal Year 2020–2025" (USMC TECOM, April 15, 2020).

[47] Merriam-Webster, "Merriam-Webster.Com Dictionary, s.v. 'Doctrine,' Accessed March 30, 2021, Https://Www.Merriam-Webster.Com/Dictionary/Doctrine," March 30, 2021.

[48] USMC, MCDP 7 *Learning*, 2–5.

This thesis will examine the selected core themes listed in Table 1 from MCDP-7. In so doing, the thesis addresses implications for further implementation of this publication for laying the groundwork for why Marines today must increase their knowledge capacity and master the skills of their profession. Learning is the key to improve our warfighting capability by becoming more ***adaptable***, ***flexible***, and ***resilient*** force-in-readiness.

Table 1. Core Themes and Implications for Further Implementation of MCDP-7

Core Themes	Implication for further Implementation of MCDP-7
Learning	• The ***ability to think*** is a requirement in the philosophy of ***Maneuver Warfare.*** • Learning involves the pursuit and "acquiring of new ***knowledge*** and ***skills***."[49] • Learning increases a Marines ability to ***adapt*** rapidly to change. • ***Training and Education*** facilitate the process and increase a Marines capacity to learn. • Understanding and knowing ***how*** to learn increases the probability of becoming a better learner. • When learning is ***challenging and hard*** it better enhances a Marines brain and further increases their warfighting capability. • Developing a ***growth mindset*** provides Marines with the understanding that intelligence can be continuously developed. • Methods such as ***feedback,*** and ***systems thinking*** increase a Marines knowledge capacity.
Organizational Learning	• Organizational learning is "a process of ***creating*** knowledge through experience, the ***retaining*** of knowledge, and ***transferring*** of knowledge within an organization"[50] in order to rapidly adapt to its surrounding environment. • Organizational ***feedback, reflection,*** and ***critiques*** enhance the ability of Marines to learn. • Understanding how ***group or team learning*** can enhance organizational learning by increasing its knowledge capacity through networks and/or other subsystems in the USMC.
Organization Culture	• Comprised of **"underlying *beliefs, assumptions, values,*** and ways Marines interact that contribute to an organization's unique social and psychological environment. • Culture is derived from its history, customs, beliefs, behaviors, and expectations. • Culture reflects how a group describes themselves, their beliefs, and their organization."[51]

[49] Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, *Make It Stick : The Science of Successful Learning.* (Cambridge, Massachusetts: The Belknep Press of Harvard University Press, 2014), 2.

[50] Linda Argote and Ella Miron-Spektor, "Organizational Learning: From Experience to Knowledge," *Organization Science* 22, no. 5 (October 2011): 1123–37, https://doi.org/10.1287/orsc.1100.0621.

[51] USMC, MCDP 7 *Learning*, 2–3.

Core Themes	Implication for further Implementation of MCDP-7
Leading a Learning Organization	• Instituting ***psychological safety*** in an organization allows for a culture of learning through open ***feedback,*** sharing of ideas, openness to admit mistakes without fear of being penalized. • Understanding that "***psychological safety*** is crucial in organizations where knowledge constantly changes,"[52] collaboration is a critical requirement, and where Marines must make time critical decisions without asking their leadership for permission or intervention.[53] • Becoming a learning organization begins with ***leadership*** that reinforces a ***culture of learning*** in that organization. • Requires leaders reinforce organizational learning by supporting the learning of their subordinates, establishing ***mechanisms*** for learning that provides feedback and captures knowledge, encourages learning in ***teams,*** and clearly communicates their ***vision*** for their organization.

The balance of the this is organized as follows: Chapter II will discuss links between individual-group-organizational learning and systems thinking, provide an understanding for understanding an organization's culture and a model for understanding how to conduct change in an organization, and discuss the importance of leading an organizational change to a learning culture and discuss the importance of why change is necessary for an organization survival. Chapter III will discuss the links and relationships of organizational culture and how it impacts change in an organization. Chapter IV will provide a summary and conclusions, and steps toward a framework for learning in the Marine Corps.

[52] Amy Edmondson, "The Competitive Imperative of Learning," *IEEE Engineering Management Review* 42, no. 3 (August 2008): 110–18, https://doi.org/10.1109/EMR.2014.6966928.

[53] Edmondson.

II. FOUNDATIONAL ASPECTS OF LEARNING

A. LEARNING

> Maneuver warfare is a way of thinking in and about war that should shape our action.
>
> – MCDP-1, *Warfighting*[54]

Marines in today's world need to maintain a questioning view of accepted realities. The nature of war is ever-changing, and Marines need to understand that developing the necessary "fundamental cognitive competencies such as problem framing, critical thinking, analysis, synthesis, and problem solving enables them to adapt by making effective decisions more quickly in time-constrained hostile environments, when they often have incomplete or inaccurate information."[55] This involves learning about the root causes of the problem rather than focusing on the symptoms and requires the learning of our environment around us. This involves the study and learning of different subjects outside of their military occupational specialty (MOS). MajGen Mullen states that he is a "believer in casting a wide net when trying to understand all aspects of his profession."[56] Colonel James C. Breckinridge who was instrumental in the development of Marine Corps Schools similarly stated in his *Gazette* article from 1929,

> But men's specialties and professions must sink their roots in the whole of the social (military) order, and men must adjust themselves to the complicated whole of their civilization (military profession), if they are to practice with maximum effectiveness[57]

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54 USMC, MCDP 1 *Warfighting*, 96.

55 USMC, MCDP 7 *Learning*, 1–6.

56 Mullen III, *Major Geneal Mullen's PME on PME*.

57 James C. Breckinridge, "Some Thoughts on Service Schools," *Marine Corps Gazette* 14, no. 4 (December 1929): 230–38.

Marines need to constantly challenge their paradigms and theoretical frameworks and increase their capacity to better assess and react to rapidly changing situations and against a thinking adversary.

This section offers an overview of aspects on the mechanisms of individual learning, emphasizing the importance of education and training to learning, discuss factors that impact a Marine's ability to learn, and analyze methods and techniques that can increase and individual's capacity to learn.

1. WHAT IS LEARNING?

The term "learning" can be defined in many ways. According to the authors of *Make it Stick*, "learning is acquiring knowledge and skills and having them readily available from memory so you can make sense of future problems and opportunities."[58] In MCDP-7 it defines learning as the, "developing of knowledge, skills, and attitudes through study, experience, or instruction."[59] Philosopher Mortimer Adler in his words, said learning was, "an interior transformation of a person's mind and character, a transformation which can be effected only through his own activity."[60]

According to authors Stolovitch and Keeps, "learning is change in our mental (cognitive) structures, change in the potential for new behaviors. The learner's mind is no longer the same as it was before the learning took place. The transformation provides the learner with the ability to act in new ways,"[61] the ***ability to adapt*** to new information. Dr Mayer in his article, "Applying the Science of Learning," states,

> Learning depends on the learner's cognitive processing during learning and includes selecting and attending to the relevant incoming material; organizing the incoming material into a coherent mental representation;

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58 Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, *Make It Stick: The Science of Successful Learning.* (Cambridge, Massachusetts: The Belknep Press of Harvard University Press, 2014), 2.

59 USMC, MCDP 7 *Learning*, 1–4.

60 Mortimer J Adler, "Invitation to the Pain of Learning," in *Reforming Education: The Opening of the American Mind.* (New York: Macmillan Publishing Co, 1941), 34–36.

61 Stolovitch, Keeps, and Rosenberg, *Telling Ain't Training*, 27.

and integrating and relating the incoming material with existing knowledge from long-term memory.[62]

Learning is a never-ending progression that is not always easy, but "a Marine's learning can be facilitated by developing an awareness and understanding of one's own thought process"[63] by comprehending the science of learning. To become better learners, individuals need to comprehend how they deal with and internalize relevant information. By having a clear understanding an individual increases the probability of becoming a better learner. The ultimate responsibility for learning rests personally with all individuals. However, coaches, instructors, leaders, and teachers can also become more effective when educating individuals by understanding the science of learning they can enhance an individual's learning experience by tailoring the instruction for their needs.[64] MajGen Mullen says, "I am also keenly aware that the Marine Corps is a 'people business' because we have to find ways to motivate people to do things they would not naturally do on their own volition. The better we understand people in general, the better we are at applying art rather than science."[65] Understanding how Marines learn allows for the Marine Corps to improve the impact of its education and training, by reducing waste, and increasing the speed at which individuals in an organization learn and gain critical knowledge, skills, and abilities.

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[62] Richard Mayer, "Applying the Science of Learning: Evidence-Based Principles for the Design of Multimedia Instruction," *The American Psychologist* 63 (December 2008): 760–69, https://doi.org/10.1037/0003-066X.63.8.760.

[63] USMC, MCDP 7 *Learning*, 1–15.

[64] Brown, Roediger III, and McDaniel, *Brown. (2014).* "Make It Stick," p: xi.

[65] William F Mullen III, "A Warrior's Mind: How to Better Understand the 'Art' of War," *Marine Corps Gazette*, June 2019, 6–7.

2. TRAINING AND EDUCATION

> Without education and training officers would be incapable of adapting to the changing conditions of combat, and instead would turn the art of war into a set of dogmatic principles.
>
> – Charles White, Author of *The Enlightened Soldier*[66]

Both education and training facilitate the process of learning. According to MCDP-7, the central focus for education and training is a Marine's ability to make decisions. Education and training are achieved with different methods that are both required and linked together, and the outcome that is produced from these activities is learning. This combination of education and training "instill the learning that results in readiness and effectiveness"[67] that is required for the Marine Corps. Mullen states,

> You need both training and education. Training prepares you for things you know you're going to have to do, especially in combat, it's an instinctive reaction to immediately do something to help alleviate the situation. But the education piece comes in when the unknown starts to happen, which it always does. What do you do now?[68]

a. Training

Training is a process of facilitating learning through structured activities or events with an intent or purpose on forcing people to consistently reproduce or replicate behaviors without variation, but with increasingly greater efficiency even if conditions around them change.[69] According to Stolovich and Keeps,

> Through intense training the learner becomes increasingly able to reproduce the learned behavior with fewer errors, greater speed, and under more demanding conditions. Being able to execute mental or physical

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66 Charles Edward White, *The Enlightened Soldier* (Westport, CT: Greenwood Publishing Group, Inc, 1989), 70.

67 Stolovitch, Keeps, and Rosenberg, *Telling Ain't Training*, 10.

68 Diana S. Correll, "A Culture of Learning: Why the Marine Corps Is Promoting Education, Training in Its New Doctrine," *Marine Corps Times*, May 2019, https://www.marinecorpstimes.com/news/your-marine-corps/2020/05/19/a-culture-of-learning-why-the-marine-corps-is-promoting-education-training-in-its-new-doctrine/.

69 Harold D. Stolovitch and Erica J Keeps, *Training Ain't Performance* (Alexandria, VA: ASTD Press, 2004), 5.

> procedures without thinking is important in our lives…It cuts down on our cognitive (thinking) load.[70]

b. Education

Education is another process of learning that is facilitated through a variety of structured and unstructured, formal and informal methods that result in the building of general mental models and values.[71] Marines that receive formal education increase their ability to find or develop solutions to complex problems or in unexpected situations.

3. FACTORS THAT INFLUENCE LEARNING

Many factors indicate a Marine's "willingness and readiness to learn, such as physical health, psychological, behavioral, social, emotional, and cognitive skills."[72] All Marines have a learning capacity that is coded in them when they are born. We should also remember that all learners are different, and all learners obtain knowledge through different methods and at different rates. A better understanding of certain factors such as the individual's ***ability***, their ***prior knowledge***, and ***motivation*** can influence an individual's capacity to receive and process relevant information and impact their ability to learn.[73] By both, the instructor and learner understanding of what factors either may lack can in-turn allow for both to compensate and manage the learning context, provide feedback, and adjust expectations.[74]

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[70] Stolovitch, Keeps, and Rosenberg, *Telling Ain't Training*, 10–12.

[71] Stolovitch and Keeps, *Training Ain't Performance*, 5.

[72] USMC, MCDP 7 *Learning*, 1–11.

[73] Stolovitch, Keeps, and Rosenberg, *Telling Ain't Training*, 40–41.

[74] Stolovitch, Keeps, and Rosenberg, 40–41.

4. LEARNING IS HARD WORK

Thinking is hard work; that's why so few do it.

– Albert Einstein[75]

Learning takes time, dedication, and diligence in the pursuit of mastery.

– MCDP-7, *Learning*[76]

In February of 1941 Adler in his article, "Invitation to the Pain of Learning," discussed how education had become very light and not challenging to students in school. In his belief this was due to the parents not wanting their children to experience pain. Parents wanted their children's childhood to be a happy, carefree time, with the opportunity to act upon their impulses, and not incur hardships or struggles growing up.[77] Adler believed studying to be really hard work, that hardest that humans could do; it requires mental strain and continual labor, it is fatiguing, and not refreshing. Education according to him was an internal transformation of an individual's mind. The only pleasure that an individual receives from studying is the reward from achieving it. Teachers can assist in this internal transformation process, but the responsibility of learning must be dominated by the learner themselves, and learning involves intellectual activity, this is called ***thinking***. Without having to *think* learning cannot occur.[78] According to Adler, "Everyone who has had to think before knows it is painful."[79] He further states,

> The school system which caters to the median child, or worse, to the lower half of the class; the lecturer before adults-and they are legion-who talks down to his audience; the radio or television program which tries to hit the lowest common denominator of popular receptivity-all these defeat the

[75] Benna, S. and Baer, D, "30 Quotes That Take You inside Albert Einstein's Brilliant Mind," *Business Insider*, June 2020, https://www.businessinsider.com/25-best-quotes-from-albert-einstein-2014-8.

[76] USMC, MCDP 7 *Learning*, 4–10.

[77] Adler, "Invitation to the Pain of Learning."

[78] Adler.

[79] Adler.

> prime purpose of education by taking people as they are and leaving them just there.[80]

When learning is harder and slower it does not feel productive to an individual. Individuals are attracted to "methods that feel more productive, unaware that the gains from these methods are temporary. Learning is deeper and more durable when it's effortful."[81] Kornell, a cognitive psychologist, in the book *Range* explains his concept of *desirable difficulties*, by stating,

> Obstacles that make learning more challenging, slower, and more frustrating in the short term, but better in the long term…One of those desirable difficulties is known as the "generation effect. Struggling to generate an answer on your own, even a wrong one, enhances subsequent learning. It requires the learner to intentionally sacrifice current performance for future benefit.[82]

Kornell states that *desirable difficulties* are derived from forming connections and methods like the interleaving method that "make knowledge more flexible, and useful for problems that never appeared in training."[83] In the short-term desirable difficulties slow down learning and might make an individual's performance suffer. "Difficulties that require more effort and slow down apparent gains, like spacing, interleaving, and mixing up practice will feel less productive at the time but will more than compensate for that by making the learning stronger, precise, and enduring."[84] Difficulties that require effortful recall of learning such "as spaced practice require that an individual reload or reconstruct the components of the skill or material anew from long-term memory compared to repeating."[85] During the focused effort to recall information "the learning is made pliable again: the most salient aspects of it become clearer, and the consequent reconsolidation

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[80] Adler.

[81] Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 3.

[82] David Epstein, *Range: Why Generalists Triumph in a Specialized World.* (New York: Riverhead Books, 2019), 83–86.

[83] Epstein, 83–85.

[84] Brown, Roediger III, and McDaniel, *Make It Stick: The Science of Successful Learning,* 81.

[85] Brown, Roediger III, and McDaniel, 82.

helps to reinforce meaning, strengthen connections to prior knowledge, bolster the cues and retrieval routes for recalling it later, and weaken competing routes."[86]

Many individuals today do not understand that strenuous effort used to retrieve knowledge and skills improves their ability in the future ability to retrieve and utilize it.[87] Psychologist Carol Dweck states that "learning is hard work, and that struggle increases intellectual abilities."[88] Winston Churchill famously said, "difficulties mastered are opportunities won."[89] When individuals understand that learning is hard work and a "struggle that often involves making mistakes, that they will go on to exhibit a greater propensity to tackle tough challenges and will tend to see mistakes not as failures but as lessons and turning points along the path to mastery."[90] By Marines having an understanding that hard strenuous effort is required in learning as part of their professional development, enables them to have a *growth mindset* by developing mental fortitude and resiliency to setbacks.

5. GROWTH MINDSET

> You have power over your mind - not outside events. Realize this, and you will find strength.
>
> – Marcus Aurelius[91]

An individual's beliefs about learning, their understanding of learning, and their intelligence have important impacts on how an individual experiences education, and how they respond to difficulties and adversity.[92] The research by Dweck have become popular to understand how an individual's level of intellectual ability is not fixed, but

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[86] Brown, Roediger III, and McDaniel, 82.

[87] Brown, Roediger III, and McDaniel, 203.

[88] Brown, Roediger III, and McDaniel, 233.

[89] Enright Dominique, *The Wicked Wit of Winston Churchill*, Revised, 2011, 143.

[90] Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 82.

[91] Marcus Aurelius, *The Meditations Marcus Aurelius Antoninus. Translated by Casaubon*, vol. 8 (New York & London: E.P. Dutton & Co, 1906).

[92] Carol S. Dweck, *Mindset: The New Psychology of Success,* 1st ed. (New York: Random House, 2006), 12.

within that individual's control. In her research Dweck identifies two types of mindsets that individuals can have about their intellectual talent and abilities. These two mindsets are a ***fixed mindset*** and a ***growth mindset.***

	FIXED MINDSET	GROWTH MINDSET
Definition	Belief that ability is a *fixed* trait that cannot change	Belief that ability is *malleable* and can be developed
Interpretation of effort	Effort is *bad;* if you're smart, you shouldn't have to work hard	Effort is *good;* it's how you get better
Motivation in school	What matters is looking smart, so you can *prove* your ability	What matters is learning, so you can *improve* your ability
Behavioral response to academic setbacks	*Helplessness;* setback is a sign that you don't have what it takes	*Resilience;* setback is a sign that you need to work harder or try a new strategy
Meaning of failure	Failure is the *end of the story:* time to give up	Failure is the *beginning of the story:* time to try again

Figure 1. Growth Mindset Example of a Challenge[93]

Dweck writes, "individuals with a *fixed mindset* believe that their talents and abilities are simply fixed. They only have a certain amount and that their intellectual ability was set at birth by the natural talents they were born with."[94] Showing the contrast in Figure 1, "a *growth mindset* is the belief that intelligence can be developed."[95] Individuals with a growth mindset understand they can develop and increase their level of intelligence through hard work, developing effective strategies, and through the

[93] Carissa Romero, "What We Know About Growth Mindset from Scientific Research," Mindset Scholars Network, July 2015, http://mindsetscholarsnetwork.org/wp-content/uploads/2015/09/What-We-Know-About-Growth-Mindset.pdf.

[94] Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, *Make It Stick: The Science of Successful Learning.* (Cambridge, Massachusetts: The Belknep Press of Harvard University Press, 2014), 180.

[95] Romero, "What We Know About Growth Mindset from Scientific Research."

assistance of others when needed.[96] Unlike an individual with a *fixed mindset*, an individual who has a *growth mindset* understands "that intelligence is not a fixed trait set in stone at birth and that it can be developed."[97]

When individuals hold a *fixed mindset*, "it can lead individuals to avoid challenges and give up when they struggle."[98] According to Romero's article, "What We Know About Growth Mindset from Scientific Research," she writes,

> When individuals hold a growth mindset, it leads to embracing challenges as opportunities to develop mastery. Individuals with a growth mindset view effort and struggle more positively. They see effort as a way to learn and develop their intelligence, and they understand that struggling with a task they haven't yet mastered is the only way to grow.[99]

It is important to understand that as mentioned earlier, all individuals have a different level of capacity for learning. Some individual's understanding of the theory of intelligence and how one obtains it might have been affected and influenced by their environment growing up, leading them to have a *fixed mindset.* When individuals can understand that learning requires serious effort, but that also might be enough.[100] MCDP-7 states that,

> Learning is a process of professional growth. Marines demonstrate motivation and professionalism by cultivating a growth mindset. A Marine with a *growth mindset* seeks challenges and feedback to better learn, test their current skills, and increase their competencies. Marines understand that mistakes and feed-back communicate a need to improve and that investing more effort, time, and practice will further develop professional skills…Marines with a *growth mindset* understand that they have control over their individual learning, and that the additional effort pays off in developing the knowledge and skills to improve.[101]

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[96] Dweck, "What Having a 'Growth Mindset' Actually Means."

[97] Dweck, *Mindset*.

[98] Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 180.

[99] Romero, "What We Know About Growth Mindset from Scientific Research."

[100] Dweck, *Mindset*.

[101] USMC, MCDP 7 *Learning*, 2–12.

6. SYSTEMS THINKING APPROACH

> To understand his profession the officer must have some idea of its relationship to other fields of knowledge, and the ways in which they contribute to his own.
>
> – Gerhard Johann David von Scharnhorst[102]

> History doesn't repeat itself, but it often rhymes.
>
> – Mark Twain[103]

Another approach for Marines to understand and practice in order to improve organizational learning is a ***systems thinking*** approach (STA). A system can be defined as "having a purpose with their parts arranged in a way (structure) to carry out that purpose."[104] In MCDP-5, *Planning,* it states that "war is not a single problem, but a complex system of interdependent problems, the solution to each of which affects the outcomes of all others."[105] With the increasing complexity every day in our environment and with the difficulty of tracing the root causes to our problems, a systems thinking approach is a discipline that can allow individuals and organizations to see wholes, allowing us to understand the *causes* of problems in our environment and provide an understanding of how problems can be linked to other problems as well. A STA is an "approach to problem solving and represents a conceptual framework with which to make full patterns clearer and determine how to change them effectively."[106] A STA can help build an understanding for how key stakeholders (internal and external to an organization) view a problem or have a vested interest in a particular outcome. Professor

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[102] Michael Schoy, "General Gerhard Von Scharnhorst: Mentor of Clausewitz and Father of the Prussian-German General Staff," *Canadian Defense Forces Publication,* Date Unknown, 4, https://www.cfc.forces.gc.ca/259/181/82_schoy.pdf.

[103] Richard North Patterson, "History Doesn't Repeat Itself, but It Often Rhymes," *The Magazine of Ohio Wesleyan University*, Fall 2018, https://www.owu.edu/news-media/owu-magazine/fall-2018/history-doesnt-repeat-itself-but-it-often-rhymes/.

[104] "'System.' Merriam-Webster.Com Dictionary, Merriam-Webster, Https://Www.Merriam-Webster.Com/Dictionary/System. Accessed 15 Feb. 2021."

[105] USMC, *Planning. MCDP 5*, Marine Corps Doctrinal Publication (Washington, D.C., 2018), 1–21.

[106] Michael J Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*, 2nd ed. (Palo Alto, CA: Davies-Black Publishing, 2002), 26.

Edgar H. Schein states, "every group and organization is an open system that exists in multiple environments. Changes in the environment will produce stresses and strains inside the group, forcing new learning and adaptation."[107] According to the *Marine Air Ground Task Force Staff Training Program Pamphlet 5-*.01 (MSTP Pamphlet 5-.01), "a system is a group of interacting, interrelated, and interdependent components or subsystems that form a complex and unified whole."[108] The STA is comprised of thinking and understanding a situation as a system and discerning it from within the environment that it exists, as shown in Figure 2.[109]

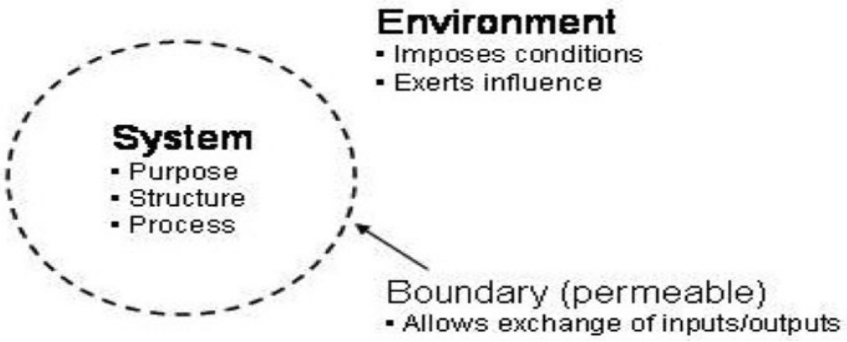

Figure 2. The Systems Thinking Framework[110]

The ability to think systemically (holistically), which is better known as systems thinking helps develop efficient and effective operational art skills. A STA allows planners to deal with the complexity of the operational environment in limited war scenarios and develop awareness of the ever-changing social, economic, and political landscape that influences military operations, an example is illustrated in Figure 3. A STA allows the Marine Corps to become more agile and flexible. SecDef Mattis

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[107] Edgar H. Schein, "Organizational Culture," *Sloan School of Management, Massachusetts Institute of Technology*, Organizational Psychologist, 45, no. 2 (1990): 109–19.

[108] USMC, "Marine Air-Ground Task Force Staff Training Program Pamphlet 5-0.1" (MSTP Division, May 2017).

[109] John F Schmitt, "A Systemic Concept for Operational Design," *Thoughts on the Operational Art*, Quantico, VA: Marine Corps Warfighting Lab, August 2006, 23–24.

[110] Schmitt, 24.

discusses in *Call Sign Chaos*, the importance of leaders seeing patterns, "I had fine officers working hundreds of issues, but a leader must try to see the overarching pattern, fitting details into the larger situation. Anticipating the second-and-third-order consequences of policy decisions demanded more time than I was putting aside."[111] A STA assists in understanding the complexity and uncertainty that are inherent in the environment today and are becoming more challenging strategically.

This type of approach is needed more with the increase in fast-paced changes and a growing complexity across the strategic domains. The USMC MSTP Pamphlet 5-0.1 states,

> Understanding why a system exists, how the parts of that system serve a purpose, and appreciating how that system interacts with its broader environment helps develop ways to change that system. Systems thinking is a process of understanding how parts of a system work and influence each other as part of a greater whole. It is an approach to problem solving that views problems as part of the greater system and that these problems are interrelated.[112]

[111] James Mattis and Francis J West, *Call Sign Chaos: Learning to Lead* (New York: Random House, 2019), 200.

[112] USMC, "Marine Air-Ground Task Force Staff Training Program Pamphlet 5-0.1," A-4.

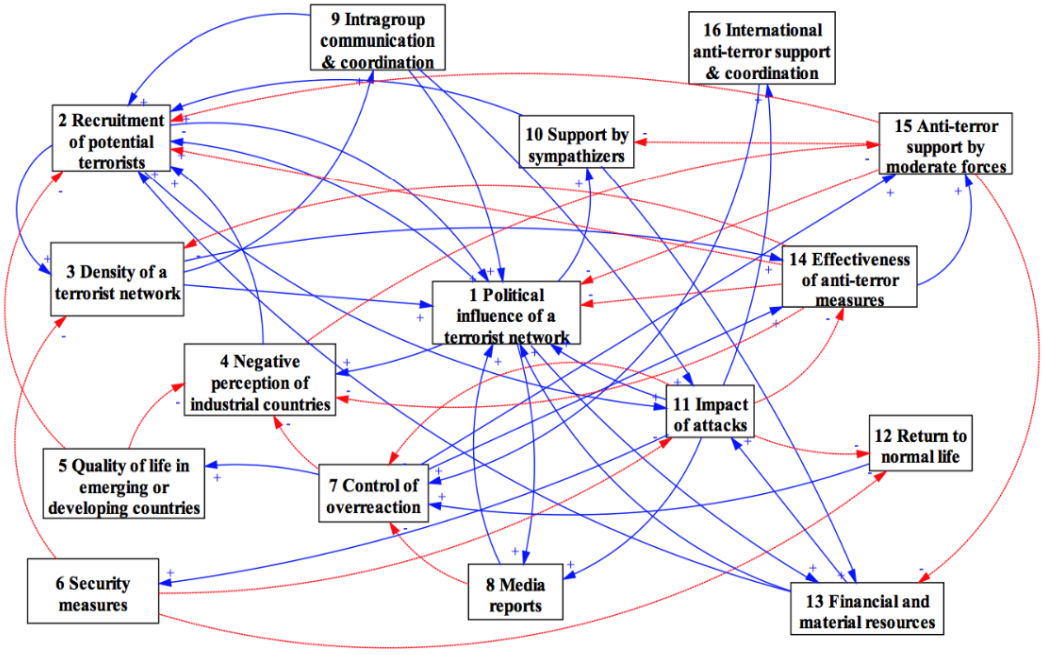

Figure 3. Systems Model with 16 Variables[113]

Maneuver warfare "stems from a desire to circumvent a problem and attack it from a position of advantage rather than meet it straight on. Rather than pursuing the cumulative destruction of every component in the enemy arsenal, the goal is to attack the enemy "system"—to incapacitate the enemy systemically."[114] By Marines "understanding components and problems in a system in relation with each other (as opposed to in isolation), problem solvers are better equipped to develop a holistic approach to solving or managing identified problems."[115] In part of Lieutenant General (LtGen) Paul Van Riper's paper, *Thoughts on Operational Art*, expands the importance of systems thinking. In his paper he states the following:

[113] Lukas Schoenenberger, "Analysing Terrorism from a Systems Thinking Perspective," *Perspective on Terrorism* 8, no. 1 (2014), http://www.terrorismanalysts.com/pt/index.php/pot/article/view/323/html.

[114] MCDP 1 *Warfighting*, 2–16.

[115] USMC, "Marine Air-Ground Task Force Staff Training Program Pamphlet 5-0.1," A-4.

> To understand operational art fully, officers need to widen their mental apertures and see war as more than the sum of its parts. They need to see what Clausewitz and others schooled in philosophy called the Gestalt, which Merriam-Webster defines as, '[A] structure, configuration, or pattern of physical, biological, or psychological phenomena so integrated as to constitute a functional unit with properties not derivable by summation of its parts.' (The whole is greater than the sum of its parts) Officers who possess a systemic perspective of war, policy, strategy, campaigns, and major operations will have the foundation needed of competent commanders and planners…The best commanders and planners are able to think and plan with a system view. System thinking is an essential tool for practicing operational art.[116]

7. EXAMPLES METHODS AND TECHNIQUES TO INCREASE INDIVIDUAL LEARNING

a. Feedback

Instituting and allowing for corrective feedback and deep reflection after an exam or training exercise can be a powerful tool for reinforcing learning in an organization. Providing feedback enables learners to reflect on the mistakes and experience from an exam or training event and identify mistakes and what they performed correctly.[117] In addition, when used after a training exercise, a debrief can help individuals set expectations, by creating performance agreements that tie measurable actions to their performance goals.[118]

Making mistakes and "errors are an integral part of striving to increase one's mastery over new material. Yet in Western culture, where achievement is seen as an indicatory of ability, many learners view errors as failure and do what they can to avoid committing them."[119] MCDP-7 states that, "learning from mistakes within a controlled environment is an effective way to reduce mistakes in combat, when the friction and fog

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116 Paul Van Riper, "The Foundations of Strategic Thinking," *Infinity Journal* 2, no. 3 (2012): 4–10, https://www.militarystrategymagazine.com/article/the-foundation-of-strategic-thinking/.

117 Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 122–30.

118 Brown, Roediger III, and McDaniel, 126–30.

119 Adler, "Invitation to the Pain of Learning."

of war makes even simple actions more difficult."[120] Similarly, SecDef Mattis said the following when it came to learning from mistakes, "Learning from others' mistakes is far smarter than putting your own lads in body bags."[121]

It needs to be clear that feedback and critiques are an important part to learning. Marines must be cognizant and "need to understand that when learning is hard work and mistakes will occur. To understand that strain and setbacks, are essential for an individual to surpass their current level of performance toward true expertise. Making mistakes, receiving feedback, and correcting them builds connections to advanced learning."[122]

b. Interleaving Method

Interleaving is a type of learning technique or method that involves the study or practice of two or more different subjects together, such that the instructions alternate between subjects, in order to facilitate learning.[123] According to Dr Lindsey, "interleaving has been shown to be more effective for producing learning than blocked or mass learning (A1A2A3A4A5B1B2B3B4B5) on many diverse sets of stimuli including word pairs, motor patterns, and word translations."[124]

In contrast to the *blocked method*, that is the concentration or focus of effort on a single subject or practice at a time,[125] illustrated in Figure 4. Interleaving practice "allows for a more well-rounded sense of the system, due to alternating different topics or subjects in succession results in a more robust understanding of what lies underneath the surface."[126]

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120 USMC, MCDP 7 *Learning*, 2–6.

121 Mattis and West, *Call Sign Chaos: Learning to Lead*, 12.

122 Adler, "Invitation to the Pain of Learning."

123 Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 7.

124 Lindsey E Richland, "Linking Cognitive Science to Education: Generation and Interleaving Effects," 2005, 1850–55.

125 Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 221–22.

126 Richland, "Linking Cognitive Science to Education: Generation and Interleaving Effects."

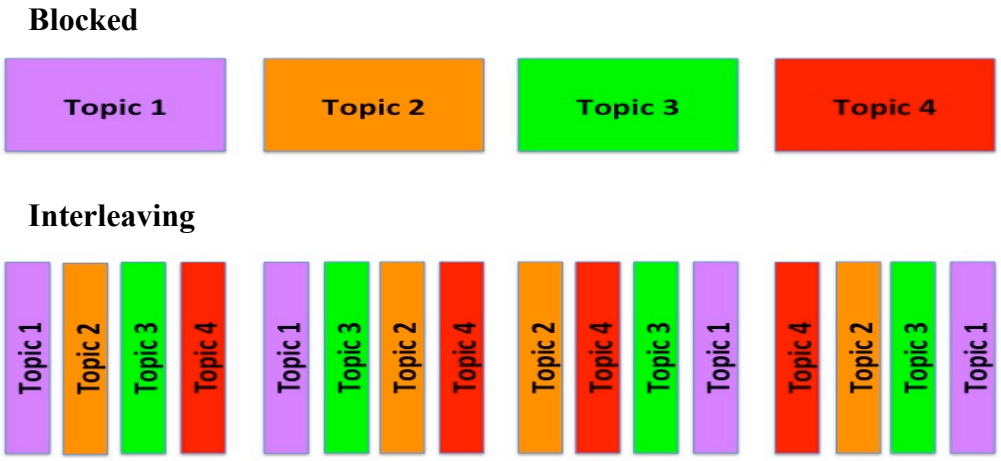

Figure 4. Blocked Method versus Interleaving Method[127]

The interleaving method "optimizes learning, increases long-term retention and helps refine the ability to build on knowledge to solve problems and master new concepts."[128] According to *Make it Stick*, "findings also support the claim that interleaving two or more subjects of information during learning will produce improved ability to transfer learning to more complex, integrated problems after a delay."[129]

Even though individuals will make mistakes learning in the beginning of the interleaving method, their ability to retain learned material will be higher, because the interleaving method "encourages retrieval by constantly switching up learning subjects, meaning every problem calls for a different strategy to solve than the last."[130]

More importantly, interleaving assists individuals to associate the right strategy with the right problem. The interleaving technique "improves our ability to transfer

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[127] "Organising Instruction & Study: 7 Recommendations to Improve Student Learning," *Belmont Teach on Wordpress* (blog), 2007, https://belmontteach.wordpress.com/tag/interleaving/.

[128] Ulrich Boser, "Everything You Need To Know About Interleaving" (The Learning Agency, October 2019), https://www.the-learning-agency-lab.com/science-of-learning-research-interleaving.html.

[129] Brown, Roediger III, and McDaniel, *Make It Stick : The Science of Successful Learning,* 51.

[130] Boser, "Boser and Cook. (2019). Interleaving."

learning from one situation and apply it successfully to another."[131] Developing a "broader understanding of the relationships between different conditions and the movements required to succeed in them; we discern context better and develop a more flexible movement vocabulary."[132] When Marines can quickly identify and understand the problem they are facing, the quicker they can adapt by identifying a strategy to match the problem.[133]

8. SECTION SUMMARY

> It is unwise to make education too cheap. If everything is provided freely, there is a tendency to put no value on anything. Education must always have a certain price on it; even as the very process of learning itself must always require individual effort and initiative.
>
> – Dwight D. Eisenhower[134]

This section offered an overview on what learning is, how education and training contribute a Marine's learning, and techniques and approaches for increasing an individual's learning capacity. The education Marines need today must provide them with knowledge that is enduring, flexible, and composed of mental schemes that can be matched to new problems. By educating and making Marines "aware of how their perspectives and experiences shape their thinking, they can better identify assumptions, personal biases, and other factors that can influence learning."[135] By understanding the "science of learning, combined with the art of learning, helps to develop well-trained and educated Marines and well-trained and combat ready units. Each Marine must learn how to learn, both independently and collectively in teams."[136] Marines must "develop the cognitive skills because Marines (humans) increasingly tend to digitally store and search

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131 Epstein, *Range*, 89–91.

132 Boser, "Boser and Cook. (2019). Interleaving."

133 Boser.

134 Dwight D. Eisenhower, *Dwight D. Eisenhower. Address, Centennial Celebration Banquet of the National Education Association.* (Washington, D.C., 1957).

135 USMC, MCDP 7 *Learning*, 1–10.

136 USMC, 1–16.

for information rather than committing the information to short-term or long-term memory."[137]

From MCDP-7 it states, "that learning is not always easy; a lack of self-awareness, humility, time management, or biases can cause friction that makes learning more difficult."[138] When Marines are taught about how to develop a growth mindset it helps them to understand that learning is hard, it requires the willingness to put in effort, and having a sense of humility to understand that they will make mistakes but know they can learn from their mistakes. When Marines understand that strenuous effort, setbacks, and making mistakes are all a part of the learning process towards true expertise, they do not get frustrated, lose focus, and quit. Marines "overcome this friction and seek self-improvement by better understanding themselves, particularly how our values, ethics, and perspectives influence learning."[139] The 34th CMC, Gen Conway, in his *Commandant's Bullets* makes it clear the mindset he wants Marines to have by stating,

> Secondly, ***you need to be able to expect the unexpected in life***. Life is full of surprises. We have a saying that no plan of action survives first contact with the enemy, so you have got to be prepared to move to rapidly to another course of action. Keep your options open. Develop the mentality that says, ***I will be adaptable***. When things change, I'm not going to sit there and cry and cuss and complain; that's a waste of time. I'm going to look at the alternative courses of action that will still achieve what it is I need to do, and I'm going to move on. I'm going to get traction. So you've got to be adjustable. You can't simply absorb the blows and say that well, all is lost, and I need to go jump off a bridge. Be thinking about, how else can you get that done and get after it?[140]

Gen Conway says that Marines have to develop a mentality that says, *I will be adaptable*. MCDP-7 states that, "***Adaptability*** is the quality of being able to adjust to new conditions. Marines develop adaptability when they examine a situation, recognize what is

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[137] USMC, 1–9.

[138] USMC, 1–10.

[139] USMC, 1–10.

[140] James T. Conway. Commandant's Bullets. Prepared by Major Kopets. (2010). The remarks by the 34th Commandant of the Marine Corps, emphasis added.

happening, and adjust their response to the new conditions."[141] In a complex environment an educated Marine has to have the skills needed to recognize when change is occurring and to rapidly adapt to address any potential threats.

Being successful adapters means taking knowledge from one pursuit and being able to "apply it creatively to another and avoid cognitive entrenchment."[142] In other words, a Marine will not freeze or give up mentally, they will cycle through options to complete the task or mission. The former world heavyweight champion boxer, Mike Tyson, famously said, "Everyone has a plan 'till they get punched in the mouth."[143] Being adaptable is essential for maneuver warfare, because it allows Marines to adapt to a thinking adversary and adjust after first contact.

As an institution, the USMC goal provides formal education and training to,

> Develop the pattern-recognition skills that are essential for intuitive decision making…Prepare Marines to function effectively in varying environments amid uncertainty and disorder and with limited time…Provide techniques and procedures which emphasize flexibility, speed, and adaptability…Last and perhaps most important, training, education, and doctrine should provide a shared ethos, common experiences, and a shared way of thinking as the basis for the trust, cohesion, and implicit communication that are essential to maneuver warfare.[144]

Developing a better understanding for *how* Marines learn and obtain new knew information allows leaders and instructors to compensate for some Marines shortcomings, manage the learning context for a larger group of Marines and provide better constructive feedback. All Marines learn differently and at different speeds. MCDP-7 states that "to facilitate these connections, leaders and instructors must know their Marines and become familiar with their strengths, weaknesses, needs, and interests.

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[141] USMC, MCDP 7 *Learning*, 1–12, emphasis added.

[142] Epstein, *Range*, 34.

[143] Nate Scott, "The 14 Greatest Mike Tyson Quotes of All Time," *For the Win*, June 30, 2016, https://ftw.usatoday.com/2016/06/mike-tyson-quotes-funny-great-best.

[144] USMC, *Command and Control. MCDP-6.* (Washington, D.C., 2018), 3–25,26.

This familiarity enables establishing a learning environment that can introduce, reinforce, sustain, and evaluate essential behaviors that are vital to mission success."[145]

For leaders in the Marine Corps to understand the importance of how individual Marines learn and how to increase a Marine's intellectual capacity is a critical step in increasing the intellectual quality of the entire Marine Corps. A better educated and trained Marine can have a profound impact on the Marines around him or her and increase the learning capacity of their current and future units. In the next section will discuss the importance of learning from an organizational perspective and the impact individual Marines can have on organizational learning.

B. ORGANIZATIONAL LEARNING

Understanding how an individual Marine learns from the last section is a starting point for understanding organizational learning and how to become a learning organization. MCDP-7 tells us "that individuals and teams have differences in the way they learn, with varying sensory preferences for learning, competencies, and strengths. Marines must learn *how* to learn, both independently and collectively in teams. Social and interpersonal factors, such as effective communication, group cohesion, and trust, all influence learning."[146]

To distinguish and know the differences and similarities between what a learning organization is versus what is organizational learning is important to understand. ***Organizational learning*** can be defined as, "a process of creating, retaining, and transferring knowledge within an organization. An organization improves over time as it gains experience. From this experience, it is able to create knowledge."[147] Huber defines organizational learning when, "an organization has a range of potential behaviors changed through the processing of its information.[148] Argote and Miron-Spektor in their

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[145] USMC, MCDP 7 *Learning*, 3–12.

[146] USMC, 1–16.

[147] Argote and Miron-Spektor, "Organizational Learning."

[148] George P. Huber, "Organizational Learning: The Contributing Processes and the Literatures," *Organization Science* 2, no. 1 (February 1991): 88–115, https://doi.org/10.1287/orsc.2.1.88.

model, Figure 5, from "Organizational Learning: From Experience to Knowledge," provides a framework that demonstrates that organizational learning is the process of experience gained over time creates knowledge. This knowledge then flows throughout the organization becoming embedded into the organization's routines and procedures, in-turn affecting future learning in a continuous ongoing cycle.[149]

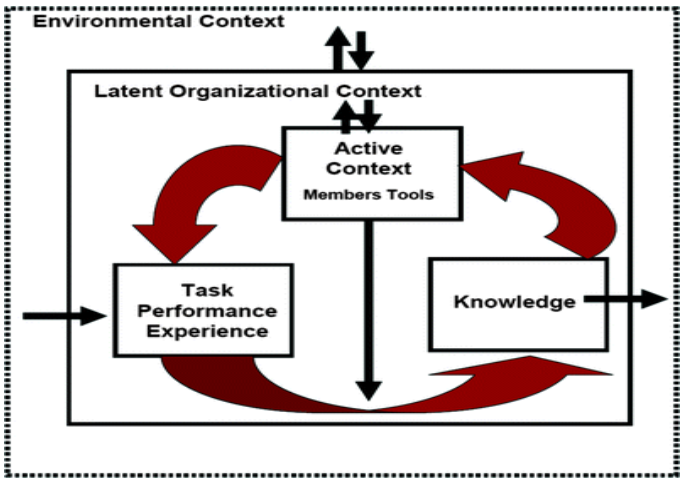

Figure 5. A Theoretical Framework for Analyzing Organizational Learning[150]

A ***learning organization*** is defined as "an organization that makes learning an institutional priority, facilitates learning by continually improving and making learning a professional expectation for all members of the organization."[151] Similarly, Garvin states a learning organization is "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights."[152] Organizational learning is the ***process*** of actions, routines, procedures, and other methods that occur in an organization for adapting to change in the environment with the creating,

[149] Argote and Miron-Spektor, "Organizational Learning."

[150] Argote and Miron-Spektor.

[151] William F. Mullen III, "Training and Education Command Campaign Plan, Fiscal Year 2020–2025" (USMC TECOM, April 15, 2020), 4-C–2.

[152] David A Garvin, "Building a Learning Organization," *Harvard Business Review*, August 1993, 16.

retaining, and transferring knowledge.[153] The learning organization is the organization that encourages learning, and prioritizes and facilitates learning by instituting mechanisms to capture and diffuse knowledge to its members.[154]

In the USMC learning is a priority and provides the foundation to the institution's adaptive culture and intelligence in uncertain and hostile expeditionary environments.[155] MCDP-7 states, "the Marine Corps must be a more lethal, thinking force that fosters continuous personal and organizational learning based upon enduring principles."[156]

It needs to be understood that learning as an institution can be considered difficult, since organizations can be comprised of many subsystems, with different cultures, as well as the outside environment of the organization can also provide pressure on or influence an organization. An organization is more complicated than an individual, the level of complexity increases when we go from an individual to a large organization that is comprised with numerous diverse personalities and experiences. An organization like the DOD can be even more complicated as former SecDef Gates, wrote in, *Duty: Memoirs of a Secretary at War*, the DOD is the "largest, most complex organization on the planet: three million people, civilian and military, with a budget, the last year I was there, of over $700 billion."[157]

In this section, I'll provide a view of organizational learning at three levels: the ***individual*** level, small ***group or team***, and the ***organizational*** levels. Marquardt in his book, *Building the Learning Organization*, defines learning at these three levels as:

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153 Barbara Levitt and James G March, "Organizational Learning," *Annual Review of Sociology* 14 (1988): 319–40.

154 David A Garvin, Amy C Edmondson, and Francesca Gino, "Is Yours a Learning Organization?," *Harvard Business Review*, March 2008, 9.

155 USMC, MCDP 7 *Learning*, 2–13.

156 USMC, 1–9.

157 Gates, *DUTY: Memoirs of a Secretary at War*, 21.

> ***Individual learning*** is the changes in skills, insights, knowledge, attitudes, and values acquired through self-study, technology-based instruction, and observation.[158]
>
> ***Group* or *team learning*** is the increase in knowledge, skills, and competencies accomplished by and within groups.[159]
>
> O***rganizational learning*** represents the enhanced intellectual and productive capability gained through commitment to and opportunities for continuous improvement across the organization.[160]

Authors Crossan, Lane, and White describe organizational learning as dynamic and illustrate it in their *4I Framework*, Figure 6. This framework incorporates a multilevel view of learning that attempts to disentangle and breakdown the learning process of an organization. As shown in both Figure 6 and Figure 7, "learning occurs at the individual, group, and organization levels, each in forming the others. These three levels of learning are linked by four social and psychological processes: ***intuiting, interpreting, integrating,*** and ***institutionalizing*** (4I)."[161]

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158 Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*, 25.

159 Marquardt, 25.

160 Marquardt, 25.

161 Mary M. Crossan, Henry W. Lane, and Roderick E. White, "An Organizational Learning Framework: From Intuition to Institution," *The Academy of Management Review* 24, no. 3 (July 1999): 522, https://doi.org/10.2307/259140.

(1) ***Intuiting*** is the subconscious process that occurs at the individual level. It is the start of learning and must happen in a single mind.

(2) ***Interpreting*** then begins the conscious elements of the individual learning and shares it at the group level.

(3) ***Integrating*** follows to change collective understanding at the group level and bridges to the level of the whole organization.

(4) ***Institutionalizing*** incorporates the learning across the organization by synthesizing it into systems, structures, routines, and practices.[162]

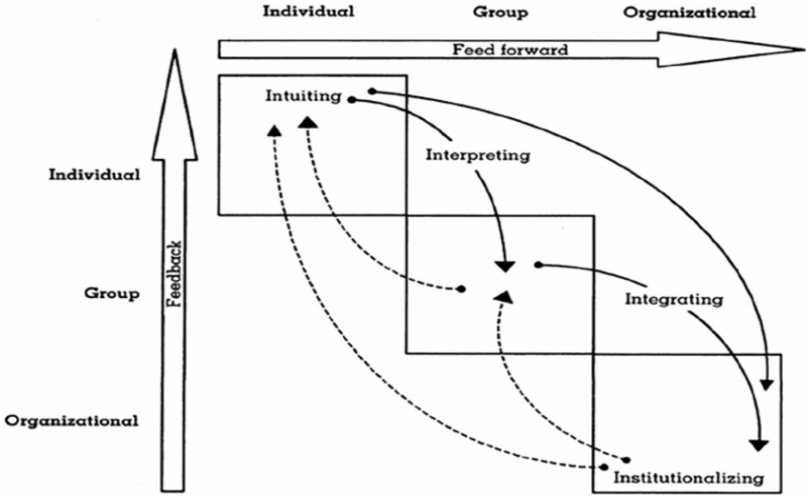

Figure 6. 4I Framework of Organizational Learning[163]

[162] Dusya Vera and Mary Crossan, "Strategic Leadership and Organizational Learning," *Academy of Management* 29, no. 2 (April 2004): 222–40, https://www.jstor.org/stable/20159030.

[163] Crossan, Lane, and White, "An Organizational Learning Framework."

Level	Process	Inputs/Outcomes
Individual	Intuiting	Experiences Images Metaphors
	Interpreting	Language Cognitive map Conversation/dialogue
Group	Integrating	Shared understandings Mutual adjustment Interactive systems
Organization	Institutionalizing	Routines Diagnostic systems Rules and procedures

Figure 7. Learning/Renewal in Organizations: Four Processes through Three Levels[164]

I'll discuss in this section how learning occurs at, flows through, and is connected at each level in an organization. By leaders comprehending the challenging dynamics and tensions of learning in an organization, the better understanding leaders will have on *how* to increase the flow of the learning across each level and strengthen the links for learning between the levels of their organization. When a leader of an organization facilitates learning by making it a top priority and expectation for all its members, institutes mechanisms to integrate and capture learning, and foster an environment that encourages honest feedback and dialogue, the more an organization can create a competitive advantage by increasing its capacity to adapt faster against a thinking adversary in a complex environment. In this new *cognitive age* today, organizational learning cannot be an option anymore, it has to be the necessary critical requirement.

[164] Crossan, Lane, and White.

1. ORGANIZATIONAL LEARNING: INDIVIDUAL LEARNING

> No military leader is endowed by heaven with an ability to seize the initiative. It is the intelligent leader who does so after a careful study and estimate of the situation and arrangement of the military and political factors involved.
>
> – Mao Zedong[165]

Authors Wang and Ahmed write, "organizations learn only through individuals who learn."[166] At the individual level of learning ***intuiting*** involves the recognizing of similarities and differences in patterns from their past personal experiences.[167] Individuals enter into an organization and its culture with a set of beliefs, values and assumptions. Over time, the individual's beliefs are shaped and conform to the organization's environment and culture of beliefs. The individual's beliefs can only change the organization by impacting and affecting the organization's culture, however, it can be very challenging for individuals to impact an organization's code or culture. When new members join an organization, the organization tends to want control over their learning. A reason for this March states is that "mutual learning leads to convergence between organizational and individual beliefs. The convergence is generally useful both for individuals and for an organization. However, a major threat to the effectiveness of such learning is the possibility that individuals will adjust to an organizational code before the code can learn from them."[168]

Organizations store their knowledge through routines, practices, procedures, policies, and rules. Over time an organization learns from its members by acquiring knowledge. This occurs simultaneously as new individuals join into an organization they are socialized to that organization's beliefs. March further states,

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165 General Samuel B. Griffith, *Mao Tse-Tung on Guerrilla Warfare* (Eastford, Ct: Martino Fine Books, 2017), 101.

166 Catherine L Wang and Pervaiz K Ahmed, "A Review of the Concept of Organisational Learning," 2002, 19.

167 Crossan, Lane, and White, "An Organizational Learning Framework."

168 James G. March, "Exploration and Exploitation in Organizational Learning," *Organization Science* 2, no. 1 (February 1991): 71–87, https://doi.org/10.1287/orsc.2.1.71.

> Organizational knowledge and faiths are diffused to individuals through various forms of instruction, indoctrination, and exemplification. An organization socializes recruits to the languages, beliefs, and practices that comprise the organizational code…Individuals modify their beliefs continuously as a consequence of socialization into the organization and education into its code of beliefs…At the same time, the organizational code adapts to the beliefs of those individuals whose beliefs correspond with reality on more dimensions than does the code.[169]

Organizational learning is not the collective or sum of individual learning processes, it is the engagement of interactions between individuals in the organization, and interaction between organizations as an entity, and interaction between the organization and its contexts.[170] According to Ray Stata, individual learning is different for several reasons:

> ***First***, organizational learning occurs through shared insights, knowledge, and mental models. Thus, organizations can learn only as fast as their lowest common denominator learns. Change is prevented unless all of the major decision makers (leaders) learn together, come to share beliefs and goals, and are committed to take the actions necessary for change.[171]
>
> ***Second***, organizational learning builds on past knowledge and experience, then encodes and stores into memory. Organizational memory depends on institutional mechanisms (methods, policies, strategies, routines, and procedures) used to retain knowledge.[172]

Daniel Kim explains the link between individual learning and organizational learning stating that, "the cycles of individual learning affect learning at the organizational level through their influence on the organization's shared mental mode,"[173] illustrated in Figure 8. A mental model as Kim explains, is a reason for "an

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169 March.

170 Catherine L Wang and Pervaiz K Ahmed, "A Review of the Concept of Organisational Learning," *Wolverhampton Business School Management Research Centre*, Working Paper-004/02, 2002, 19.

171 Ray Stata, "Organizational Learning: The Key to Management Innovation," *Sloan Management Review* 30, no. 3 (April 1989): 63–74.

172 Stata.

173 Daniel Kim, "The Link Between Individual and Organizational Learning," *Sloan Management Review* 35, no. 1 (January 2004): 37–50, https://doi.org/10.1016/B978-0-7506-9850-4.50006-3.

individual's thought process about how or why something works in the real world."[174] He states that,

> Mental models represent a person's view of the world, including explicit and implicit understandings. Mental models provide the context in which to view and interpret new material, and they determine how stored information is relevant to a given situation…An organization can learn only through its members, but it is not dependent on any one specific member. Individuals, however, can learn without the organization.[175]

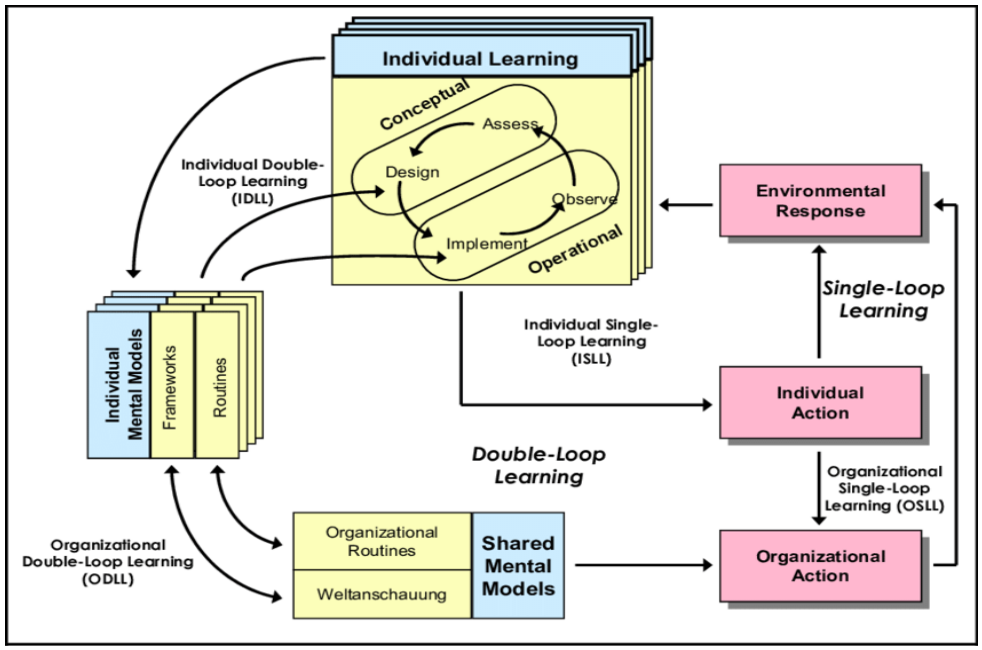

Figure 8. An Integrated Model of Organizational Learning: OADI-Shared Mental Models (SMM) Cycle[176]

Organizational learning "is dependent on individuals improving their mental models,"[177] and in-turn sharing and making their mental models explicit throughout the organization. The method of "surfacing individual mental models and making them explicit can accelerate individual learning. As mental models are made explicit and

[174] Kim.

[175] Kim.

[176] Kim.

[177] Kim.

actively shared throughout the organization, the base of shared meaning in an organization expands, and the organization's capacity for effective coordinated action increases."[178] The process of ***interpreting*** is the connection from the individual to the group level of an organization by explaining and communicating through a common language "or actions, of an insight or idea to one's self and to others."[179]

2. ORGANIZATIONAL LEARNING: GROUPS OR TEAMS

In the same respect as understanding how individuals impact organizational learning understanding how groups (teams can be substituted) learn to work efficiently within an organization can provide more foundational insight into understanding organizational learning.[180] In MCDP-7 it states, "Marines are challenged with problems that they tackle as teams in order to learn by doing, through experience, as well as from each other."[181] Utilizing highly skilled groups or teams as a way of learning to solve difficult, complex and unstable problems today in organizations has become an effective method. Work groups require the ability to think, create, and learn effectively as a part of or within their larger organization.[182] In a group the process of ***integrating*** begins by members of the group "developing a shared understanding among individuals and of taking coordinated action through mutual adjustment. Dialogue and joint action are crucial to the development of shared understanding."[183] Working in teams allows Marines to learn from other team members by working together exchanging information, creating new ideas through dialogue and discussion.[184] Nonaka states the benefit works group provide to organizational learning by stating,

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178 Kim.

179 Crossan, Lane, and White, "An Organizational Learning Framework."

180 Argote and Miron-Spektor, "Organizational Learning."

181 USMC, MCDP 7 *Learning*, 1–12.

182 Michael J Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*, 2nd ed. (Palo Alto, CA: Davies-Black Publishing, 2002) 41–42.

183 Crossan, Lane, and White, "An Organizational Learning Framework."

184 Ikujiro Nonaka, "A Dynamic Theory of Organizational Knowledge Creation" 5, no. 1 (February 1994): 14–37, http://www.jstor.com/stable/2635068.

> Organizational knowledge creation, therefore, should be understood in terms of a process that 'organizationally' amplifies the knowledge created by individuals, and crystallizes it as a part of the knowledge network of organization…an informal community of social interaction provides an immediate forum for nurturing the emergent property of knowledge at each level and developing new ideas…the potential contribution of informal groups to organizational knowledge creation should be related to more formal notions of a hierarchical structure. If this is done effectively, new knowledge associated with more advantageous organizational processes or technologies will be able to gain a broader currency within the organization.[185]

A group learning system allows for its members to share and learn from group members individual knowledge and experiences (negative and positive), promoting intellectual growth.[186] Amy Edmondson conceptualizes by stating, "learning at the group level of analysis as an ongoing process of reflection and action, characterized by asking questions, seeking feedback, experimenting, reflecting on results, and discussing errors or unexpected outcomes of actions."[187]

Group learn to generate knowledge by analyzing complex issues, taking innovative action, and collectively solving problems. Understanding the learning behavior in groups provides a link between individual knowledge (mental models) and organizational level knowledge through Nonaka's concept of learning in groups as a cycle of

> shaped by a series of shifts between different modes of knowledge conversion. ***First***, the socialization mode usually starts with the building of a 'team' or 'field' of interaction. This field facilitates the sharing of members' experiences and perspectives. ***Second***, the externalization mode is triggered by successive rounds of meaningful 'dialogue.' In this dialogue, the sophisticated use of 'metaphors' can be used to enable team members to articulate their own perspectives, and thereby reveal hidden tacit knowledge that is otherwise hard to communicate.[188]

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[185] Nonaka.

[186] Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*.

[187] Amy Edmondson, "Psychological Safety and Learning Behavior in Work Teams," *Administrative Science Quarterly* 44, no. 2 (June 1999): 350, https://doi.org/10.2307/2666999.

[188] Nonaka, "A Dynamic Theory of Organizational Knowledge Creation."

As groups learn, they potentially become microcosms for learning throughout the organization. Harold Leavitt in his article states,

> Smallish, temporary groups are excellent mechanisms for dealing with many of the ever novel and ever more complex problems imposed and enabled by the new world. Large organizations…are often too slow and too rigid to cope with the speed and responsiveness many such tasks now require. Single individuals…can be fast and flexible, they cannot, by themselves, handle the complexity of many such present-day tasks. Small, dedicated groups, the mediating units between individuals and organizations, seem just right.[189]

The group's "insights, knowledge and developments can be put into action, while its newly developed skills are passed along to other individuals and groups. A group's accomplishments can set the tone and establish a standard of mutual learning for an entire organization."[190]

3. ORGANIZATIONAL LEARNING: ORGANIZATIONAL LEVEL

Organizational learning is a method for obtaining a competitive advantage in today's environment.[191] March says that, "organizational learning can be conceived as a principal means for achieving the strategic renewal of an enterprise. Renewal requires that organizations explore and learn new ways while concurrently exploiting what they have already learned."[192] At the organizational level of learning begins the process of ***institutionalizing***, Crossan explains this as,

> The process of ensuring that routinized actions occur. Tasks are defined, actions specified, and organizational mechanisms put in place to ensure that certain actions occur. Institutionalizing the process of embedding learning that has occurred by individuals and groups into the organization, and it includes systems, structures, procedures, and strategy.[193]

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189 Harold J. Leavitt, "The Old Days, Hot Groups, and Managers' Lib," *Administrative Science Quarterly* 41, no. 2 (June 1996): 298, https://doi.org/10.2307/2393721.

190 Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*.

191 Crossan, Lane, and White, "An Organizational Learning Framework."

192 March, "Exploration and Exploitation in Organizational Learning."

193 Crossan, Lane, and White, "An Organizational Learning Framework."

a. Turning Knowledge into Routines

In their article, "Organizational Learning," Levitt and March provide an approach to organizational learning that focuses on routines as a source of knowledge and "base their concept of learning as the creating and updating of routines in response to experiences. Routines are regarded as recurrent sequences of action which span multiple organizational actors and assets."[194] According to Levitt and March organizational learning builds on three observations from behavioral studies:

> (1) Routine-Based
>
> The first is that behavior in an organization is based on routines. Action stems from a logic of appropriateness or legitimacy more than from a logic of consequentiality or intention. It involves matching procedures to situations more than it does calculating choices.[195]
>
> (2) History-Dependent
>
> The second observation is that organizational actions are history dependent. Routines are based on interpretations of the past more than anticipations of the future. They adapt to experience incrementally in response to feed back about outcomes.[196]
>
> (3) Target-Oriented
>
> The third observation is that organizations are oriented to targets. Their behavior depends on the relation between the outcomes they observe and the aspirations they have for those outcomes. Sharper distinctions are made between success and failure than among gradations of either.[197]

Within this framework, an organization is learning by interpreting from history and incorporates it into their routines that guide their present behavior. Their definition of the term "routines" encompasses an organization's procedures, rules, beliefs, strategies, frameworks, traditions, codes, cultural, and knowledge.[198] Routines in an organization

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[194] Levitt and March, "Organizational Learning."

[195] Levitt and March.

[196] Levitt and March.

[197] Levitt and March.

[198] Levitt and March.

"are independent of the individuals who execute them, and routines are capable of surviving"[199] and lasting over time, even after a considerable amount of turnover.

The lessons learned from past experiences are ingrained into routines in a way that makes the learned lessons and not the history available to the organization and its members who did not experience the history themselves. Another way to explain this is an organization's members perform a routine not knowing the history or context for why the routine exists or is required. In other words, "this is the way we have always done it." Routines can be transferred or passed on through the instituting of various mechanisms, such as education, inspections, socialization, training, and personnel turnover. Routines can "change as a result of experience within a community of other learning organizations. These changes depend on how history is interpreted. Particularly on the evaluation of outcomes in terms of targets."[200]

b. Information Distribution

Another aspect of organizational learning is the process of how organizations create mechanisms to capture and disseminate their past experiences and "the experience of other organizations through the transfer of encoded experience in the form of technologies, codes, procedures, or similar routines."[201] The sharing and distributing of information can lead to a more collective based organizational learning. Consistent and accepted routines must be established for how an organization's memory is likely to be utilized in the future. Some parts of "organizational memory might require being more available for retrieval than others. Availability should be associated with the frequency of use of a routine, the recency of its use, and its organizational proximity."[202]

An institutionalized mechanism established by the USMC is the *Marine Corps Center of Lessons Learned* (MCCLL), is a formal system that collects, analyzes,

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[199] Levitt and March.

[200] Levitt and March.

[201] Levitt and March.

[202] Levitt and March.

publishes and archives lessons learned materials.[203] The efforts of MCCLL are to support training and planning for the USMC by identifying gaps and best practices, and recommended solutions for personnel and leadership.[204] The USMC also has other formal systems that are forcing functions to ensure units throughout the Marine Corps are performing tasks, recording data, providing feedback, and capturing routines in compliance with the applicable orders and documents of the Marine Corps.

c. Exploration versus Exploitation in Organizational Learning

March discusses in his article "Exploration and Exploitation in Organizational Leaning*"* the differences between exploration and exploitation, and the advantages and disadvantages each provide. He defines both as, "exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution."[205] Both can be complicated, but it's crucial for an organization to understand that the choices they make between the two options have a cost in resources and there has to be a "balance between both, exploration and exploitation."[206] If the Marine Corps as an adaptive organization believes it must "engage in exploration to the exclusion of exploitation."[207] Experimentation will come at a cost with a high-potential risk of not gaining many of its benefits.[208]

Throughout the Marine Corps history, it has sought to develop new innovative ways and methods to experiment and utilize new technologies in order to adapt to the changing nature of war. A successful historical example for the USMC was the experimentation of rotary-wing aircraft and the doctrine development for heliborne

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[203] "Marine Corps Center for Lessons Learned," 2021, https://www.tecom.marines.mil/Units/Directorates/MCCLL.aspx.

[204] "Marine Corps Center for Lessons Learned."

[205] March, "Exploration and Exploitation in Organizational Learning."

[206] March.

[207] March.

[208] March.

operations.[209] In 1946, LtGen Roy Geiger after witnessing *Operation Crossroads* understood that with the new weapon systems being developed, this significant increase in destructive firepower from these weapons systems were a threat to the Marine Corps amphibious way of fighting and expertise. Geiger assigned a small team composed of six officers to begin a search in order to study and identify potential solutions for the future of amphibious assault.[210] This team quickly identified a new piece of technology that could be the answer to their problem, the helicopter. Over the next two and half years (1946-1948) the USMC acquired helicopters to experiment and test, created its first helicopter squadron, and developed new doctrine on the employment of this new aircraft.[211] Soon after the North Korean invasion into South Korea of June 1950, the newly established helicopter squadron deployed to Korea, and by August was flying in the Pusan perimeter.[212]

A recent historical example of exploration that was not successful for the USMC would be expeditionary fighting vehicle (EFV). In the early 2000s the Marine Corps had already invested $3 billion dollars (out of $15 billion) into the EFV that was slated to replace the USMC's older amphibious assault vehicle (AAV) from the early 1970s.[213] However, as the design and manufacturing of the first EFV's began, the unit cost per of the EFV increased, in-turn leading to the cancellation of this new vehicle. This example by the Marine Corps demonstrates March's statement on exploration, that "adaptive systems that engage in exploration to the exclusion of exploitation are likely to find that they suffer the costs of experimentation without gaining many of its benefits."[214]

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[209] B.J. Armstrong, "The Answer to the Amphibious Prayer: Helicopters, The Marine Corps, and Defense Innovation," *War on the Rocks*, December 17, 2014.

[210] Armstrong.

[211] Armstrong.

[212] Armstrong.

[213] Andrew Feickert, "Marine Corps Amphibious Combat Vehicle (ACV): Background and Issues for Congress," 2019, 18.

[214] March, "Exploration and Exploitation in Organizational Learning."

d. Organizational Learning Feedback Loops

Author Chris Argyris explains organizational learning as a "theory of action" or a "process of detecting and correcting error. Error is for our purposes any feature of knowledge or knowing that inhibits learning. When the process enables the organization to carry on its present policies or achieve its objectives, the process may be called single loop learning."[215] In Table 2 the three organizational learning feedback are illustrated.

(4) Single-Loop Learning (Following the Rules)

Single-loop learning is a process of organizational learning method. In single-loop learning, "individuals, organizations or groups modify their actions and behaviors according to the difference between expected and reached outcomes."[216] Single-loop learning can also be described as a situation where an individual observes the current situation, orients towards the problem, decides how to correct the action or problem, and adapts their behavior to improve their situation.[217] In single-loop learning errors are detected and acted upon by individuals of an organization. However, individuals do not question the underlying cause for the problem or error, the emphasis in single-loop learning is on techniques and the individual's effectiveness.[218]

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[215] Chris Argyris, "Double Loop Learning in Organizations," *Harvard Business Review* 77502 (1977): 115–24.

[216] Crossan, Lane, and White, "An Organizational Learning Framework."

[217] Soren Eilertsen and Kellan London, "Modes of Organizational Learning," *The Kollner Group, Inc,* 2005, 7, http://drmichaelroe.weebly.com/uploads/2/8/1/8/2818319/single_and_double_loop_learning.pdf.

[218] Chris Argyris, "Single-Loop and Double-Loop Models in Research on Decision Making," *Administrative Science Quarterly* 21, no. 3 (September 1976): 363–75, https://doi.org/10.2307/2391848.

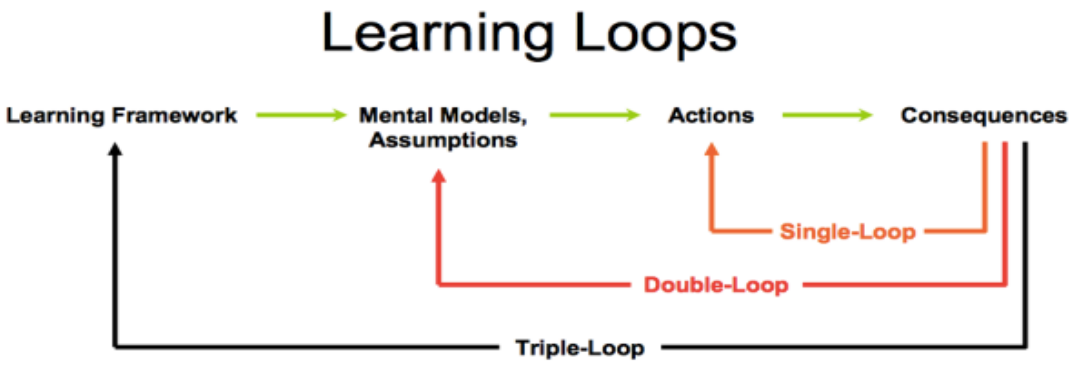

Figure 9. Learning Loops Process[219]

(5) Double-Loop Learning (Changing the Rules)

In single-loop learning an individual changes their actions or behavior to avoid or correct a mistake. However, in double-loop learning an individual corrects the underlying cause or causes behind the occurring problem.

In double-loop learning an individual seeks to examine the causation of the problem. The individual recognizes a problem, defines it, and understands the source of it. The individual is questioning the situation and attempting to understand the framework of the problem.[220] Double-loop learning leads to organizational learning by providing an increase in an organization's understanding of its assumptions and making better decisions in day-to-day operations.[221]

An individual learning to become aware and trying to understand one's present behavior, routine, or "theory in use and then altering or changing it is a very difficult process, because it requires that individual to question the theories of action that have formed the framework for their action."[222] There could me many different underlying

219 Eilertsen and London, "Modes of Organizational Learning."

220 Argyris, "Double Loop Learning in Organizations."

221 Argyris.

222 Argyris, "Single-Loop and Double-Loop Models in Research on Decision Making."

reasons for why certain actions take place in an organization and are ingrained into the routines and practices which prevent inquiry of these causes.

(6) Triple-Loop Learning (Learning About Learning)

Triple-loop learning "involves 'learning how to learn' by reflecting on how an organization can learn."[223] Triple-loop learning "focuses on the ability to effectively utilize single-loop and double-loop learning. This means triple-loop learning challenges an individual's existing learning framework as well as their mental models and assumptions."[224]

Triple-loop learning attempts to link the acquired knowledge and learning from individuals and groups into a unified learning organization. By attempting to accomplish this task, "individuals of the organization learn how to tap the collective knowledge embedded throughout various parts of the organization. By learning how to learn over time, individuals in the organization discover what facilitates or inhibits their learning and can thus produce new strategies to develop their knowledge."[225]

[223] Eilertsen and London, "Modes of Organizational Learning."

[224] Argyris, "Single-Loop and Double-Loop Models in Research on Decision Making."

[225] Eilertsen and London, "Modes of Organizational Learning."

Table 2. Organizational Learning[226]

Three Types of Organizational Learning

Type of Organizational Learning	Type of Work (Change)	Appropriate for What Kind of Situation?	Results in a Change of Action?	Challenges your Assumptions and Mental Models?	Challenges your Learning Framework?	Focus of Learning Type?
Single-Loop Learning	Technical	When tackling routine, repetitive issues	Yes	No	No	Improving
Double-Loop Learning	Technical/ Adaptive	When tackling complex, non-programmable issues	Yes	Yes	No	Understanding and Improving
Triple-Loop Learning	Adaptive	When you want to learn how to learn	Yes	Yes	Yes	Transforming, Understanding, and Improving

Single-loop learning: Occurs when errors are detected and corrected without modifying a firm's existing policies, goals, or assumptions.

Double-loop learning: Occurs when errors are detected and corrected such that a firm's existing policies, goals, and/or assumptions are called into question and challenged.

Triple-loop learning: Occurs when firms learn how to effectively carry out single- and double-loop learning. This requires identifying the various factors (both individual and organizational) that help to facilitate organizational learning. With triple-loop learning, firms "learn how to learn."

NOTE: The information in this table is based on work by Chris Argyris, Donald Schön, Ron Heifetz, Gregory Bateson, and Peter Senge.

Feedback loops are an important mechanism for the Marine Corps in becoming a learning organization and an organization that can rapidly adapt in any environment. As an elite military organization, the USMC "cannot learn without feedback, it is critical to learning and developing adaptability."[227] Adaptability in MCDP-7 is defined as the "quality of being able to recognize a situation and adjust to new conditions. Marines develop adaptability when they examine a situation, recognize what is happening, and adjust their response to the new conditions."[228] B.H. Liddell Hart in his book, *Why Don't We Learn from History?* Clearly explains the importance of adaptability by stating,

226 Eilertsen and London.

227 USMC, MCDP 7 *Learning*, 1–11.

228 USMC, 1–12.

> Adaptation to changing conditions is the condition of survival. This depends on the simple yet fundamental question of attitude. To cope with the problems of the modern world we need, above all, to see them clearly and analyze them scientifically. This requires freedom from prejudice combined with the power of discernment and with a sense of proportion. Only through the capacity to see all relevant factors, to weigh them fairly, and to place them in relation to each other, can we hope to reach an accurately balances judgment.[229]

4. SECTION SUMMARY

> Yet the longer I watch current events, the more I have come to see how many of our troubles arise from the habit, of suppressing or distorting what we know quite well is the truth, out of devotion to a cause, an ambition, or an institution; at bottom, this devotion being inspired by our own interest.
>
> – B.H. Liddell Hart[230]

With change always a constant and with enemy actors continually adapting to "changes in an effort to achieve competitive advantages, complexity runs throughout the competition continuum. Marines must learn to thrive in this environment, instead of trying to create order in the hope of avoiding complexity."[231] Organizational learning can allow the USMC to increase its understanding of its environment, recognize changes as they occur in the environment, develop innovative ideas and concepts, experiment with new technology or methods, and learn from both successes and failures. Through organizational learning Marines become cognizant of their own organization and can better understand how they contribute as a member of a team. Marines also gain a better understanding of how the outside environment produces friction and applies pressure on the institution. Organizational learning is essential to the USMC philosophy of maneuver warfare, because "it requires the temperament to cope with uncertainty."[232] MCDP-1 states,

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[229] B.H. Liddell Hart and Giles Lauren, *Why Don't We Learn from History?* (Columbia, SC: Sophron, 2020), 31.

[230] Liddell Hart and Lauren, 35–36.

[231] USMC, *Competing.* MCDP 1-*4*, Marine Corps Doctrinal Publication (Washington, D.C., 2020), 1–16.

[232] MCDP 1 *Warfighting*, 4–7.

> It requires flexibility of mind to deal with fluid and disorderly situations. It requires a certain independence of mind, a willingness to act with initiative and boldness, an exploitive mindset that takes full advantage of every opportunity, and the moral courage to accept responsibility for this type of behavior. It is important that this last set of traits be guided by self-discipline and loyalty to the objectives of seniors. Finally, maneuver warfare requires the ability to think above our own level and to act at our level in a way that is in consonance with the requirements of the larger situation.[233]

Education and learning are the primary methods for Marines to sustain a competitive advantage over time. As leaders in the Marine Corps "progress through their careers, they need to develop mastery of the concepts that provide an ability to lead organizations like the Marine Corps through innovation cycles that are essential to maintaining a competitive edge."[234] Leaders must also develop a mastery and understanding of organizational learning and understand the "difference between sustaining and disruptive innovation, which is essentially the difference between incremental improvements of what already exists versus new and better approaches that displace the old methods over time."[235]

Understanding how organizational learning occurs in teams or groups that range from the size of a fire-team all the way up to a platoon size element can enable larger units, such as a battalion and lager, to increase its knowledge capacity, by transferring knowledge through networks or other subsystems in the organization. In-turn enabling the organization to adapt faster than its adversaries. MCDP-7 states,

> Each Marine must learn how to learn, both independently and collectively in teams. Social and interpersonal factors, such as effective communication, group cohesion, and trust, all influence learning. When these factors are positive, they facilitate the learning process and create strong relationships. Marines understand how teamwork is required to accomplish military missions, combining the coordinated, sustained, and successful execution of individual and collective skills.[236]

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[233] 4–7.

[234] MCDP 1-*4 Competing*, 3–7.

[235] 3–8.

[236] MCDP 7 *Learning*, 4–10.

> Learning opportunities arise in the interactions between leaders and individual Marines, as well as between Marines and their peers as they work in teams. Marines develop teamwork and competencies so that they are technically and tactically proficient as individuals, teams, units, and MAGTFs.[237]

Marines being a part of a team is significant for building unity, cohesion, and learning. In a team Marines can foster social unity and humor which can be critical for operational effectiveness by developing a shared understanding. Humor in a team can emphasize solidarity and highlight membership for a Marine, this can help reduce an individual Marines fear and in-turn allowing them to increase their capacity for learning.

To become a learning organization that requires Marines to constantly expand their mental capacity to complete tasks and achieve mission success, an organization where Marines are learning together in teams, where Marines are constantly encouraged to seek self-improvement and are never satisfied with the status quo requires a culture that fosters and encourages learning. In the next section I'll provide an overview of organizational culture and discuss a model for an organizational change process.

The USMC "organizational culture recognizes that the process of learning is never complete,"[238] and that a culture of "organizational learning is a key factor that supports and builds warfighting proficiency."[239] Culture is what an organization or group "learns over a period of time as the group solves its problems of survival in an external environment and its problems of internal integration. Such learning is simultaneously a behavioral, cognitive, and an emotional process."[240] Increasing our understanding on how learning is a part of the Marine Corps culture is foundational in developing competence across the force and allows Marines to develop a mindset of adaptability for the harsh expeditionary environments they have too always be ready to deploy to and execute.

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[237] USMC, 4–10.

[238] USMC, 2–13.

[239] USMC, 2–3.

[240] Schein, "Organizational Culture."

C. ORGANIZATIONAL CULTURE

> An army without culture is a dull-witted army, and a dull-witted army cannot defeat the enemy.
>
> – Mao Zedong[241]

There are many questions and speculation today about the direction the world is heading in and what does mean it for our nation and our organization. The strategic security environment has grown more uncertain, and any range of potentially destabilizing events could suddenly and rapidly change the long-term United States security posture. Establishing and maintaining a strong learning culture in our service can be a stabilizing force, that enhances commitment, increases adaptability and can increase consistency of Marines behavior. Understanding the different aspects of organizational culture can have powerful impact on our performance and long-term effectiveness.

The "culture of a learning organization supports an evolving vision of the organization,"[242] where learning and all individual learners continually adapt and continuously create new and improving products and services.[243] Being an organization that ensures a culture of commitment to the profession of arms through the promotion of continuous learning and education, can enhance a Marine's understanding on why the need to adapt to change is both essential and enduring for survival. The Marine Corps must maintain an organizational culture that understands learning is critical for success and fosters an adaptable culture that "creates relationships and enhances learning by encouraging values such as teamwork, self-study, empowerment, sharing, and trust."[244] In this section I'll discuss aspects of organizational culture and how culture shapes the

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241 David Quentin and Brian Baggins, *Quotations from Chairman Mao Tse-Tung* (Peking Foreign Languages Press, 2019), 138–39.

242 Marquardt, *Building the Learning Organization: Mastering the 5 Elements for Corporate Learning*, 27.

243 Marquardt, Michael J. 1996. *Building the Learning Organization: A Systems Approach to Quantum Improvement and Global Success.* New York: McGraw-Hill, p. 27.

244 Marquardt, Michael J. 1996. *Building the Learning Organization: A Systems Approach to Quantum Improvement and Global Success.* New York: McGraw-Hill, p. 27.

way an organization understands its environment and makes decisions. This section will then explain an organizational model for a process of change.

1. WHAT IS ORGANIZATIONAL CULTURE

Culture is to an organization as mindset is to an individual. A Culture of an organization can be compared to the character or personality of an individual.[245] The culture of an organization or group can be defined as "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems."[246] An organization's culture develops over many years. An organization that is considered to have a strong culture tends to have low turnover, which is demonstrated by the high agreement among members on what the organization represents. With individuals of the organization being in unison builds organizational cohesion, commitment, and loyalty.[247] Critical elements of "culture are ***structural stability***, ***depth, breadth***, and ***patterning or integration***."[248]

The ***structural stability*** is determined by a culture that will survive in an organization even when key individuals of that organization depart. The element of ***depth*** refers to the unconscious part of an organization and tends to be not as tangible and visible compared other parts of an organization. The more embedded something is into an organization, the more stability it has within that organization.[249] The ***breadth*** of a strong culture "influences all aspects of how an organization conducts its mission and day-to-day tasks."[250] The concept of an organization's culture that allows for further "stability is

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[245] Anderson, Dean, and Linda S. Ackerman Anderson. *2010. Beyond Change Management: How to Achieve Breakthrough Results through Conscious Change Leadership.* San Francisco, CA: Pfeiffer, p. 184.

[246] Edgar H. Schein, *Organizational Culture and Leadership*, 3rd ed. (New Jersey: Jossey-Bass, 1985), 17.

[247] Stephen P Robbins and Timothy A Judge, *Essentials of Organizational Behavior*, 11th ed. (Upper Saddle River, N.J.: Pearson Prentice Hall, 2012), 220.

[248] Schein, *Organizational Culture and Leadership*, 17.

[249] Schein, 14.

[250] Schein, 14.

the ***patterning or integration*** of its culture elements into the larger mission"[251] or function of the organization that links and connects together the various elements and systems.[252] This includes elements such as rituals, beliefs, values, traditions, and behaviors that is tied into a coherent whole.

a. Levels of Organizational Culture

The fundamental levels in Figure 10 for analyzing the culture of an organization according to Schein are ***artifacts***, ***beliefs and values***, and ***underlying assumptions***.[253]

(1) Artifacts

> Artifacts include the visible products of the group, such as the architecture of its physical environment; its language; its technology and products; its artistic creations; its style, as embodied in clothing, manners of address, emotional displays, and myths and stories told about the organization; its published lists of values; its observable rituals and ceremonies.[254]

(2) Beliefs and Values

> Beliefs and values at this conscious level will predict much of the behavior that can be observed at the artifacts level. A set of beliefs and values that become embodied in an ideology or organizational philosophy can serve as a guide and as a way of dealing with the uncertainty of intrinsically uncontrollable or difficult events.[255]

(3) Underlying Assumptions

> Underlying assumptions are the source of values in a culture and what causes actions within the organization. Organizational assumptions are usually known and practiced, but are not discussed openly, nor are they written or easily found. The essence of a culture lies in the pattern of basic underlying assumptions, and once one understands those, one can easily

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[251] Schein, 14–15.

[252] Schein, 15.

[253] Schein, "Organizational Culture."

[254] Schein, *Organizational Culture and Leadership*, 26.

[255] Schein, 28–29.

understand the other more surface levels and deal appropriately with them.[256]

Once an organization has existed long enough to identify with and create its own culture, it will have learned common assumptions for how things work. These assumptions will provide meaning and will be the resulting patterns and routines for how the organization perceives, thinks, feels, and behaves. These learned assumptions will provide stability, comfort, and the "anxiety that results from the inability to understand or predict events occurring to the organization."[257] The strength and aggressiveness of some cultures is a function that can be attributed to their internal anxiety from the inability to understand or predict events in their environment.

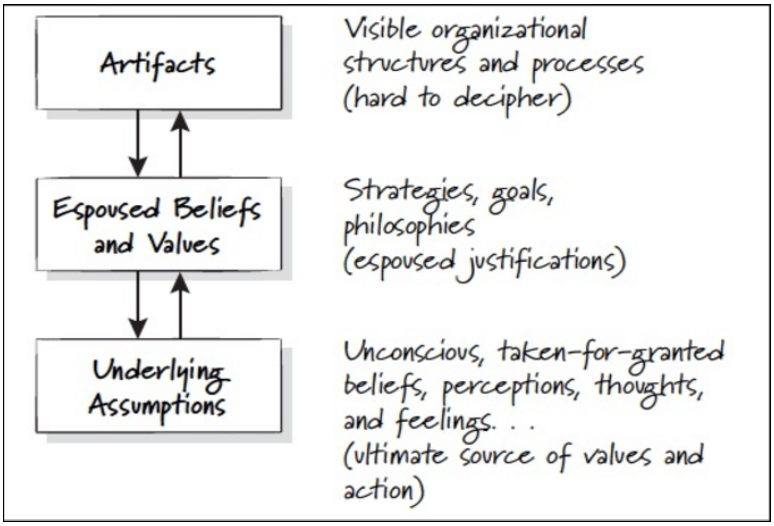

Figure 10. E.H. Schein Levels of Culture[258]

Organizational Culture Summary

Understanding what organizational culture is important because it is concerned with how the Marines perceive and feel about the Marine Corps organization that they are

256 Schein, 30–31.

257 Schein, "Organizational Culture."

258 Schein, *Organizational Culture and Leadership*, 26.

a part of. Schein states that "Culture is what a group learns over a period of time as a group solves its problems for survival in an external environment and its problems of internal integration. Such learning is simultaneously a behavioral, cognitive, and an emotional process," that becomes encoded in the day-to-day events of an organization."[259] Better understanding of the attributes that make and shape culture can lead to identifying issues in the future and a lead an organization through a change process or crisis.

2. MODEL FOR ORGANIZATIONAL CHANGE

To improve is to change. To be perfect is to change often.

– Winston Churchill[260]

The simple definition of ***change*** is, "to make different in some particular, alter, transform, to make a shift from one to another, or a switch. In a broad sense change can be considered a planned or unplanned response to pressures and forces."[261] Every "organization is an open system that exists in multiple environments. Changes in the environment will produce"[262] pressures and stresses inside the organization, "forcing new learning and adaptation."[263] Simultaneously, with the changes in the environment, indicates the new individuals entering in the organization "will bring in new beliefs, and assumptions that will influence the currently held assumptions and values."[264] In many ways there is always an outside force from the current environment constantly applying "pressure on any given culture to evolve and grow. However, just as individuals do not easily give up the elements of their identity, organizations as well do not easily give up

259 Schein, "Organizational Culture."

260 Dominique Enright, *The Wicked Wit of Winston Churchill* (London: Michael O'Mara Books, 2001).

261 Merriam-Webster, "'Change.' Merriam-Webster.Com Dictionary, Merriam-Webster, Https://Www.Merriam-Webster.Com/Dictionary/Change. Accessed 5 Feb. 2021," February 2021.

262 Schein, "Organizational Culture."

263 Schein.

264 Schein.

some of their basic underlying assumptions."[265] For centuries technological, economic, social, political, and competing forces have caused individuals and institutions to change and learn new behaviors. Today, as competition increases and the environment becomes more complex, adaptation is needed for survival.

a. Model for Leading Change

Going through change has become absolutely essential to adapting to a more challenging environment and change becomes increasingly difficult to implement the larger an organization becomes.[266] Michael Beer in, "Leading Change," presents a conceptual formula that incorporates the critical dimensions that leaders of an organization must consider when requiring change:

Amount of Change = (Dissatisfaction x Model x Process) > Cost of Change[267]

b. Dissatisfaction

Before change can ever take place in an organization, the individual's attitudes have to become dissatisfied with the status quo. This *dissatisfaction* with the status quo must create a deep loss in confidence in themselves and their organization.[268] The loss in confidence that is derived from the dissatisfaction is the driving force of energy required for organizational change. Schein states, "that no change will occur unless there is motivation to change, and if such motivation to change is not already present, the induction of that motivation is often the most difficult part of the change process."[269]

According to surveys, a dissatisfaction that creates a deep loss in confidence with the status quo, and ultimately leads to a major organizational change, is brought on as the

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[265] Schein.

[266] Michael Beer, "Leading Change," *Harvard Business Review* 488–037, no. 9-488-037 (January 2007): 6.

[267] Beer.

[268] Beer.

[269] Edgar H Schein, "Planned Change Theory," in *Organizational Psychology*, 3rd ed. (Englewood Cliffs, N.J.: Prentice-Hall, Inc, 1980), 209–12.

result of a crisis. However, change can be stimulated and managed without crisis. With dissatisfaction being the essential component for change, leaders of an organization must create dissatisfaction in the organization in order to energize and motivate the effort for change.[270] Beer states the following four ways to create dissatisfaction among an organization's employees. All four of the methods can utilized in an array of combinations or individually to mobilize energy for change.

Step-1. Information and supporting data about the organization's competitive environment can be used to generate a loss in confidence in the direction the organization is headed. This disconfirmation must establish sufficient guilt or anxiety in an individual to motivate change.[271] In many cases leaders of an organization do not understand why the employees are not concerned about the organization's performance and future. By communicating and providing the individuals within the organization with the same information and data available to leaders, allows for communicating their concern for the organization.[272]

Step-2. From the opposite standpoint, information about the concerns from the employee's point of view about the organization's performance can also be a driving force in creating "dissatisfaction" among leaders in an organization. However, this discomfort from a lower level in an organization could be met with denial and avoidance from senior leaders.[273]

Step-3. From both stances, it is not enough to just provide information and data, there must also be an open communication about the meaning of the information and data. This communication must arrive at a joint understanding of the underlying reasons for the organization's problems or potential crisis.[274]

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[270] Beer, "Leading Change."

[271] Schein, "Planned Change Theory."

[272] Beer, "Leading Change."

[273] Schein, "Planned Change Theory."

[274] Beer, "Leading Change."

Step-4. Change managers can also create the energy for change by setting high standards (but not unrealistic ones) and expecting employees to meet them.[275]

3. MODEL

A leader's vision of the organization's future state must occur in order for change to take place. This vision must include the future behaviors and attitudes of the employees, and also the structure and systems created in order to shape the future. The model should open an individual "up to new sources of information and new concepts or introduce new ways of looking at old information."[276] Such a vision not only serves the purpose of energizing change, and it also provides a model of the future state towards which employees and managers can aspire.

A model an organization selects will vary from organization to organization, dependent on the environment (internal and external) and the type of industry (manufacturing, transportation, merchandising, etc) of the organization. The model must also suffice the needs and expectations of the organization's employees and social culture.[277]

4. PROCESS

It needs to be understood that change within an organization is not an instantaneous nor simple process. The model for how an organization conducts change should be structured does not quickly translate change in the behaviors of the individuals in large organizations. The process of "change is a multistage cycle similar to the adaptive coping cycle previously reviewed, and all stages must be negotiated somehow or other before a stable change can be said to have taken place."[278]

Any change involves "learning something new but also unlearning something that is already present and possibly will integrated into the personality of social relationships

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[275] Beer.

[276] Schein, "Planned Change Theory."

[277] Beer, "Leading Change."

[278] Schein, "Planned Change Theory."

of the individual."[279] Leaders sometimes make the mistake of assuming that the announcement of change alone is the same as executing the change. The organizational change process is a sequence of events, meetings, education and training programs, decisions and other events that assist individuals in an organization in adapting and learning new skills and perspectives.

With a change in behavior required, the process of organizational change "such as new structures, processes, reward systems, and so on ***occur only through individual changes in key members of the organization***; hence organizational change is always mediated through individual changes."[280] To cultivate support from individuals and groups coalitions must be formed to support change and their voices must ultimately be heard more loudly than those who resist the change. It's important for leaders in an organization to recognize the realities of self-interest and the politics of change must be understood and managed. Difficult personnel decisions might have to be made in a major cultural change in an organization.

More important, effective change requires careful planning for succession. Major organizational change can take years. This requires the capacity of a leader of change to be patient and persistent in managing change. Transforming an organization can be hard, frustrating, and very tedious.[281]

5. THE COST OF CHANGE

In Beer's formula, in order for change to occur ***Dissatisfaction x Model x Process*** must all be present and combine to have a value large enough to overcome the *Cost of Change*. The *Cost of Change* can be in the loss of employees, monetary funds, real estate, facilities, and outside support in anticipation of or as a result of the organizational change.

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[279] Schein.

[280] Schein, emphasis added.

[281] Beer, "Leading Change."

Power

Major change in an organization could involve shifts in power amongst leaders and employees. That power may be from subculture or suborganization in the organization. It could be in the delegation power and authority from high level leaders to the smaller unit or section leaders in an organization in order to empower junior employees and allow for quicker decision making within the organization.[282]

Competence

With organizational change new skills, technology, techniques, methods, and models require the learning of a new competencies and the unlearning of obsolete old ones.

Relationships

A change in an organization could involve the learning and understanding for new relationships. Therefore, making an individual's current network obsolete, and not of value to theirs's or the organization's performance.[283]

Rewards

An organizational change could involve transfers, reassignments, promotions, change in titles, and pay increases for individuals. All items could threaten the tangible and intangible rewards for some individuals.[284]

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[282] Beer.

[283] Beer.

[284] Beer.

Identity

In some instances, the new attitudes or behaviors required for organizational change fit an individual's self-concept of themselves and are not "congruent with other parts of their personality and cannot be integrated comfortably."[285]

6. BALANCING DRIVING FORCES WITH REDUCTION OF LOSSES

It is the fear of losses that lead to a resistance of change. Beer's formula suggests that the greater the potential losses associated with a change, the stronger must be the ***Dissatisfaction x Model x Process***.[286]

Major changes require considerable *dissatisfaction*, a clear vision of the future model and a well-planned process. The role of losses in creating resistance to change has implications for the design of adaptive organizations.[287] Change can be less threatening to a sense of competence if individuals have a broad wide range of skills and have a broad organizational perspective developed through cross-functional career paths.[288]

7. SECTION SUMMARY

> To be successful agents of change—of reform—leaders not only must be able to envision a new way forward but also must be practical, with the skill to build broad support for and implement their vision.
>
> – Robert Gates[289]

This section discussed and provided an overview for understanding the basics of organizational culture and a model for organizational change. Before leading a process of change it needs to be understood that culture is either the force that limits the

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285 Schein, "Planned Change Theory."

286 Beer, "Leading Change."

287 Beer.

288 Beer.

289 Robert M. Gates, *A Passion for Leadership: Lessons on Change and Reform from Fifty Years of Public Service.* (New York: Alfred A. Knopf, 2016), 24.

performance of the individuals in the organization, or the culture allows them to excel and perform at their full potential. SecDef Gates writes in his book,

> The more frequently you intrude, implicitly reminding them it is your change, the less they will believe it is theirs. Successful implementation, in short, depends upon them. The leader cannot hold individuals accountable for driving change if he refuses to let go of the steering wheel. He must trust his subordinates, replace them if necessary. But he mustn't micromanage them.[290]

An organization cannot achieve change without promoting a culture that promotes excellence in both individuals and the collective.[291] By leaders in the Marine corps understanding their culture, they are better able to diagnose and facilitate change when it is needed. The next section will discuss a leader's role in organizational change and how fostering a culture for learning in the Marine Corps allows us to better adapt to the unstable world today.

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[290] Gates, 94.

[291] Ackerman-Anderson and Anderson, *Beyond Change Management: How to Achieve Breakthrough Results Through Conscious Change Leadership,* 189.

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III. STEPS TOWARD A DIAGNOSTIC FRAMEWORK: LEADING A CHANGE IN CULTURE

> The leader of an organization is the engine of change and reform, and his work is never done. If his yellow tablet keeps filling up with ideas, he should keep on truckin'. But if a leader cannot sustain his enthusiasm, energy, and creativity to keep making his institution better, he needs to step aside for someone who can.
>
> –Robert M. Gates[292]

> Conditions are changing all the time, and to adapt one's thinking to the new conditions, one must study.
>
> –Mao Zedong[293]

As discussed in the previous section from Schein, "all organizations are open systems"[294] Leading an organization through a change in culture, planned or unplanned, is considered by many to be one of the hardest things to do when it comes to leading a large organization. A main reason for change being so difficult is due to resistance from individuals of the organization, even when change seems rational and desirable. Many individuals feel that a change to the status quo will have a negative impact to their own self-interest and they will become resistant to change.[295] The self-interest from an individual could be caused for a variety of reasons or misunderstanding.[296] Leadership of an organization with a strong unifying culture fosters higher levels of trust, especially if organization's cultural values include honesty, integrity, and fair process.

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292 Gates, *A Passion for Leadership: Lessons on Change and Reform from Fifty Years of Public Service,* 204.

293 Quentin and Baggins, *Quotations from Chairman Mao Tse-Tung*, 140.

294 Schein, "Organizational Culture."

295 Michael Beer and Nitin Nohria, "Cracking the Code of Change," in *The Principles and Practice of Change*, ed. Deborah Price (London: Macmillan Education UK, 2009), 63–73, https://doi.org/10.1007/978-1-137-16511-4_4.

296 Jeanie D. Duck, "Managing Change: The Art of Balancing," *Harvard Business Review* 71, no. 6 (December 1993): 11.

The task for a leader during an organizational change is not to manage a multitude of individuals with different personalities and who work different jobs in the organization; the task for the leader is to manage the dynamic. The most common method for overcoming resistance to any type of change is to educate members of the organization before the change process begins, and to clearly communicate the vision allows the members of an organization see the need for and the logic of a change. The Marine Corps goal is to educate all the Marines on "how to think strategically, recognize patterns, and anticipate problems, and opportunities before they occur."[297] A strong education program for any organization "ideal when resistance to change is based on inadequate or inaccurate information."[298] A strong education program can assist in the establishment of trust between senior leaders and employees of trust, because "trust in a time of change is based on two things: predictability and capability. In any organization, people want to know what to expect, they want predictability"[299] in order to reduce the discomfort or their anxiety they are experiencing due to the unknowns. SecDef Mattis states,

> Trust is the coin of the realm for creating the harmony, speed, and teamwork to achieve success at the lowest cost. Trusted personal relationships are the foundation for effective fighting teams.[300]

A large organization like the Marine Corps, is a large system, composed of smaller systems that are all linked together, like a web or network that are coupled and linked together. A change to one system impacts a different part of the larger system. Managing small impacts that cause second and third order "effects is what makes leading change a dynamic endeavor with unexpected challenges."[301] The organization's smaller subsystems serve in different dimensions and provide different functions (culture, education, information systems, strategy, technology) that all serve the organization's

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297 Duck.

298 John P Kotter and Leonard A Schlesinger, "Choosing Strategies for Change," *Harvard Business Review*, August 2008, 12.

299 Robert Hurley, "The Decision to Trust," *Harvard Business Review* 84 (October 2006): 55–62.

300 Mattis and West, *Call Sign Chaos: Learning to Lead*, 240.

301 Duck, "Managing Change: The Art of Balancing."

purpose. If the different organizational subsystems are not considered in sync or not working together, this can inevitably lead to the organizational change to fail.

As the leader of an organization requiring a needed process of change in order to become a learning organization will require a lot of time and effort. The critical element for all of the activities that enable and make an organization respond to environmental change is the education and training of all individuals to prepare the organization to think, act, behave, perform, and operate differently in the future. Educating and empowering individuals of the organization allow leadership during a change process to focus on "managing the dynamics, not the smaller systems. The fundamental job of leadership is to deal with the dynamics of change, the confluence and congruence of the forces that change unleashes,"[302] so that the organization is in a position of advantage, able to adapt faster, and prepared to compete at any moment. One way a leader can foster a culture of learning is by creating psychological safety in the organization. This encourages an open mind-set and allows for experimentation, humility, humor, and innovation that encourages individuals to learn and promotes organization learning.[303]

Psychological safety can be defined as a "belief that an individual will not be rejected or humiliated in a particular setting or role,"[304] it describes an environment in which the individuals of an organization or team feel free to express work-relevant thoughts, concerns, ask questions, or offer suggestions.[305] For an organization to ensure it has enduring success it must establish a culture that allows for and promotes learning. The influx of new knowledge in the world today can make it easy to fall behind. In her article "The Competitive Imperative of Learning," Amy Edmondson says that by constantly educating and encouraging learning we allow ourselves to gain a competitive

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302 Duck.

303 Duck.

304 Amy Edmondson and Kathryn Roloff, "Diversity Is a Key Element of the Modern Landscape, but Left Unchecked, It Can Impair Both Performance and Learning. The Antidote: Psychological Safety," *Rotman Magazine* ROT093 (2009): 47–51.

305 Edmondson and Roloff.

advantage.[306] Edmondson's approach of *execution-as-learning* promotes success in the organization over the long-term by focusing on ***experimentation*** and ***reflection***. She identifies four approaches that a learning organization utilizes in its day-to-day activities:[307]

> 1. A learning organization focuses on execution-as-learning uses the best knowledge obtainable (which is understood to be a moving target) to inform the design of specific process guidelines.[308]
>
> 2. A learning organization enables its employees to collaborate by making information available when and where it's needed.[309]
>
> 3. A learning organization routinely capture process data to discover how work is really being done.[310]
>
> 4. A learning organization studies the results and data in an effort to find ways to improve.[311]

In an organization where execution and results matter over the learning, individuals are less inclined to offer any suggestions, ***provide feedback***, ideas, discuss their concerns, or ask any questions for that could lead to an increase in production or improvement.[312] Individuals will become reluctant to demonstrate humility and admit to a mistake that could be used as an important learning opportunity for others. Fostering an environment with psychological safety allows individuals throughout the organization to develop a sense of trust. Trust within an organization or in a team is an important psychological state in allowing individuals to engage in learning from failures. Trust can lead to increasing the individual's "confidence that speaking up is encouraged and

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306 Edmondson, "The Competitive Imperative of Learning."

307 Edmondson.

308 Edmondson.

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311 Edmondson.

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expected. This in-turn allows individuals to admit fault and take responsibility for mistakes or problems they incurred and discuss them openly."[313]

Asking questions, challenging ideas and making mistakes are all involved in the learning process. Edmonson further states that an organization requiring

> the need to foster psychological safety means, ensuring that no one is penalized if they ask for help or admit a mistake. Psychological safety is crucial, especially in organizations where knowledge constantly changes, where workers need to collaborate, and where those workers must make wise decisions without management intervention. It's built on the premise that no one can perform perfectly in every situation when knowledge and best practice are moving targets.[314]

In other words, in a psychological safe environment individuals feel comfortable and are willing to ask questions, offer up ideas, or express concerns. When leaders take time for their subordinates and encourage them to share their questions, concerns, or ideas about things, they become more engaged, and others learn.

In an organization where the focus of method is execution-as-efficiency, "leads organizations to the delay, discourage, or understaff investments in areas where learning is critical. Leaders that overemphasize results will subtly discourage new technologies, skills, or practices that will new approaches feasible."[315] Leadership views the short-term loss of production as a cost that is more than the cost of allowing an individual to receive the critical learning that is required for success in the future. It needs to be understood that switching to a new method or an individual(s) taking the time for learning can reduce production and performance in the short-term.

Some ways leadership and managers can foster psychological safety is first by openly acknowledging they do not have the answers to the problems in front of their group or team. Acknowledging uncertainty should not be considered a sign of

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313 Abraham Carmeli, Asher Tishler, and Amy C. Edmondson, "CEO Relational Leadership and Strategic Decision Quality in Top Management Teams: The Role of Team Trust and Learning from Failure," *Strategic Organization* 10, no. 1 (February 2012): 31–54, https://doi.org/10.1177/1476127011434797.

314 Edmondson, "The Competitive Imperative of Learning."

315 Edmondson.

incompetence, but in fact an accurate diagnosis of an unclear situation or uncertain future. When leaders "admit they don't know something or made a mistake, their genuine display of humility can encourage others to do the same. The second way to foster psychological safety is to ask real questions, not leading or rhetorical ones."[316] When individuals of an organization believe that their leaders want to listen to their opinions and concerns, and value their input, they feel more involved in the process and respond more.

> ***Organizations that focus on becoming a learning organization "focus on learning faster. The goal is to find out what works and what doesn't."*** [317] ***Edmonson discusses her four steps for how an organization can focus on learning:***
>
> ***Step-1: Provide Process Guidelines***
>
> Figuring out the best ways to accomplish different kinds of work in a rapidly changing environment starts with seeking out best practices gathered from experts, publications, and even competitors. The goal of these processes is not so much to produce efficiency as to facilitate learning, because effective knowledge organizations recognize that today's best practices won't be tomorrow's and won't work in every situation.[318]
>
> ***Step-2: Provide tools that enable employees to collaborate in real time***
>
> No matter how much thought goes into advance planning, knowledge work often requires people to make concurrent collaborative decisions in response to unforeseen, novel, or complex problems.[319]
>
> ***Step-3: Collect Process Data***
>
> Execution-as-efficiency focuses on performance data, which capture what happened. Execution-as-learning pays just as much attention to process data, which describe how work unfolds.[320]

316 Edmondson.

317 Edmondson.

318 Edmondson.

319 Edmondson.

320 Edmondson.

Step-4: Institutionalize Disciplined Reflection

> The goal of collecting process data is to understand what goes right and what goes wrong, and to prevent failures from recurring.[321]

Organizations that adopt an "execution-as-learning model don't focus on getting things done more efficiently than competitors do. Instead, they focus on learning faster. The goal is to find out what works and what doesn't."[322] They recognize changes in the environment, interpret new information into knowledge while executing their tasks, in-turn sacrificing short-term efficiency to achieve an understanding, adapt to, and respond to novel problems.

G. CHAPTER SUMMARY

> The Air Force has its planes, the Navy its ships, the Army its obsessively written and obeyed 'doctrine' that dictates how to act. Culture—that is, the values and assumptions that shape its members—is all the Marines have. It is what holds them together. . .Theirs is the richest culture: formalistic, insular, elitist, with a deep anchor in their own history and mythology.
>
> – Thomas Ricks[323]

In Chapter I discussed the importance of understanding why maintaining a learning cultural is crucial for our institution, especially where knowledge and the competitive landscape is constantly changing, where the Joint Forces, as well as our major commands require collaboration, and where our subordinates must make wise decisions without senior leaders' intervention. The USMC culture of learning instills that,

> Every Marine needs to pursue, such as adaptability, creativity, critical thinking, active listening, and a bias for action…The Marine Corps organizational culture includes the maneuver warfare philosophy, an expeditionary mindset, and the pursuit of mastery in the profession of

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321 Edmondson.

322 Edmondson.

323 Thomas E Ricks, *Making the Corps. 10th Anniversary Ed*, 10th Anniversary (New York: Scribner, 2007), 19.

> arms, as well as Marine Corps customs, traditions, and legacy established by the Marines who served before us.[324]

As a leader of Marines or potentially a commander of a large unit, it is the leader's responsibility to initiate learning in the organization change, either in a limited capacity or transformational. The results a leader produces in the short-term can support mission success. In the long-term, a leader's efforts can enhance and facilitate a better institution. A leader can educate and improve the skills and professional development of their subordinates they are entrusted to lead.

The entry-level institutions of the Marine Corps lay the foundation and from MCDP-7,

> Set the conditions for a culture of learning. Commanders in the fleet reinforce those initial processes, setting the conditions for a culture of learning that encourages Marines' adaptability, problem solving, initiative, reasoning, and innovation, while maintaining structure, discipline, and readiness. Leaders at all levels are charged with creating an environment where continuous learning becomes the standard.[325]

LtGen Riper when he became the 2D Marine Division Commander in 1991 believed that "senior officers influence subordinates through a combination of direction and example."[326] Riper felt his position gave him the opportunity to inspire by ordering 18,000 Marines to conduct an hour of professional reading a day as part of their professional development. In his memorandum LtGen Riper stated:

> The professional reading program is a key part of the continuous professional education that is necessary to develop the minds of our Marines. It is most valuable for developing the sound military judgment that is essential for practicing the maneuver warfare doctrine contained in [the Warfighting manual]. Just as we expect them to maintain their mental

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[324] USMC, MCDP 7 *Learning*, 2–3.

[325] USMC, 2–4.

[326] Paul Van Riper, "The Relevance of History to the Military Profession: An American Marine's View," in *The Past as Prologue: The Importance of History to the Military Profession*, 2006, 52.

> fitness, so should we expect them to maintain their mental fitness through a career-long professional reading program.[327]

As the leader of 18,000 Marines Riper prioritized learning for the Marines and also lead by example in order to strengthen the learning culture and support the professional development of his Marines. This example fosters a learning culture and encourages Marines embrace learning in order to effectively maintain "fundamental warfighting skills, recognize when change is required, and adapt rapidly to the factors driving change."[328]

Leaders are in-charge of creating an environment that encourages continuous learning that begins with themselves through leading by example, demonstrating a disciplined approach to learning that includes providing constructive feedback to their Marines.[329] Providing the necessary feedback that Marines require to understand and learn new material and techniques needs to be in an environment that tolerates the making of mistakes, and challenges the status quo.[330] Having a culture that institutes psychological safety is not about being easy on your subordinates and lowering the standard. Leaders are setting a tone of "openness, humility, curiosity, and humor in ways that encourage their Marines to learn. It's about understanding that high performance organization requires an environment that encourages an openness, flexibility, and interdependence that can develop only in a psychologically safe environment. Psychological safety makes it possible to give tough feedback and have difficult conversations,"[331] this allows for building trust and builds cohesion. SecDef Mattis, who served key leadership positions throughout his career says, "you can overcome wrong

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[327] Murray, Williamson, and Richard Hart Sinnreich. *2008. The Past as Prologue the Importance of History to the Military Profession.* Cambridge: Cambridge Univ. Press, p: 52.

[328] MCDP 7 *Learning*, 2–4.

[329] USMC, 2–5.

[330] USMC, 2–5.

[331] Edmondson, "The Competitive Imperative of Learning."

technology. Your people have the initiative, they see the problem, no big deal…you can't overcome bad culture. You've gotta change whoever is in charge."[332]

When leaders demonstrate humility, they are putting mission accomplishment ahead of their personal pride. Subordinates will pay attention to what went wrong and will learn from mistakes that were made. Mattis believes the lack of reflection today by leaders is an issue, taken from an interview in 2017,

> If I was to sum up the single biggest problem of senior leadership in the Information Age, it's a lack of reflection…Solitude allows you to reflect while others are reacting. We need solitude to refocus on prospective decision-making, rather than just reacting to problems as they arise. You have some external stimulus, then you go back to your experience, your education, and you see what needs to be done.[333]

Part of educating and training Marines includes reflecting and providing feedback after exercises and events. The more honest feedback a military organization receives during their peacetime exercises, the quicker it will be able to adapt to challenges in a future conflict. Mistakes are almost inevitable in any training event, but "mistakes in training environments create opportunities for leaders to provide feedback essential for their subordinates' learning, and therefore, helps prevent Marines from making the same mistakes in combat."[334] From MCDP-1,

> Critiques are an important part of training because critical self- analysis, even after success, is essential to improvement. Their purpose is to draw out the lessons of training. As a result, we should conduct critiques immediately after completing training, before memory of the events has faded. Critiques should be held in an atmosphere of open and frank dialogue in which all hands are encouraged to contribute. We learn as

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[332] Paul Szolda, "Four Lessons Every Business Leader Can Learn From Legendary Marine General James 'Mad Dog' Mattis," *Business Insider*, July 2014, https://www.businessinsider.com/mattis-leadership-talk-2014-7.

[333] Raymond Kethledge and Michael Erwin, "The Biggest Single Problem with Military Leadership In The Information Age," *Task and Purpose*, August 2017, https://taskandpurpose.com/author/raymond-m-kethledge-and-michael-s-erwin/.

[334] USMC, MCDP 7 *Learning*, 2–6.

> much from mistakes as from things done well, so we must be willing to admit mistakes and discuss them.[335]

A culture that encourages honest feedback is focused on learning faster. Feedback from subordinates "is the mechanism that allows commanders to adapt to changing circumstances—to exploit fleeting opportunities, respond to developing problems, modify schemes, or redirect efforts."[336] Focusing as an organization on learning improves "our ability to generate a higher tempo of action than the enemy…adapt to rapidly changing situations and exploit fleeting opportunities."[337]

It is the responsibility of a leader to enact organizational change. A leader must be able to analyze and synthesize information in order to make key decision on complex issues. A leader can only achieve this in an environment without a *zero defects* mentality, where honest feedback is solicited, and encouraged. Fostering a culture of psychological safety and educating subordinates is valuable for organizational change, which manifests itself in short-term results with long-term effects. The Marine Corps Order (MCO) 1500.61 states,

> Leaders at all levels will be regularly engaged in the personal and professional development of their Marines and Sailors to prepare them to assume greater responsibilities throughout their careers and lives. This commitment to leader development results in more effective warfighting organizations and strengthens the leadership of the Marine Corps.[338]

With a future of uncertainty, flexibility and adaptability are critical requirements for Marines to possess, in order to exploit opportunities.

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335 MCDP 1 *Warfighting*, 3–10.

336 USMC, *MCDP 6 Command and Control*, 1–6.

337 USMC, 3–3, 3–4.

338 United States Marine Corps, "Marine Corps Order 1500.61: Marine Leader Development" (Department of the Navy, July 2017), https://www.fitness.marines.mil/Portals/211/documents/Spiritual%20Fitness/MCO%201500.61%20Marine%20Leader%20Development.pdf.

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IV. CONCLUSION

> The future operating environment will place new demands on leaders at all levels. Our leaders must have the training, education, and experience to meet those demands.
>
> – General Joseph F. Dunford, Jr.[339]

> I am sure that the mistakes of that time will not be repeated; we should probably make another set of mistakes.
>
> – Winston Churchill, on the mistakes made in the First World War[340]

The Marine Corps needs leaders today who challenge conventional ideas, demonstrate critical thinking, and achieve creative solutions to complex problems. Our world is in commotion and the future is very uncertain. With access to an unlimited amount of information to breakdown, understand, and utilize to make decisions, our Marine Corps must understand now, *why* learning is crucial in our profession, learn *how* to increase our mental capacity in order to think faster, and make better decisions. The goal of maneuver warfare is to change our adversary's reality and prevent them from adapting to shifting environment.

The selected themes in Table 1, provided again below, highlight implications for further implementation of MCDP-7. This doctrinal publication provides Marines a foundation for understanding *why* continuous learning is important and a philosophy of maneuver warfare. MCDP-7 calls leaders to cultivate a culture where continuous learning is prioritized and is the standard for Marines at all levels.[341] The doctrine stresses the importance of maintaining mechanisms that reinforce a learning culture that encourages feedback and reflection, an openness to change, and allows for knowledge sharing in order to maintain competitive advantage with a superior decision-making.

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339 General Joseph Dunford, Jr, "Message to the Joint Force" (Department of Defense, October 2015), https://www.jcs.mil/portals/36/Documents/151002_CJCS_Message_to_the_Joint_Force.pdf.

340 Dominique, *The Wicked Wit of Winston Churchill*, 142.

341 USMC, MCDP 7 *Learning*, 2–5.

Table 1 (Reprinted) Core Themes and Implications for Further Implementation of MCDP-7

Core Themes	Implication for further Implementation of MCDP-7
Learning	• The ***ability to think*** is a requirement in the philosophy of ***Maneuver Warfare.*** • Learning involves the pursuit and "acquiring of new ***knowledge*** and ***skills***."[342] • Learning increases a Marines ability to ***adapt*** rapidly to change. • ***Training and Education*** facilitate the process and increase a Marines capacity to learn. • Understanding and knowing ***how*** to learn increases the probability of becoming a better learner. • When learning is ***challenging and hard*** it better enhances a Marines brain and further increases their warfighting capability. • Developing a ***growth mindset*** provides Marines with the understanding that intelligence can be continuously developed. • Methods such as ***feedback,*** and ***systems thinking*** increase a Marines knowledge capacity.
Organizational Learning	• Organizational learning is "a process of ***creating*** knowledge through experience, the ***retaining*** of knowledge, and ***transferring*** of knowledge within an organization"[343] in order to rapidly adapt to its surrounding environment. • Organizational ***feedback, reflection,*** and ***critiques*** enhance the ability of Marines to learn. • Understanding how ***group or team learning*** can enhance organizational learning by increasing its knowledge capacity through networks and/or other subsystems in the USMC.
Organization Culture	• Comprised of **"underlying *beliefs, assumptions, values,*** and ways Marines interact that contribute to an organization's unique social and psychological environment. • Culture is derived from its history, customs, beliefs, behaviors, and expectations. • Culture reflects how a group describes themselves, their beliefs, and their organization."[344]
Leading a Learning Organization	• Instituting ***psychological safety*** in an organization allows for a culture of learning through open ***feedback,*** sharing of ideas, openness to admit mistakes without fear of being penalized. • Understanding that "***psychological safety*** is crucial in organizations where knowledge constantly changes,"[345] collaboration is a critical requirement, and where Marines must make time critical decisions without asking their leadership for permission or intervention.[346] • Becoming a learning organization begins with ***leadership*** that reinforces a ***culture of learning*** in that organization. • Requires leaders reinforce organizational learning by supporting the learning of their subordinates, establishing ***mechanisms*** for learning that provides feedback and captures knowledge, encourages learning in ***teams,*** and clearly communicates their ***vision*** for their organization.

[342] Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, *Make It Stick: The Science of Successful Learning.* (Cambridge, Massachusetts: The Belknep Press of Harvard University Press, 2014), 2.

[343] Argote and Miron-Spektor, "Organizational Learning."

[344] USMC, MCDP 7 *Learning*, 2–3.

[345] Edmondson, "The Competitive Imperative of Learning."

[346] Edmondson.

Leadership and a Culture for Learning

> If the argument that strictly there is no 'profession of arms' will not hold good in most armies today on the score of work; it is inevitably strengthened on the score of practice because major wars have become fewer, though bigger, compare with earlier times. For even the best of peace training is more 'theorectical' than 'practical' experience.
>
> – B.H. Liddell Hart[347]

> Only when the officer understood the theory of his profession, would he be able to determine what was essential in war, 'and then know with certainty what he must do.' In short, officers must study war in order to have some idea of what to do in every situation.
>
> – Gerhard Johann David von Scharnhorst[348]

MCDP-7 clearly illustrates that in order to maintain pace with the changes today, depends on our ability as an organization, beginning with the individuals that make it up, to ***learn*** about our profession and environment and to ***adapt rapidly*** in the face of an unexpected future crisis. Learning begins first with the individual. The moment an individual receives their eagle, globe, and anchor (EGA) and takes their oath, they now have become a United States Marine and entered into the profession of arms. Retired Colonel Richard Swain emphasizes the role of mastery and continuous learning:

> Professions are identifiable vocations whose members' discretionary practice is warranted by society in expectation of reliable and effective application of some specialized knowledge or skill, mastery of which requires continuous study and practice.[349]

Professionals require years of ***continuous life-long learning*** and practice before they achieve a certain level of mastery. Civilians in our society entrust and are dependent on professionals for their health, justice, and security.[350] With the speed and complexity in

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347 Liddell Hart and Lauren, *Why Don't We Learn from History?* 23.

348 White, *The Enlightened Soldier*, 14.

349 Richard Swain, "The Obligations of Military Professionalism" (National Defense University, 2010), 3.

350 Merriam-Webster, s.v. "Profession," Https://Www.Merriam-Webster.Com/Dictionary/Profession," March 2021.

today's competitive landscape, the Marine Corps as an institution must embrace and cultivate organizational learning and understand that learning is not static nor does it take place a singular event or moment in time; rather, learning occurs over a continuum of experience and educational opportunities. Education and learning must be understood be as a lifelong pursuit of mastery in their profession.

Beginning at the top hierarchical levels of our organization, leadership must communicate the current state of the organization and articulate their concerns for the future of the institution and provide a clear ***vision*** on where and why the organization needs to orient in the direction it needs to go. By striving to become a learning organization that establishes mechanisms that facilitate a culture of organizational learning can enable an organization to adapt quickly and operate at a higher operational tempo and higher levels of effectiveness.[351] Learning and change cannot just be imposed. Leaders have to foster a culture of trust in its organization's culture in order to have an advantage in attracting and retaining top talent in its environment.[352]

Leadership affects learning at all levels. At the smallest level, the ***individual level***, senior leaders for the institution can allow for opportunities to learn by instituting mechanisms for continuous improvement through formal education and training schools.[353] A leader of Marines "fosters learning by engaging their Marines, taking interest in their well-being, and supporting their professional development"[354] Marine leaders can simply impact the individual's learning by changing the work environment, or by instituting formal and informal mechanisms for how work tasks might get accomplished.

Leaders of a learning organization are adaptive and acknowledge that the assumptions, methods, and technology we use today might not be applicable to problems

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[351] Kotter and Schlesinger, "Choosing Strategies for Change."

[352] Hurley, "The Decision to Trust."

[353] Garvin, Edmondson, and Gino, "Is Yours a Learning Organization?"

[354] USMC, MCDP 7 *Learning*, 4–4.

in the future.[355] Leaders are never satisfied with the status quo and challenge it by encouraging organizational learning through innovation and experimentation and understand the risks and tensions between exploration and exploitation.

Leaders encourage dialogue in order for individuals to share their ideas and concerns for the organization. Leaders can facilitate learning through the sharing and diffusing of ideas at the ***group or team level*** through socialization "by encouraging teamwork, trust, cross-training, heterogeneity, and connectivity, as well as productive meetings, confrontation when viewpoints differ, and conflict as an opportunity for learning."[356] Leaders can promote ***psychological safety*** in their organization's environment that serves as another mechanism to encourage communication across the organizational hierarchy and across other cultural boundaries and systems that exist within an organization.[357]

At the ***organizational level*** leaders can demonstrate a commitment to learning by establishing and investing in mechanisms such as formal ***education and training*** programs or instituting a reading program like the *Commandant's Reading List* to encourage a culture of learning. Leaders demonstrate a commitment to learning by encouraging ***experimentation*** and ***innovation*** with the funding of new equipment and technology, such as "Sea Dragon 2025 that attempts to develop the capabilities and capacity of the future force…that blends innovative ideas, concepts, continuous and iterative wargaming."[358] Other mechanisms such as the MCCLL further promote organizational learning by the implementation of a system that captures and communicates knowledge, ranging from the organization's past historical experiences to new experiments being conducted in the organization. This type of mechanism is a

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[355] Edgar H. Schein, "Three Cultures of Management: The Key to Organizational Learning," *Sloan Management Review* 38, no. 1 (1996): 9–20.

[356] Vera and Crossan, "Strategic Leadership and Organizational Learning."

[357] Schein, "Three Cultures of Management: The Key to Organizational Learning."

[358] Robert B. Neller, "ALMAR: 024/16. SEA DRAGON 2025" (CMC Washington, DC, DMCS, August 2, 2016).

formal structure for ensuring feedback and lessons learned are recorded and disseminated throughout the organization.[359]

Leaders in the Marine Corps welcome ***critiques, feedback,*** and ***reflection*** as a process of learning as an organization and establish feedback mechanisms such as *formal* after-action reports (AAR) submitted to the MCCLL or i*nformal* "hot washes" that take place after an exercise or event. This means as a leader, Marines must understand the need to learn from mistakes. Former CMC Gen Gray once said,

> ***No one makes a mistake on purpose***…People can learn from mistakes. And learning from mistakes is the best way to reduce future mistakes. Accepting mistakes can be seen as an investment in your people.[360]

A learning organization must be able to learn from critiques and feedback. Colonel James C. Breckinridge who was instrumental in the development of Marine Corps Schools in 1929 stated,

> There is no progress without criticism. Every improvement is born of criticism that resulted in a discard. The process seems to run in this wise: Curiosity leads to investigation, which opens discussion, which gives rise to opinion, which breeds criticism, which results in improvement. Therefore, we must cultivate curiosity, encourage investigation, stimulate discussion, and inspire criticism that will result in improvement…The military mind should not accept things for no better reason than that they are so stated.[361]

An example of a leader that encouraged and fostered continuous learning is former U.S. White House Chief of Staff and Commander of U.S. Southern Command, Gen John Kelly. In 1994, Gen Kelly as a Battalion Commander instituted a PME program that was very in-depth and required a lot of time to devoted to it. In his PME program Gen Kelly stated that the goal of his program was to first and foremost provide an in

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359 Edgar H. Schein, "Organizational Learning: What Is New? WP-3912" (Sloan School of Management, MIT, July 1996), 19.

360 Otte, *Grayisms, and Other Thoughts on Leadership from General Al Gray, USMC (Retired) 29th Commandant of the Marine Corps*, 31.

361 Breckinridge, "Some Thoughts on Service Schools," 231.

depth understanding of our ***Maneuver Warfare Philosophy***.[362] The second aim was to deal with the nature of ***change*** by exposing them to war in the historical context (through four generations of warfare examples), and then look at why some military institutions are open to change while others resist. Gen Kelly stated that he felt obliged to personally conduct the PME sessions, and wrote that he ran them like a dictator, because he believed it was his responsibility and role as their leader to educate his Marines.[363]

As leaders in today's USMC and potentially strategic leaders in the future, we have to educate ourselves and our subordinates to prepare for a much more challenging adversary that what we have experienced over the past two decades and begin by educating Marines to understand that the next fight we encounter as a nation will be against a much bigger and technological advance military than any of us have experienced during our time. MCDP-7 is a publication that describes *why* learning is critical to the Marine Corps and to the profession of arms.[364] Developing a culture where education is a strategic asset, helps to builds trust across our service/unit, and allows for flexibility in an environment, and inoperability with other forces (joint and allied). As a premier military organization, it is important to understand why we should further implement MCDP-7, by continuing to invest and develop a culture that fosters learning and education. Going into the future, education will pay dividends by helping to understand unclear situations, frame complex problems, and clearly articulate these problems to our subordinates. As Gen Kelly stated in the closing of his PME program letter to his Marines, "As professional officers the emphasis must be on the intellect as war is first and foremost fought in the mind."[365] MCDP-7 reinvigorates learning as "an institutional priority and professional expectation for all Marines and cultivates a new

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362 John Kelly, "Battalion Professional Military Education and Technical Instruction Program," May 27, 1994.

363 Kelly.

364 USMC, MCDP 7 *Learning*, Forward-1.

365 Kelly, "Battalion Professional Military Education and Technical Instruction Program."

generation of Marines"[366] who understand that continuous learning is fundamental to our readiness as the nation's crisis response force.

[366] USMC, MCDP 7 *Learning*, 4–12.

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